AIR HOSTESS AND CABIN CREW MANAGEMENT

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ROLE OF SELF INSTRUCTIONAL MATERIAL IN DISTANCE LEARNING

The need to plan effective instruction is imperative for a successful distance teaching repertoire. This is due to the fact that the instructional designer, the tutor, the author (s) and the student are often separated by distance and may never meet in person. This is an increasingly common scenario in distance education instruction. As much as possible, teaching by distance should stimulate the student's intellectual involvement and contain all the necessary learning instructional activities that are capable of guiding the student through the course objectives. Therefore, the course / self-instructional material are completely equipped with everything that the syllabus prescribes.

To ensure effective instruction, a number of instructional design ideas are used and these help students to acquire knowledge, intellectual skills, motor skills and necessary attitudinal changes. In this respect, students' assessment and course evaluation are incorporated in the text.

The nature of instructional activities used in distance education self- instructional materials depends on the domain of learning that they reinforce in the text, that is, the cognitive, psychomotor and affective. These are further interpreted in the acquisition of knowledge, intellectual skills and motor skills. Students may be encouraged to gain, apply and communicate (orally or in writing) the knowledge acquired. Intellectual- skills objectives may be met by designing instructions that make use of students' prior knowledge and experiences in the discourse as the foundation on which newly acquired knowledge is built.

The provision of exercises in the form of assignments, projects and tutorial feedback is necessary. Instructional activities that teach motor skills need to be graphically demonstrated and the correct practices provided during tutorials. Instructional activities for inculcating change in attitude and behavior should create interest and demonstrate need and benefits gained by adopting the required change. Information on the adoption and procedures for practice of new attitudes may then be introduced.

Teaching and learning at a distance eliminates interactive communication cues, such as pauses, intonation and gestures, associated with the face-to-face method of teaching. This is

particularly so with the exclusive use of print media. Instructional activities built into the instructional repertoire provide this missing interaction between the student and the teacher. Therefore, the use of instructional activities to affect better distance teaching is not optional, but mandatory.

Our team of successful writers and authors has tried to reduce this.

Divide and to bring this Self Instructional Material as the best teaching and communication tool. Instructional activities are varied in order to assess the different facets of the domains of learning.

Distance education teaching repertoire involves extensive use of self- instructional materials, be they print or otherwise. These materials are designed to achieve certain pre-determined learning outcomes, namely goals and objectives that are contained in an instructional plan. Since the teaching process is affected over a distance, there is need to ensure that students actively participate in their learning by performing specific tasks that help them to understand the relevant concepts. Therefore, a set of exercises is built into the teaching repertoire in order to link what students and tutors do in the framework of the course outline. These could be in the form of students' assignments, a research project or a science practical exercise. Examples of instructional activities in distance education are too numerous to list. Instructional activities, when used in this context, help to motivate students, guide and measure students' performance (continuous assessment)

PREFACE

We have put in lots of hard work to make this book as user-friendly as possible, but we have not sacrificed quality. Experts were involved in preparing the materials. However, concepts are explained in easy language for you. We have included many tables and examples for easy understanding.

We sincerely hope this book will help you in every way you expect. All the best for your studies from our team!

AIR HOSTESS AND CABIN CREW MANAGEMENT

Contents

BLOCK 1 : GROOMING, SKIN AND HAIR CARE, DIET AND EXERCISE, HYGIENE, MAKE–UP AND HAIRSTYLE, CLOTHES

Unit 1 **Importance of Grooming, Diet and Exercise, and Hygiene**

Introduction, Importance of Grooming, Personal Grooming, First Impression, Regular Practise for Good Self–Image, Health and Nutrition, Importance of Health and Nutrition, Healthy and Balanced Diet, Guidelines for Healthy Eating, Calorie Chart, Importance of Regular Exercise, Benefits of Exercise, Benefits of Exercise on Mental Health, What Happens if You Do Not Exercise, Hygiene and Cleanliness, What is Hygiene, Hand wash Technique, Personal Hygiene, Some Diseases Caused by Poor Hygiene

Unit 2 **Skin and Hair Care, Makeup and Hair Style, for Women**

Introduction, Skin Care for Women, Understanding Different Types of Skin, Types of Skin, General Practices for all Kinds of Skin, Skin Care for Different Skin Types, Hair Care for Women, Understanding Hair, Care for Different Types of Hair, Makeup for Women, Importance of Makeup, Makeup for Different Occasions, Maintenance of Makeup Implements and Gadgets, Simple Makeup Routine, Basic Items Required for Makeup, Basic Items Required for Makeup, Hairstyle for Women, Different Face Shapes, Different Hair Styles for Different Face Shapes, Hair Colour

Unit 3 **Skin and Hair Care for Men, and Makeup and Hair Style for Men**

Introduction, Skin care for Men, Hair care for Men, Makeup for Men, Research Data about Makeup for Men, Importance of Makeup, Some tips for Makeup, Basic Items Required for Men, Basic Items Required for Makeup, Hair Style for Men, Different Hairstyles for Different Face Shapes, Hair Colour, Manicure and Pedicure for Men and Women, Importance of Manicure and Pedicure, Manicure at Home, Pedicure at Home

Unit 4 **Formal, Semi–Formal, and Informal Wear for Men and Women**

Introduction, Wardrobe Essentials for Men, Basic Wardrobe Items, Selecting/Buying an Outfit (Men), Footwear for Men, Accessories for Men, How to Dress for a Cabin Crew Interview (Men), Informal Wear for Men, Informal Wear for men, How to Differentiate between Informal and Formal Dress Code, Wardrobe Essentials for Women, Basic Wardrobe Items for Women, Informal Attire for Women, Selecting/Buying an Outfit (Women), Footwear for Women, Accessories for Women, How to Dress for a Cabin Crew Interview (Women), Different Dress Codes, Difference Between Formal, Semi–Formal, and Informal Dress Codes for Men and Women

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Air Hostess and Cabin Crew Management

BLOCK 1 : GROOMING, SKIN AND HAIR CARE, DIET AND EXERCISE, HYGIENE, MAKE–UP AND HAIRSTYLE, CLOTHES

UNIT 1 IMPORTANCE OF GROOMING, DIET AND EXERCISE, AND HYGIENE

UNIT 2 SKIN AND HAIR CARE, MAKEUP AND HAIR STYLE, FOR WOMEN

UNIT 3 SKIN AND HAIR CARE FOR MEN, MAKEUP AND HAIR STYLE FOR MEN

UNIT 4 FORMAL, SEMI–FORMAL, AND INFORMAL WEAR FOR MEN AND WOMEN

GROOMING, SKIN AND HAIR CARE, DIET AND EXERCISE, HYGIENE, MAKE–UP AND HAIRSTYLE, CLOTHES

Block Introduction :

This block is to guide students, in gaining knowledge and information about the requirements of airline industry, to help in becoming a Cabin Crew with Domestic and International airlines.

Grooming, is taking care of yourself and your body, and it is something everyone can and should do. Personal grooming is all about presenting yourself in the best possible way, by focussing on personal hygiene and cleanliness. All you need to do is establish a good daily routine so that you remain fit, healthy, clean and tidy.

In this block, the students will be given a background about grooming, maintaining hygiene practices by taking care of different parts of the body, how to take care of skin, hair, make–up techniques, and different hairstyles. Also, maintaining healthy mind and body, by eating well balanced meals, and exercising regularly. Students will become aware of choosing and wearing different kinds of clothes for different occasions, with confidence.

The block explains about, Personal grooming which is caring for your skin, make–up, hair care, styling hair, shaving, trimming, painting nails etc. Students will be able to understand the importance of maintaining good health which includes nutrition, leisure activities, sleep, and exercise required in order to give a good impression and look professional. By going through this block, students will understand the difference between hygiene and grooming, benefits of physical exercise on mental health, well balanced diet for good health, know how to be dressed appropriately for any and every occasion, different make–up to be applied for various occasions, and different hairstyles to be worn for different functions.

Block Objectives :

After learning this block, you will be able to understand about :

Personal grooming, First impression, Regular practise for good self–image, Importance of Health and Nutrition, Healthy and balanced diet, Guidelines for healthy eating, Calorie chart, Benefits of exercise, Benefits of exercise on mental health, What happens if you do not exercise, What is hygiene, Hand wash technique, Personal hygiene, Some diseases caused by poor hygiene, Understanding different types of skin, Types of skin, General practices for all kinds of skin,

Skincare for different skin types, Understanding hair, Care for different types of hair, Importance of makeup, Makeup for different occasion, Simple makeup routine, Maintenance of makeup implements and gadgets, Basic items required for makeup, Different face shapes, Different hairstyles for different face shapes, Hair colour, Skincare for Men, Haircare for Men, Importance of makeup for men, Some tips for makeup for men, Basic items required for makeup for men, Different hairstyles for different face shapes for men, Hair colour for men, Importance of Manicure and Pedicure, Manicure at home, Pedicure at home, Basic wardrobe items, Selecting/Buying an Outfit (Men), Footwear for Men, Accessories for Men, How to dress for a Cabin Crew Interview (Men), Informal wear for Men, How to differentiate between Informal and Formal dress code (Men), Basic wardrobe items for women, Informal attire for women, Selecting/ Buying an Outfit (Women), Footwear for Women, Accessories for Women, How to dress for a Cabin Crew Interview (Women), and Difference between Formal, Semi–Formal, and Informal dress codes for Men and Women

Block Structure :

Unit 1 : Importance of Grooming, Diet and Exercise, and Hygiene

Unit 2 : Skin and Hair Care, Makeup and Hair Style, for Women

Unit 3 : Skin and Hair Care for Men, Makeup and Hair Style for Men

Unit 4 : Formal, Semi–Formal, and Informal Wear for Men and Women

UNIT 01 *Importance of Grooming, Diet and Exercise, and Hygiene*

UNIT STRUCTURE

1.0 Learning Objective

1.1 Introduction

1.2 Importance of Grooming

- **1.2.1 Personal Grooming**
- **1.2.2 First Impression**
- **1.2.3 Regular Practise for Good Self–Image**

1.3 Health and Nutrition

- **1.3.1 Importance of Health and Nutrition**
- **1.3.2 Healthy and Balanced Diet**
- **1.3.3 Guidelines for Healthy Eating**
- **1.3.4 Calorie Chart**

1.4 Importance of Regular Exercise

- **1.4.1 Benefits of Exercise**
- **1.4.2 Benefits of Exercise on Mental Health**
- **1.4.3 What Happens if You Do Not Exercise**

1.5 Hygiene and Cleanliness

- **1.5.1 What is Hygiene**
- **1.5.2 Hand wash Technique**
- **1.5.3 Personal Hygiene**
- **1.5.4 Some Diseases Caused by Poor Hygiene**

1.6 Let Us Sum Up

1.7 Answer for Check Your Progress

1.8 Glossary

1.9 Assignment

1.10 Activities

1.11 Case Study

1.12 Further Readings

1.0 LEARNING OBJECTIVES :

After learning this unit, you will be able to understand about :

- Importance of Grooming
- Health and Nutrition
- Importance of regular Exercise
- Hygiene and Cleanliness

1.1 INTRODUCTION :

Personal Grooming helps in the growth of confidence level in a person. When we look good, we feel good. Just as we take care of our internal body to stay healthy, a well-groomed external appearance helps in projecting ourselves as a sophisticated, and successful person. It is said that **'First impression is the last impression',** so let us ensure that we make a good impression, every time.

1.2 IMPORTANCE OF GROOMING :

1.2.1 Personal Grooming :

Personal grooming helps in improving self–esteem and self–confidence. Along with makeup, hairstyle, and clothes you wear, how you present yourself is also very important. The right posture, and gestures help in conveying your message effectively, and positively.

1.2.2 First Impression :

We usually tend to make an impression of people based on their external appearance. So, we must remember to follow the same rules when we are meeting others, especially during a job interview, or some important formal occasion. Projecting the right image, helps in how people see, and form their first impression of you.

1.2.3 Regular Practise for good self–image :

Make sure your nails are well manicured and painted with an appropriate colour.

Your hair should be clean and tied neatly.

Face should look bright and cheerful.

Makeup should look natural.

Clothes should be clean, and well ironed.

Footwear must be comfortable, and appropriate.

Pedicure is recommended to keep the feet healthy.

Deodorant must be used to keep body odour away.

Mint or mouth spray is recommended to conceal bad breath.

❑ **Check Your Progress – 1 :**

1. Who requires Personal Grooming ?

   (a) Boys (b) Girls (c) Everyone

2. What is First Impression ?

   (a) How others view you in the first few seconds

   (b) How you look

   (c) What you think of yourself

1.3 HEALTH AND NUTRITION :

1.3.1 Importance of Health and Nutrition :

Health, and nutrition are two very important aspects to good living. Nutritious food, combined with physical activities leads to a healthy lifestyle. You can improve your health by having a balanced diet rich in proteins, vitamins, and minerals. Carbohydrates and fats must be consumed in moderation. While malnutrition can lead to disease, imbalanced diet could lead to being overweight.

1.3.2 Healthy and Balanced Diet :

Healthy and balanced diet boosts immune system, gives you glowing skin, maintain fitness and weight. The ideal amount of food would be different for men and women depending on their diet preferences, like vegan, vegetarian or non–vegetarian meal. Also, diet varies from person to person depending on their age, gender, and physical activities.

1.3.3 Guidelines for Healthy Eating :

Eat a variety of food like vegetables, fruits, legume, pulses, whole grains, high fibre food, lean meat, fish, and eggs

Reduce salt and sugar intake

Drink plenty of water

Replace saturated with unsaturated fats

Eat smaller portions of food

Reduce intake of salt

Cut down on junk food

Stay away from alcohol and aerated drinks

1.3.4 Calorie Chart :

CALORIE VALUE OF FOOD ITEMS

(Figures given in this chart are based on 100 gm portions)

Food	Calories	Protein (gms)	Fat (gms)	Carbohydrate (gms)	Water (gms)	Vitamins
Milk	65	3.3	4	5	87	A, B_2, Niacin
Butter	740	-	82	-	15	A
Cream	210	2	21	3	72	A
Cheese	310	22	25	-	44	A, B_2, Niacin
Ice Cream	170	4	7	25	64	B_1, B_2, Niacin
Margarine	740	-	81	-	16	A
Eggs	150	12	11	-	75	A, B_1, B_2, Niacin
Pork (Grilled)	340	29	24	-	36	B_2, Niacin
Chicken (Roast)	150	25	5	-	55	
Fish (eg. Cod)	220	20	10	8	60	B_1,Niacin
Beans (Boiled)	20	2	-	3	90	A
Cabbage (Boiled)	10	1	-	1	96	A, C
Carrot (Boiled)	20	0.6	-	4	91	A
Cauliflower (Boiled)	10	1.5	-	1	93	C
Cucumber (Raw)	10	0.6	-	2	96	C
Peas (Boiled)	50	5	-	8	80	A, B_1, B_2, Niacin, C
Potatoes (Boiled)	80	1	-	22	77	B_1
Tomatoes	15	1	-	3	93	A, C
Apples	45	0.3	-	12	84	-
Bananas	80	1	-	20	70	C
Cherries	50	0.6	-	12	81	-
Grapes	60	0.6	-	15	80	C
Oranges	35	1	-	9	86	C, A
Pea Nuts (Roasted)	570	24	49	9	4	B_1, B_2, Niacin
Beer	30	0.3	-	2	-	-
Wine	70	-	-	-	-	-
Spirits	220	-	-	-	-	-
Coffe (Black)	-	-	-	-	-	Niacin
Bread	230	8	2	50	39	B_1, Nia
Rice (White Boiled)	120	2	-	30	70	-
Cornflakes with milk	205	6.5	4	34.7	-	A_1, B_1, B_2, Niacin, B
Chocolate Biscuits	520	6	28	67	2	B_2, Niacin
Wheat Bran	200	14	6	23	8	B_1, B_2, Niacin

The recommended daily calorie intake is 2,000 a day for women and 2,500 for men.

❑ Check Your Progress – 2 :

1. What is a balanced diet ?

   (a) Eating whatever you like

   (b) A diet with balance of all nutrients required for the body

   (c) Eating once a day

2. Recommended calories for men and women are the same.

   (a) True (b) False (c) Not sure

1.4 IMPORTANCE OF REGULAR EXERCISE :

1.4.1 Benefits of Exercise :

Exercise helps manage your weight and reduce the risk of becoming too fat. It also improves overall appearance, decrease health related issues, and helps to feel more energetic and focused. A good night's sleep of minimum six to eight hours, along with some simple exercise is essential for physical and mental health.

1.4.2 Benefits of Exercise on Mental Health :

Simple physical exercises like running, cycling, brisk walking can be highly beneficial in relieving stress and anxiety, improving memory, sleeping better, and boost your overall mood. Regular exercise helps in building self–esteem and feeling more confident.

1.4.3 What Happens if You Do Not Exercise :

If you do not exercise, you will become breathless while performing simple physical activities. You will have less stamina and will need help for simple tasks. You will have less energy and become lazy.

Example of Exercise routine

❑ **Check Your Progress – 3 :**

1. Why must we exercise ?
   (a) To keep physically and mentally fit
   (b) To overcome boredom
   (c) To compete for weight loss
2. Who should not exercise ?
   (a) Healthy youngsters (b) Healthy adults
   (c) People with serious health conditions

1.5 HYGIENE AND CLEANLINESS :

1.5.1 What is Hygiene :

Hygiene is the practice of following regular practises to maintain good health and prevent any health issues by keeping the surroundings clean, neat, and tidy.

Washing and wearing clean clothes help in maintaining hygiene. Shampooing hair and using soap while bathing will promote good hygiene.

Maintaining cleanliness inside the house and keeping the neighbourhood clean will reduce illness.

Public areas, if kept clean will spread a healthy environment.

1.5.2 Hand wash Technique :

First, wet your hands with clean, running water (warm or cold), turn off the tap, and then apply soap. Lather your hands by rubbing them together with the soap. Lather the backs of your hands, between your fingers, and under your nails. Scrub your hands for at least 20 seconds for effective cleaning, then rinse well under running water.

Example of Proper Hand washing
(Picture sourced from verywellhealth.com)

1.5.3 Personal Hygiene :

Personal hygiene is about self–care and health. This includes, brushing your teeth, bathing, trimming and cleaning your nails, washing your hands before meals, and handling food.

As you come in contact with lots of germs during your daily interactions with others, the simplest way to protect yourself and others, is by washing your hands with soap and water before eating, or touching any food item.

1.5.4 Some diseases caused by poor hygiene :

Food poisoning : Illness caused by eating food that is unhygienically cooked or stored, which in turn becomes poisonous and causes the person to vomit or have loose motion.

Diarrhoea : Loose motion

Gastroenteritis : Swelling of the stomach and intestines causing vomiting and diarrhoea.

Skin infection : A skin infection occurs when germs enter the skin and spread. This can cause pain, swelling, rash and colour of the **skin** changes.

Body odour : Bad smell that comes from the body when a person has not had a bath.

Mouth infection : Swelling of gums, bad smell from the mouth, cavities in the teeth, etc. are some of the mouth infections that a person can get if he/she does not brush their teeth, gargle/rinse their mouth after each meal.

❑ **Check Your Progress – 4 :**

1. What disease can be caused by poor hygiene ?
   (a) Healthy teeth (b) Glowing skin (c) Skin infection
2. How can you follow personal hygiene ?
   (a) Brushing teeth (b) Not washing hands (c) Wearing dirty clothes

1.6 LET US SUM UP :

In this unit we learned about :

- Importance of grooming
- Personal grooming
- First impression
- Regular practise for good self–image
- Importance of Health and Nutrition
- Healthy and balanced diet
- Guidelines for healthy eating
- Calorie chart
- Importance of regular exercise
- Benefits of exercise on mental health
- What happens if you do not exercise
- Importance of hygiene and cleanliness
- Personal hygiene
- Some diseases caused by poor hygiene

1.7 ANSWERS FOR CHECK YOUR PROGRESS :

❑ **Check Your Progress 1 :**

1. (C), 2. (A)

❑ **Check Your Progress 2 :**

1. (B), 2. (B)

❑ **Check Your Progress 3 :**

1. (A), 2. (C)

❑ **Check Your Progress 4 :**

1. (C), 2. (A)

1.8 GLOSSARY :

Word	Meaning
Aerated drinks	Carbonated drinks, like soda
Anxiety	A feeling of worry, concern, nervousness
Benefits	Advantage
Body odour	Unpleasant (not good) smell
Brisk walking	Walking fast
Conceal	Hide
Gesture	A movement of part of the body, especially of hand or of the head, to express an idea or meaning
Junk food	Food that has very high content of salt, sugar and fat content. Chips, fried food, burgers, pizza are few examples of junk food
Lather	A froth or bubbles produced by soap, when mixed with water
Lean Meat	Meats with low fat content
Legume	Kabuli Chana, Rajma, Chowli, etc. are examples of legume
Nutrients	Food that provides nourishment essential for the maintenance of life and for growth
Posture	The position in which a person holds their body when standing or sitting
Saturated fat	Unhealthy fats like butter, palm oil, cheese, etc.
Self–esteem	Belief in one's own worth or abilities, self–respect
Unsaturated fat	Unsaturated fats are fats that are good for your heart. Vegetable oil; seed–based oil like peanut, sesame; nuts and seeds like flaxseed, walnuts are examples of food that has unsaturated fats.
Vegan	A person who does not eat or use animal products

1.9 ASSIGNMENT :

Write an essay about importance of Diet, Health, and Exercise in your daily life.

1.10 ACTIVITY :

- Make a list of your Strengths and Weaknesses, and work on converting the weaknesses into strengths. For example, your weakness is not brushing your teeth at night before going to bed. To overcome this habit, you will have to remember to brush at night, you could take help of your family members by asking them to remind you, or set an alarm. Remember, not to miss a single day. With constant practise, you will be able to overcome this weakness, and make it your strength of daily brushing before going to bed

- You notice that someone in your family or friends are not really aware of proper hand washing technique. Explain to your family member or friend, the process of hand wash.

1.11 CASE STUDY :

- **Childhood obesity : causes and consequences (Abstract)**

Link for complete case study – https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4408699/

Childhood obesity has reached epidemic levels in developed as well as in developing countries. Overweight and obesity in childhood are known to have significant impact on both physical and psychological health. Overweight and obese children are likely to stay obese into adulthood and more likely to develop non–communicable diseases like diabetes and cardiovascular diseases at a younger age. The mechanism of obesity development is not fully understood and it is believed to be a disorder with multiple causes. Environmental factors, lifestyle preferences, and cultural environment play pivotal roles in the rising prevalence of obesity worldwide. In general, overweight and obesity are assumed to be the results of an increase in caloric and fat intake. On the other hand, there are supporting evidence that excessive sugar intake by soft drink, increased portion size, and steady decline in physical activity have been playing major roles in the rising rates of obesity all around the world. Childhood obesity can profoundly affect children's physical health, social, and emotional well–being, and self–esteem. It is also associated with poor academic performance and a lower quality of life experienced by the child. Many co–morbid conditions like metabolic, cardiovascular, orthopaedic, neurological, hepatic, pulmonary, and renal disorders are also seen in association with childhood obesity.

❖ **Introduction :**

The world is undergoing a rapid epidemiological and nutritional transition characterized by persistent nutritional deficiencies, as evidenced by the prevalence of stunting, anaemia, and iron and zinc deficiencies. Concomitantly, there is a progressive rise in the prevalence of obesity, diabetes and other nutrition related chronic diseases (NRCDs) like obesity, diabetes, cardiovascular disease, and some forms of cancer. Obesity has reached epidemic levels in developed countries. The highest prevalence rates of childhood obesity have been observed in developed countries; however, its prevalence is increasing in developing countries as well. Females are more likely to be obese as compared to males, owing to inherent hormonal differences.

It is emerging convincingly that the genesis of Type 2 Diabetes and Coronary Heart Disease begins in childhood, with childhood obesity serving as an important factor. There has been a phenomenal rise in proportions of children having obesity in the last 4 decades, especially in the developed world. Studies emerging from different parts of India within last decade are also indicative of similar trend. This view has been challenged over recent years and we presently consider these as different forms of the global malnutrition problem. This new conceptualization leads us to simultaneously address the root causes of nutritional deficiencies which in turn will contribute to the control of under nutrition and the prevention of obesity, diabetes, and other NRCDs. This summary provides a public health overview of selected key issues related to the prevention of obesity and chronic diseases with a life–course perspective of nutrition and child growth.

Childhood obesity is one of the most serious public health challenges of the 21st century. The problem is global and is steadily affecting many low and middle income countries, particularly in urban settings. The prevalence has increased at an alarming rate. Globally in 2010, the number of overweight children under the age of five is estimated to be over 42 million. Close to 35 million of these are living in developing countries.

❖ **Definition of Childhood Obesity :**

Although definition of obesity and overweight has changed over time, it can be defined as an excess of body fat (BF). There is no consensus on a cut–off point for excess fatness of overweight or obesity in children and adolescents. A study by conducted by Williams. (1992), on 3,320 children in the age–group of 5–18 years classified children as fat if their percentage of body fat was at least 25% for males and 30% for females, respectively. The Centre for Disease Control and Prevention defined overweight as at or above the 95th percentile of body mass index (BMI) for age and "at risk for overweight" as between 85th to 95th percentile of BMI for age. European researchers classified overweight as at or above 85th percentile and obesity as at or above 95th percentile of BMI.

An Indian research study has defined overweight and obesity as overweight (between ?85th and <95th percentile) and obesity (?95th percentile). Another study has followed World Health Organization 2007 growth reference for defining overweight and obesity.

There are also several methods to measure the percentage of body fat. In research, techniques include underwater weighing (densitometry), multi–frequency bioelectrical impedance analysis (BIA), and magnetic resonance imaging (MRI). In the clinical environment, techniques such as BMI, waist circumference, and skin–fold thickness have been used extensively. Although, these methods are less accurate than research methods, they are satisfactory to identify risk. While BMI seems appropriate for differentiating adults, it may not be as useful in children because of their changing body shape as they progress through normal growth. In addition, BMI fails to distinguish between fat and fat–free mass (muscle and bone) and may exaggerate obesity in large muscular children. Furthermore, maturation pattern differs between genders and different ethnic groups. Studies that used BMI to identify overweight and obese children based on percentage of body fat have found high specificity (95–100%), but low sensitivity (36–66%) for this system of classification. While health consequences of obesity are related to excess fatness, the ideal method of classification should be based on direct measurement of fatness. Although methods such as densitometry can be used in research practice, they are not feasible for clinical settings. For large population–based studies and clinical situations, bioelectrical impedance analysis (BIA) is widely used. Waist circumference seems to be more accurate for children because it targets central obesity, which is a risk factor for type II diabetes and coronary heart disease.

❖ **Causes of Childhood Obesity :**

It is widely accepted that increase in obesity results from an imbalance between energy intake and expenditure, with an increase in positive energy balance being closely associated with the lifestyle adopted and the dietary intake preferences. However, there is increasing evidence indicating that an individual's genetic background is important in determining obesity risk. Research has made important contributions to our understanding of the factors associated with

obesity. The ecological model, as described by Davison, suggests that child risk factors for obesity include dietary intake, physical activity, and sedentary behaviour. The impact of such risk factors is moderated by factors such as age, gender. Family characteristics parenting style, parents' lifestyles also play a role. Environmental factors such as school policies, demographics, and parents' work–related demands further influence eating and activity behaviours.

Genetics are one of the biggest factors examined as a cause of obesity. Some studies have found that BMI is 25–40% heritable. However, genetic susceptibility often needs to be coupled with contributing environmental and behavioural factors in order to affect weight. The genetic factor accounts for less than 5% of cases of childhood obesity. Therefore, while genetics can play a role in the development of obesity, it is not the cause of the dramatic increase in childhood obesity.

Basal metabolic rate has also been studied as a possible cause of obesity. Basal metabolic rate, or metabolism, is the body's expenditure of energy for normal resting functions. Basal metabolic rate is accountable for 60% of total energy expenditure in sedentary adults. It has been hypothesized that obese individuals have lower basal metabolic rates. However, differences in basal metabolic rates are not likely to be responsible for the rising rates of obesity.

Review of the literature investigates factors behind poor diet and offers numerous insights into how parental factors may impact on obesity in children. They note that children learn by modelling parents' and peers' preferences, intake and willingness to try new foods. Availability of, and repeated exposure to, healthy foods is key to developing preferences and can overcome dislike of foods. Mealtime structure is important with evidence suggesting that families who eat together consume more healthy foods. Furthermore, eating out or watching TV while eating is associated with a higher intake of fat. Parental feeding style is also significant. The author's found that authoritative feeding (determining which foods are offered, allowing the child to choose, and providing rationale for healthy options) is associated with positive cognitions about healthy foods and healthier intake. Interestingly authoritarian restriction of "junk–food" is associated with increased desire for unhealthy food and higher weight.

Government and social policies could also potentially promote healthy behaviour. Research indicates taste, followed by hunger and price, is the most important factor in adolescents snack choices. Other studies demonstrate that adolescents associate junk food with pleasure, independence, and convenience, whereas liking healthy food is considered odd. This suggests investment is required in changing meanings of food, and social perceptions of eating behaviour. As proposed by the National Taskforce on Obesity (2005), fiscal policies such as taxing unhealthy options, providing incentives for the distribution of inexpensive healthy food, and investing in convenient recreational facilities or the aesthetic quality of neighbourhoods can enhance healthy eating and physical activity.

Dietary factors have been studied extensively for its possible contributions to the rising rates of obesity. The dietary factors that have been examined include fast food consumption, sugary beverages, snack foods, and portion sizes.

Fast food Consumption : Increased fast food consumption has been linked with obesity in the recent years. Many families, especially those with two parents working outside the home, opt for these places as they are often favoured by their children and are both convenient and inexpensive. Foods served at fast food

restaurants tend to contain a high number of calories with low nutritional values. A study conducted examined the eating habits of lean and overweight adolescents at fast food restaurants. Researchers found that both groups consumed more calories eating fast food than they would typically in a home setting but the lean group compensated for the higher caloric intake by adjusting their caloric intake before or after the fast food meal in anticipation or compensation for the excess calories consumed during the fast food meal. Though many studies have shown weight gain with regular consumption of fast food, it is difficult to establish a causal relationship between fast food and obesity.

Sugary beverages : A study examining children aged 9–14 from 1996–1998, found that consumption of sugary beverages increased BMI by small amounts over the years. Sugary drinks are another factor that has been examined as a potential contributing factor to obesity. Sugary drinks are often thought of as being limited to soda, but juice and other sweetened beverages fall into this category. Many studies have examined the link between sugary drink consumption and weight and it has been continually found to be a contributing factor to being overweight. Sugary drinks are less filling than food and can be consumed quicker, which results in a higher caloric intake.

Snack foods : Another factor that has been studied as a possible contributing factor of childhood obesity is the consumption of snack foods. Snack foods include foods such as chips, baked goods, and candy. Many studies have been conducted to examine whether these foods have contributed to the increase in childhood obesity. While snacking has been shown to increase overall caloric intake, no studies have been able to find a link between snacking and overweight.

Portion size : Portion sizes have increased drastically in the past decade. Consuming large portions, in addition to frequent snacking on highly caloric foods, contribute to an excessive caloric intake. This energy imbalance can cause weight gain, and consequently obesity.

Activity level : One of the factors that is most significantly linked to obesity is a sedentary lifestyle. Each additional hour of television per day increased the prevalence of obesity by 2%. Television viewing among young children and adolescents has increased dramatically in recent years. The increased amount of time spent in sedentary behaviours has decreased the amount of time spent in physical activity. Research which indicates the number of hours children spend watching TV correlates with their consumption of the most advertised goods, including sweetened cereals, sweets, sweetened beverages, and salty snacks. Despite difficulties in empirically assessing the media impact, other research discussed emphasizes that advertising effects should not be underestimated. Media effects have been found for adolescent aggression and smoking and formation of unrealistic body ideals. Regulation of marketing for unhealthy foods is recommended, as is media advocacy to promote healthy eating.

❖ **Environmental factors**

While extensive television viewing and the use of other electronic media has contributed to the sedentary lifestyles, other environmental factors have reduced the opportunities for physical activity. Opportunities to be physically active and safe environments to be active in have decreased in the recent years. The majority of children in the past walked or rode their bike to school. A study conducted in 2002 found that 53% of parents drove their children to school. Of these parents, 66% said they drove their children to school since their homes were

too far away from the school. Other reasons parents gave for driving their children to school included no safe walking route, fear of child predators, and out of convenience for the child. Children who live in unsafe areas or who do not have access to safe, well–lit walking routes have fewer opportunities to be physically active.

❖ **Socio–cultural factors :**

Socio–cultural factors have also been found to influence the development of obesity. Our society tends to use food as a reward, as a means to control others, and as part of socializing. These uses of food can encourage the development of unhealthy relationships with food, thereby increasing the risk of developing obesity.

❖ **Family factors :**

Family factors have also been associated with the increase of cases of obesity. The types of food available in the house and the food preferences of family members can influence the foods that children eat. In addition, family mealtimes can influence the type of food consumed and the amount thereof. Lastly, family habits, whether they are sedentary or physically active, influence the child. Studies have shown that having an overweight mother and living in a single parent household are associated with overweight and childhood obesity.

❖ **Psychological factors :**

Depression and anxiety : A recent review concluded that the majority of studies find a prospective relationship between eating disturbances and depression. However, this relationship is not unidirectional; depression may be both a cause and a consequence of obesity. Additionally, in a clinical sample of obese adolescents, a higher life–time prevalence of anxiety disorders was reported compared to non–obese controls. Although some studies demonstrate no significant relationship between increased BMI and increased anxiety symptoms. Thus, the relationship between obesity and anxiety may not be unidirectional and is certainly not conclusive.

Self–esteem : Research findings comparing overweight/obese children with normal–weight children in regards to self–esteem have been mixed. Some studies have found that obese children have lower self–esteem while others do not. There is some consensus in the literature that the global approach to self–esteem measurement with children who are overweight/obese is misleading as the physical and social domains of self–esteem seem to be where these children are most vulnerable.

Body dissatisfaction : Research has consistently found that body satisfaction is higher in males than females at all ages. Gender differences may reflect the westernized cultural ideals of beauty in that thinness is the only culturally defined ideal for females, while males are encouraged to be both lean and muscular. Thus, there is a linear relationship between body dissatisfaction and increasing BMI for girls; while for boys a U–shaped relationship suggests that boys with BMIs at the low and high extremes experience high levels of body dissatisfaction.

Eating disorder symptom Traits associated with eating disorders appear to be common in adolescent obese populations, particularly for girls. A number of studies have shown higher prevalence of eating–related pathology (i.e. Anorexia, Bulimia Nervosa, and impulse regulation) in obese children/youth.

Emotional problems : In one of the few studies to investigate the psychological impact of being overweight/obese in children, a review of 10 published studies over a 10–year period (1995–2005) with sample sizes greater than 50 revealed that all participants reported some level of psychosocial impact as a result of their weight status. Being younger, female, and with an increased perceived lack of control over eating seemed to heighten the psychosocial consequences.

❖ **Consequences of childhood obesity :**

Childhood obesity can profoundly affect children's physical health, social, and emotional well–being, and self–esteem. It is also associated with poor academic performance and a lower quality of life experienced by the child. These potential consequences are further examined in the following sections.

❖ **Medical consequences :**

Childhood obesity has been linked to numerous medical conditions. These conditions include, but are not limited to, fatty liver disease, sleep apnea, Type 2 diabetes, asthma, hepatic steatosis (fatty liver disease), cardiovascular disease, high cholesterol, cholelithiasis (gallstones), glucose intolerance and insulin resistance, skin conditions, menstrual abnormalities, impaired balance, and orthopaedic problems. Until recently, many of the above health conditions had only been found in adults; now they are extremely prevalent in obese children. Although most of the physical health conditions associated with childhood obesity are preventable and can disappear when a child or adolescent reaches a healthy weight, some continue to have negative consequences throughout adulthood. In the worst cases, some of these health conditions can even result in death. Below, three of the more common health problems associated with childhood obesity are discussed, diabetes, sleep apnea, and cardiovascular disease.

❖ **Socio–emotional consequences :**

In addition to being implicated in numerous medical concerns, childhood obesity affects children's and adolescent's social and emotional health. Obesity has been described as being "one of the most stigmatizing and least socially acceptable conditions in childhood." Overweight and obese children are often teased and/or bullied for their weight. They also face numerous other hardships including negative stereotypes, discrimination, and social marginalization. Discrimination against obese individuals has been found in children as young as 2 years old. Obese children are often excluded from activities, particularly competitive activities that require physical activity. It is often difficult for overweight children to participate in physical activities as they tend to be slower than their peers and contend with shortness of breath. These negative social problems contribute to low self–esteem, low self–confidence, and a negative body image in children and can also affect academic performance. All of the above–mentioned negative effects of overweight and obesity can be devastating to children and adolescents.

The social consequences of obesity may contribute to continuing difficulty in weight management. Overweight children tend to protect themselves from negative comments and attitudes by retreating to safe places, such as their homes, where they may seek food as a comfort. In addition, children who are overweight tend to have fewer friends than normal weight children, which results in less social interaction and play, and more time spent in sedentary activities. As

aforementioned, physical activity is often more difficult for overweight and obese children as they tend to get shortness of breath and often have a hard time keeping up with their peers. This in turn inevitably results in weight gain, as the amount of calories consumed exceeds the amount of energy burned.

❖ **Academic consequences :**

Childhood obesity has also been found to negatively affect school performance. A research study concluded that overweight and obese children were four times more likely to report having problems at school than their normal weight peers. They are also more likely to miss school more frequently, especially those with chronic health conditions such as diabetes and asthma, which can also affect academic performance.

❖ **Conclusion :**

The growing issue of childhood obesity can be slowed, if society focuses on the causes. There are many components that play into childhood obesity, some being more crucial than others. A combined diet and physical activity intervention conducted in the community with a school component is more effective at preventing obesity or overweight. Moreover, if parents enforce a healthier lifestyle at home, many obesity problems could be avoided. What children learn at home about eating healthy, exercising and making the right nutritional choices will eventually spill over into other aspects of their life. This will have the biggest influence on the choices kids make when selecting foods to consume at school and fast–food restaurants and choosing to be active. Focusing on these causes may, over time, decrease childhood obesity and lead to a healthier society as a whole.

(How can you make sure that you keep a good balance between nutrition and exercise ? Plan, and follow a diet and exercise routine, to ensure good healthy lifestyle)

1.12 FURTHER READING :

- **Personal and Domestic hygiene**

  http://www.sulabhenvis.nic.in/Database/hygiene_personalanddomestic_2078.aspx

- **Free e–books for Health/Diet/Exercise**

  https://www.barnesandnoble.com/b/free–ebooks/nook–books/diet–health–fitness/exercise–fitness/_/N–ry0Z8qaZ11jg

- **How to create a healthy plate – video link**

  https://www.youtube.com/watch ?v=Gmh_xMMJ2Pw

- **Book – Public Health and Hygiene**

  Author : V. Kumaresan, R. Sorna Raj,

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UNIT 02 *Skin and Hair Care, Makeup and Hair Style, for Women*

UNIT STRUCTURE

2.0 Learning Objective

2.1 Introduction

2.2 Skin Care for Women

- **2.2.1 Understanding Different Types of Skin**
- **2.2.2 Types of Skin**
- **2.2.3 General Practices for all Kinds of Skin**
- **2.2.4 Skin Care for Different Skin Types**

2.3 Hair Care for Women

- **2.3.1 Understanding Hair**
- **2.3.2 Care for Different Types of Hair**

2.4 Makeup for Women

- **2.4.1 Importance of Makeup**
- **2.4.2 Makeup for Different Occasions**
- **2.4.3 Maintenance of Makeup Implements and Gadgets**
- **2.4.4 Simple Makeup Routine**

2.5 Basic Items Required for Makeup

- **2.5.1 Basic Items Required for Makeup**

2.6 Hairstyle for Women

- **2.6.1 Different Face Shapes**
- **2.6.2 Different Hair Styles for Different Face Shapes**
- **2.6.3 Hair Colour**

2.7 Let Us Sum Up

2.8 Answer for Check Your Progress

2.9 Glossary

2.10 Assignment

2.11 Activities

2.12 Case Study

2.13 Further Readings

2.0 LEARNING OBJECTIVES :

After learning this unit, you will be able to understand about :

- Skin care for Women
- Hair care for women
- Makeup for Women
- Basic Items required for Makeup
- Hairstyle for Women

2.1 INTRODUCTION :

The skin, is the outer covering of the body, it is the largest organ of the body. Though nearly all human skin is covered with hair, certain parts may appear hairless. Skin is the thinnest on your eyelids, and hardest on the soles of your feet.

Skin plays a key role in protecting, and preventing excessive water loss. Its other functions are regulation of temperature, sensation, producing Vitamin D in the presence of Sun light.

Taking care of your skin is absolutely essential, because good skin makes you look more attractive, thus boosting your confidence level.

Makeup and Hairstyle are used to enhance self–image and self–presentation.

Hair care is about caring for your hair and scalp, by regularly cleaning, and nourishing it.

2.2 SKIN CARE FOR WOMEN :

2.2.1 Understanding different types of Skin :

- It would be helpful to identify your skin type before you start using any cosmetics, and skin care routine.
- Using good quality product is very important, as usage of wrong product could lead to skin damage.
- Drinking plenty of water helps all types of skin.
- It is recommended to remove all unwanted hair. Always, moisturise skin after the hair removal process.
- If there are any serious skin related issues, it is important to visit a dermatologist.

2.2.2 Types of Skin :

There are five types of skin, they are :

- **Dry Skin :** If your skin is tight and flaky, then it could be dry.
- **Oily Skin :** If your skin feels greasy, shiny and dirty it could be oily skin type.
- **Combination Skin :** Sometimes the skin is oily in some parts and dry in other this could be because its combination skin, which could be a result of using excessive skin products without proper knowledge, or over exposure to extreme kinds of climate. This is the most common kind of skin.
- **Normal Skin :** Generally, has a fine texture, and glows with health.
- **Sensitive Skin :** This kind of skin is generally sensitive to any kind of products, or strong climatic conditions. It gets red, or breaks into small rashes at the slightest reason.

2.2.3 General Practices for all kinds of Skin :

These are the general practices to be followed by all kinds of skin. Every skin has different kinds of products available in the market, it is advisable to use the perfect product which agrees with your skin.

There are some home remedies for emergencies, definitely not recommended for long term use, but could be tried if products are not easily available.

❖ **Cleansing Lotion :**

Milk and few drops of lemon juice can be taken on a cotton pad and used as cleansing lotion. Dry skin should avoid lemon juice.

❖ **Scrub :**

- Choker (the rough remains after sifting flour) can be used as scrub
- Filter coffee can also be used as scrub, its excellent as an exfoliator after sun tan
- Idli batter can also be used as a scrub.

❖ **Face Packs :**

Many of the fruit pulps can be used as nutrition packs for the skin.

2.2.4 Skin Care for Different Sin Types :

❖ **For Dry Skin :**

- First use a cream cleanser to clean the grease and grime stuck on the face.
- Use a menthol free moisturizing face wash, to wash your face after cleansing.
- Then use a moisturizing cream to nourish your skin.

❖ **For Oily Skin :**

- First use gel or foam cleanser, to clean the grease and grime stuck on the face.
- Use a menthol based moisturizing face wash, to wash your face after cleansing.
- Then use a non–greasy moisturizing cream, to nourish your skin.

❖ **For Combination Skin :**

- First use cleansing milk, to clean the grease and grime stuck on the face.
- Use a gentle face wash, to wash your face after cleansing.
- Then use cream and moisturizer, to nourish your skin.

❖ **For Normal Skin :**

- Use cleansing milk or lotion, to clean the grease and grime stuck on the face.
- Use a gentle face wash, to wash your face after cleansing.
- Then use cream and moisturizer, to nourish your skin.

❖ **For Sensitive Skin :**

- Use mild natural, and chemical free products
- Visit a skin specialist before using any cosmetics as you may have allergic reactions to certain products.

❑ **Check Your Progress – 1 :**

1. How many types of skin are there ?

   (a) Three (b) Four (c) Five

2. What is the most common kind of skin ?

(a) Combination skin (b) Oily skin (c) Dry skin

2.3 HAIR CARE FOR WOMEN :

2.3.1 Understanding Hair :

Like the skin, hair is also categorised into dry and oily hair. Generally, the quality of the hair is as per the skin type.

- Hair can be divided into hair root, and hair shaft. Hair root is under the skin, while hair shaft is the part we can see and touch.
- Good balanced diet is extremely important for good lustrous hair. Diet must have proper quantity of Iron, which is in form of leafy vegetables and red vegetables and fruits.
- To keep the hair and scalp clean, and to protect it from pollution and excessive sun damage, washing your hair regularly with good quality shampoo and conditioner, is recommended.
- After wash, allow the hair to dry naturally. If a hair dryer or heat appliance needs to be used, a hair protecting heat resistant serum is recommended
- Do not brush your harshly, it could lead to hair breakage and fuzzy hair top.
- Ideally a wide tooth comb or finger combing is advisable for curly hair and regular combing for straight shiny hair.
- If there are any serious scalp or hair related issues, like lice or persistent dandruff, it is important to visit a dermatologist.

2.3.2 Care for different types of Hair :

There are different types of Hair :

- Oily scalp, Oily hair
- Dry scalp, Dry hair.

❖ **Oily Scalp and Hair :**

- For oily scalp and hair, use good quality products that are non–greasy.
- Do not shampoo your hair too often, and do not use very hot water.
- If your hair remains too oily, it will attract dirt.
- Wash your hairbrush after use.

❖ **Dry Scalp and Hair :**

- For dry hair, use a mild, good quality shampoo.
- Do not use shampoo, every day.
- Do not use alcohol–based products, it will dry the hair more.

" Use warm water for hair wash, and at the end rinse with cold water.

❑ **Check Your Progress – 2 :**

1. What is hair root ?

(a) Part of hair above the skin

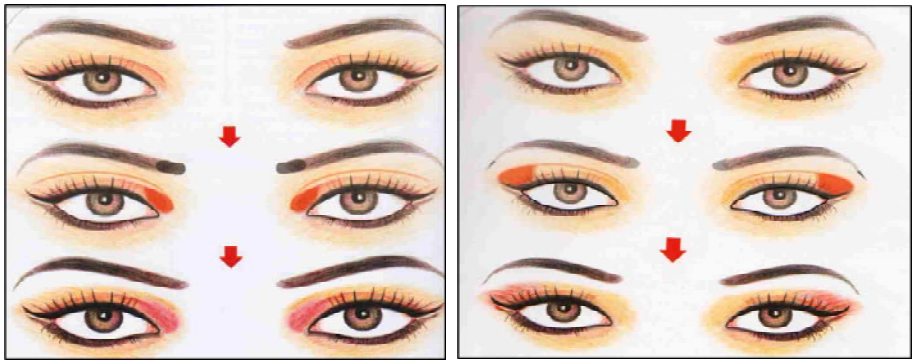
(b) Part of hair under the skin

(c) Both

2. What kind of product is not good for dry scalp and hair ?

(a) Alcohol based (b) Organic (c) Gentle

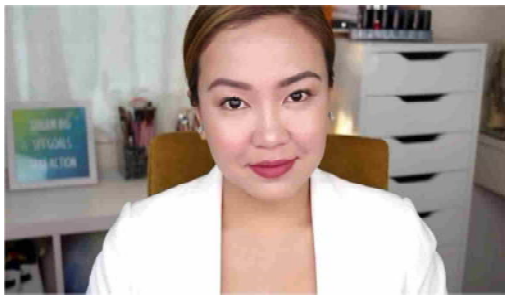
2.4 MAKEUP FOR WOMEN :



Example of Eye Make–Up

2.4.1 Importance of Makeup :

- Makeup camouflages all the flaws of your skin, and makes you feel even more confident. If there are a few acne or pimples, or dark circles under your eyes, clever makeup can conceal it very well.
- Makeup is the best way to enhance your natural beauty and create illusions of what you want to change.
- While buying cosmetics, make sure to check the expiry date, buy good branded cosmetics. Ensure the makeup product is sealed.
- Nail polish, and Lipstick should not be too trendy or bright. Nowadays a lot of gel nails are available, make sure you buy the right product or get the extensions done from a professional, else you could tend to get serious fungal infections in the nails.
- Always test the product before purchase.
- Generally, every good makeup counter would have a technician to help you with the skin base and colours. Do take their advice before buying the products.



Example of Job Interview Makeup

2.4.2 Makeup for different occasions :

There are various ways of wearing your makeup, for different occasions.

The most popular occasions when makeup is worn are :

- **Casual Look :** You need to only use a base, a light colour lip colour, kohl pencil, and mascara. This gives you a clean and neat look.
- **Formal Look :** Same as above, but you could use a liner, and bit of darker colour on the lips. A bit of highlighter can be used, too.

- **Party Look (Evening Makeup) :** Here, you need to use some thick base, and darker shades of lipstick could be used, if required. Maybe a bit of shimmer and glitter could be added for effects.

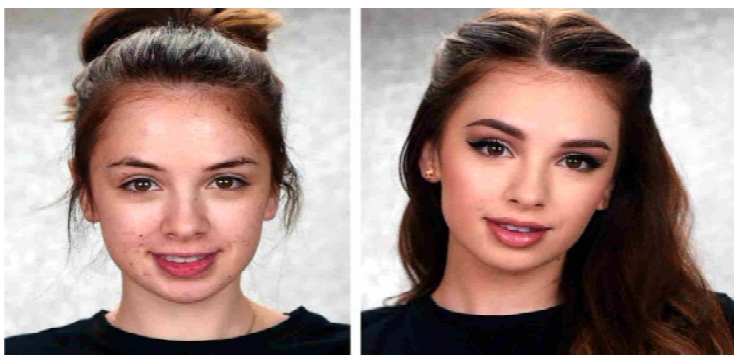
Example of Party Makeup

2.4.3 Maintenance of Makeup Implements and Gadgets :

- Regularly wash and dry makeup brushes, and other implements you use for makeup with mild skin friendly cleaners.
- Wash your combs and brushes regularly.
- Electronic items must be kept away from moisture, handled and maintained with care.

2.4.4 Simple Makeup Routine :

- Always cleanse your skin before applying makeup.
- Apply moisturizer
- Then Foundation/Primer
- Concealer
- Compact or Loose face powder
- Blusher
- Eye makeup (eyebrow pencil, mascara, eyeliner, eyeshadow)
- Lipstick
- Sponge and brush for applying makeup
- Make sure to complement the colours of your makeup with the clothes you wear.



Example of Simple Makeup – Before and After Makeup

❑ **Check Your Progress – 3 :**

1. Is party makeup recommended for a job interview ?

   (a) No (b) Yes (c) Maybe

2. What kind of makeup should be used for oily skin ?

(a) Nothing specific (b) Cream based (c) Powder based

2.5 MAKE–UP ITEMS :

2.5.1 Basic Items Required for Makeup :

- Foundation, shades with Orange and dark shade included
- Translucent powder or Compact powder
- Concealer
- Cotton pads to remove makeup
- Eye shadow pallet with earthy colours, it should preferably be a combination of matte and shimmer colours
- Eyebrow pencil of either brown or dark grey colour
- Black colour gel Eyeliner with Eyeliner application brush
- Black colour Mascara or Mascara volumizer
- Peach or warm colour blushers along with blush brush
- Matte Lipstick shades (Nude shades, red, peach, nude brown)
- Lip liner (according to the lipstick colour)
- Beauty blender for foundation application or Foundation brush
- Powder brush, Eye shadow application brush and Eyeshadow smudge brush
- Black or nude colour Eye pencil
- Black colour Kajal
- Eyelash curler
- Powder puffs
- Lip Balm

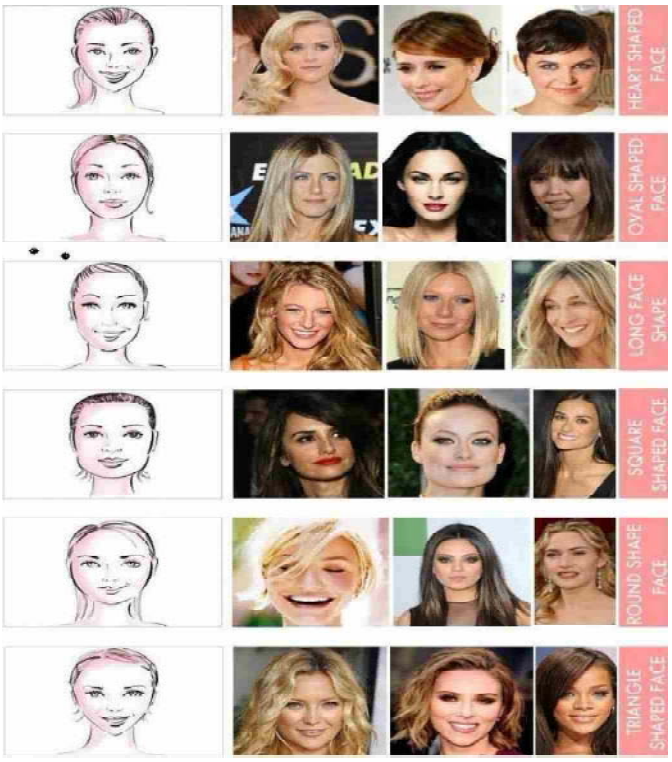
2.6 HAIRSTYLE FOR WOMEN :

2.6.1 Different Face Shapes :

The Seven Basic Face Shapes :

- Oval, Round, Square, Diamond, Heart, Pear, and Oblong.
- Hair must be styled according to the shape of your face.
- For a formal meeting or interview, if your hair is longer than jawline, it is always advised to wear your hair in a neat bun or ponytail, away from your face.
- Hair holding devices like, ruffle band, hair net, or hair pins should be plain and of natural or black colours.
- If your hair is short, ensure that no hair is falling on your face.
- Use gel or hairspray to keep your hair in place.

2.6.2 Different Hair Styles for Different Face Shapes :



Examples for Different Hair Styles Best Suited for Different Face Shapes

2.6.3 Hair Colour :

Hair colour should not be one or two shades darker or lighter, than your natural hair colour.

Unnatural colours like Orange and Blue must be avoided.

❑ Check Your Progress – 4 :

1. How many basic face shapes are there ?

   (a) Five (b) Six (c) Seven

2. When does the hair have to be neatly tied back ?

   (a) Party (b) Interview (c) Meeting friends

2.7 LET US SUM UP :

In this unit we learned about :

- Understanding different types of skin
- Types of skin
- General practices for all kinds of skin
- Skincare for different skin types
- Understanding hair
- Care for different types of hair
- Importance of makeup
- Makeup for different occasion
- Simple makeup routine
- Maintenance of makeup implements and gadgets
- Basic items required for makeup

- Different face shapes
- Different hairstyles for different face shapes
- Hair colour

2.8 ANSWER FOR CHECK YOUR PROGRESS :

❑ **Check Your Progress 1 :**

1. (C), 2. (A)

❑ **Check Your Progress 2 :**

1. (B), 2. (A)

❑ **Check Your Progress 3 :**

1. (A), 2. (C)

❑ **Check Your Progress 4 :**

1. (C), 2. (B)

2.9 GLOSSARY :

Word	Meaning
Ailment	Illness
Blusher	A cosmetic for colouring the cheeks
Boosting	Help to encourage or improve
Brand	A known company name
Breakage	The action of breaking something
Camouflage	Hide or disguise
Compact case	Makeup powder with mirror and sponge
Compliment	A particular thing that adds value to an already existing thing
Concealer	A cosmetic to cover spots and blemishes
Conditioner	A liquid applied to hair after shampooing to improve its condition
Cream based makeup	Is used for dry skin to give it a moist, satiny finish
Dermatologist	A doctor specialising in skin and scalp care
Enhance	Make something better
Excessive	More than is necessary
Facial Cleanser	A facial care product to remove makeup
Foundation	Is a makeup applied to the face to give it an even look
Flaws	A mark, blemish which is easily noticed
Foam	Bubbly liquid
Gadgets	A mechanical or electronic device
Greasy	oily
Grime on skin	Dirt stuck on skin

Hair Gel	To style the hair (please review)
Hair spray	To set the hair in place after it is styled (please review)
Hair shaft	The part of hair above the skin where you can see
Implements	Cosmetics, brushes, sponges etc.
Ingredients	Items present in the product
Lustrous	Shining
Menthol free	Peppermint free, as some skin type is sensitive to it
Moisturizer	Used to prevent dryness to the skin (please review)
Nourish	Feed
Powder based makeup	Is used by oily skin to absorb excess oil and to give it a matte look
Primer	A cream used to allow makeup to last a longer time
Scalp	Skin covering the head
Self–Image	The idea one has about self–abilities
Self–Presentation	How one projects self to others

2.10 ASSIGNMENT :

What do you think is your face type ? Based on the finding, write down what are the different types of hairstyles that will look good on you.

2.11 ACTIVITY :

- What kind of skin do you have ? Try out different makeup that will suit your skin type.
- A friend complains of severe hair fall, and itchy scalp. Your friend has also developed some pimples on the facial skin. As someone who has recently learned about skincare and haircare, how will you advise your friend ?
- Your sister wants to try out manicure. Explain the process of manicure to her.

2.12 CASE STUDY :

- **Case Study : The Emotional Pull of Beauty Brands**

Link for the complete case study – https://usabilla.com/blog/case–study–the–emotional–pull–of–beauty–brands/

We recently wrote about how beauty brands seduce you with emotional design. It was great fun to look at different beauty brands, identify emotional concepts on their websites and make assumptions on how they draw us in. To back up our findings, we invited people to participate in a test case. Now the results are in and it's even more fun to see how they underpin our hypothesis. Feedback from about 100 participants shows that beauty brands really do appeal to our emotions – but not only to seduce us, also to build their brand and make us trust them.

For clarity, let's quickly recall the brands that were included in the test : Nivea, Olay, Dove, L'Oréal Paris, Clinique, Garnier and Axe. We gave people the following three tasks for each website :

❖ **What appeals to people ?**

Given that this was the main underlying assumption for this case study, let's start off with some results that show how beauty brands seduce us with emotional design. Actually, almost all of the brands somehow used the same or at least similar concepts to draw their customers in and seduce them.

❖ **Beauty Effects :**

A very prominent strategy are the effects of the main product or product group. Even though each brand offers a wide range of products, they all focus on a very specific effect. For example, Nivea promotes soft, smooth, and kissable skin. Olay calls out skin improvement and anti–aging effects, while Clinique puts the bulk of their focus on fragrance and allergy–free products. Dove is clean, fresh and for young people, while L'Oréal Paris is perceived as very sophisticated, elegant, and for women who want to look their best at any age.

Garnier focuses on their hair products that promise strong and shiny hair, and Axe really sticks to basic products for men. In any case, all brands direct our attention to the effects their products will have on us. And it works because we all want soft skin; we all want allergy–tested products, and we all love strong and shiny hair – at least the majority of women do. The described effects resonate at an emotional level, which makes the beauty products highly desirable.

Colors : Beauty brands all have a very distinct color scheme. These colors appeal to us because we associate them with some kind of emotion. Besides, colors are very recognizable. A lot of our test participants pointed out that, when looking for a brand in a department store, they look for a certain color combination rather than the logo or brand name. Here is what participants associated with the different brand colors. Nivea blue was associated with tradition, quality, harmony and trust. Dove blue in combination with a lot of white was perceived as clean, fresh, natural and youthful.

Garnier is very colorful and their intense green conveyed participants of their youthful, natural and healthy products. Olay and L'Oréal Paris both use rather dark colors with bright and shiny contrasts. They look glamorous, elegant and exquisite. Axe also chose a dark background with strong contrasts. Still, their site was not perceived as harmonic. Last but not least, Clinique dismissed all colors, which reflects the pure and fragrance–free ingredients of their products in their design. Our research shows how colors clearly appeal to our emotions and affect our perception of the brand.

Things participants said about colors :

"The color blue, when in the beauty aisle, always alerts me to Nivea products."

"The colors are usually the first thing that stands out for Olay."

"The colors or L'Oréal Paris are dark, mysterious, and fashionable."

"I like the colors because they are very calming and make it easy to find the brand in the drug store." [Garnier]

"White. Sterile. Clean." [Clinique]

❖ **Tips and Consultations :**

Tutorials, step–by–step instructions and personal consultations were very appealing to our test participants. Body and skin care are very personal topics and our test participants appreciated it when a brand recognizes that. Personal

consultations make us believe that the brands actually cares about us as an individual.

For example, on the site of L'Oréal Paris, an expert makeup artist offers to help you find your own unique look. Dove and Clinique have own content categories that cover "Tips, Topics, & Tools" or "My Skin Diagnostic". Garnier offers a whole set of expert tips and step–by–step instructions for their products as well as a personal beauty profile. Olay awaits their visitors with a big "Olay for You" button that promises a personal skincare consultation. Nivea simply tells their customers to use their products for soft skin, and Axe wraps the different effects of their products in rather indirect messages like "Unleash the chaos" in their attempt to appeal to men.

What participants said about beauty tips and consultations :

"Personal skin care consultation makes me trust the brand, as if I'm able to talk with someone or go through a process to find out more about what's right for me and how to take care of my skin better." [Olay]

"All of these how to videos and expert advice really make me feel like they know what they are doing and value me enough to share." [Garnier]

"I love hearing about tips and new ideas from pros." [Clinique]

Anything beauty : It seems obvious that all beauty brands use concepts that somehow relate to either inner and outer beauty. Of course, that's the reason why we purchase and consume beauty products in the first place, right ? We want to feel comfortable in our skin, attractive, self–confident and beautiful. Our participants identified beauty concepts the brands use to appeal to us.

On the Nivea website, they named concepts like love, happiness, attractiveness, calmness, softness, and cleanliness as those that appeal to us. On Dove's website, participants identified concepts like satisfaction, contentment, natural beauty, freshness, youth, simplicity, and self–esteem. Olay's site focuses on elegance, exclusivity, quality, perfection, and glamor, while the L'Oréal Paris website uses concepts like plain beauty, sophistication, mystery, magic, warmth, and richness. Clinique's site appeals through cleanness, modernness, naturalness, and simplicity. The Garnier site uses concepts like individualism, youth, natural beauty, attractiveness, peacefulness and self–esteem, and on Axe's website, participants identified concepts such as excitement, sex, attraction, fun, coolness, and humor.

❖ **How do beauty brands inspire people to trust them ?**

Now we know that beauty brands use emotions to appeal to us. But what else ? There are many others aspects that are important on the Web, such as trust. Let's have a look at how beauty brands also use emotions to gain our trust.

Expertise : Expertise is a big trust factor for beauty brands. Our body is something very personal and we need to be able to trust what we apply to our skin and hair. Knowing that our brand of choice is run by professionals, and that all products have been developed by experts tremendously increases our trust towards that brand.

Participants pointed out that they trust Nivea because of the company's 100 years of existence and the experience that comes with that amount of time. Brands like Dove, Garnier, Clinique, and Olay offer their expertise to their clients in the form of expert tips and consumer education. Services like this indicate that these brands really know their craft. L'Oréal Paris on the other hand uses experts as

a reference who use the brand themselves. Axe is the only brand that does not show any sign of expertise on their site. Elements that indicate expertise appeal to emotions that we associate with trust.

Things participants said about expertise :

"Step by step instructions that make one confident to use the products at home" [Garnier]

"I like that experts in the field use the brand." [L'Oréal Paris]

"I like their desire to help and educate" [Dove]

Contact Information : As simple as it seems, contact information builds trust. The fact to know 'who' is behind a brand and the possibility to get in touch with these people is a huge plus in creating a foundation of trust with consumers. On all websites, participants marked the contact page or any other contact information as a trust–building element. The fact that we can obtain support and therefore get recognized as individual customer with questions and interests is very appealing and builds trust in a personable way.

Participants left comments like :

"I like that I have the opportunity to speak to someone and get answers to any questions I may have." [Clinique]

"The contact page makes me trust them." [Nivea]

Professional Look and feel : The appearance of the brand itself can build trust. The professional design, look and feel of a website in line with the general image of the brand is a strong influential factor for the perceived level of trust. The brand logo also adds to the perception of a brand's trustworthiness. For almost all brands, participants agreed that a professional and characteristic website and a familiar logo are very appealing and trust building. Participants cared primarily for a clear structure and menu of the website. Professional looking pictures also increased the perceived level of trust. So did the brand logo, especially when participants associated it with a positive brand experience.

What participants thought about a professional look and feel :

"Easy to navigate web page and clean lines represent a simple, straightforward product" [Nivea]

"Nicely displayed graphics show professionalism" [Nivea]

"Great graphic and display keep the site simple and non–cluttered" [Clinique]

"Graphics are all very clear and clean looking, something that's attractive in personal care products." [Dove]

❖ **Social Responsibility :**

Another aspect that participants really looked into as a trust factor was social responsibility. It was appreciated if a beauty brand takes social responsibility. Participants also appreciated that Clinique for example does not test their products on animals. Even if there is no proof if a brand is actually environmentally aware, the impression of being so is already enough to convince some customers. Taking social responsibility makes a brand likable and gives us the impression they do not only care about their profit. This image appeals to us.

What participants thought about social responsibility :

"Social mission means they strive to do something good" [Dove]

"I like Clinique because they don't perform animal tests on their products"

"Their use of natural additives, such as bamboo, makes me think they are committed to using natural resources." [Garnier]

❖ **How do emotions build brands ?**

Beauty brands, like other brands, appeal to our emotions in a unique way that we only associate with this one brand. They use emotions in several ways to build their brand. Let's have a look at how they do that.

Unique Brand Associations : Beauty brands all have that one special thing that makes them stand out. Participants clearly identified the different characteristics that they associated with the different brand websites we tested. Nivea is associated with tradition and high quality. For Dove, it is high self–esteem and the assurance that you are beautiful the way you are. Clinique stands for allergy tested and fragrance–free products, while Olay is known for skin improvement. L'Oréal Paris is a sophisticated and exquisite beauty brand, and Garnier stands out for great, strong, and shiny hair. Axe is associated with sex and attractiveness. All these associations somehow trigger emotions such as desire, self–esteem, and feeling beautiful or attractive.

Pictures : Pictures can have a very strong semantics and therefore underline a brand's image. Participants identified imagery characteristics for all brands that they believed helped to build the brand. Nivea shows professional looking pictures of a happy and attractive face. Dove matches its imagery with their overall image and uses models that look like the "girl next door". Clinique on the other hand rarely uses any models in their images at all, rather they focus on their products and abstract illustrations. Olay does something similar, but they replace the model with their products and put their products in the spotlight. L'Oréal Paris and Garnier mostly shows strong and beautiful women in their images, while Axe is known for more playful, surreal images.

What our participants said :

"Typical for Garnier are images of young and attractive women with impossible hair."

"Nivea shows lots of skin contact in their pictures, which indicates soft skin."

"They show regular women, like my best friend, or another mom picking her kids up from school." [Dove]

"Camera flares are very Olay."

"Axe uses great graphics that are interesting and fun."

❖ **Focus on Customer :**

Last but not least, beauty brands give us the feeling of being special. Almost all brands offer some kind of personal skin or style consultation, expert tips, instructions, or even the option to save a personal beauty profile. We appreciate it that they care about us and that they help us find the best products for our skin or the best makeup for our face. Eventually, we associate a great customer experience with the brand and quite possibly, we even build a relationship with the brand. Aside from creating great brand awareness, beauty brands also want to build brand loyalty, of course.

❖ **Conclusion :**

Beauty brands are very emotional and as expected, our case study showed that they appeal to our emotions to seduce us. On top of that however, they use emotions to trick us into trusting them and to build their brand. Emotions are a very unconscious phenomenon and it either takes us a lot of practice or extraordinary self–discipline to control them. By using different concepts in their marketing campaign that trigger our emotions, beauty brands can easily seduce and captivate us. They can get our attention, our interest, awaken our desire to buy their products and eventually even make us purchase them.

2.13 FURTHER READING :

- **Basic Makeup**

https://lashbrowmakeup–academy.com/wp–content/uploads/2015/02/Ellie–Malmin–Makeup–101–E–Book.pdf

- **How to avoid common makeup mistakes**

  https://m.facebook.com/story.php?story_fbid=252383432436670&id=254307648319573&sfnsn=wiwspwa&extid=fTMuhH8YOLy8F1YP&d=w&vh=e

- **Cabin crew interview makeup tutorial – video link**

  https://www.youtube.com/watch?v=vQemekOGlFc

- **Skincare**

  http://seattleclouds.com/myapplications/oj247/SkinCare/1877988332.pdf

- **Haircare**

  https://timesofindia.indiatimes.com/life–style/beauty/top–20–natural–ways–for–great–hair/articleshow/17474619.cms

- **Hairstyles**

  https://www.lorealparisusa.com/beauty–magazine/hair–style.aspx?page=1

- **How to style hair**

  https://www.cosmopolitan.com/style–beauty/beauty/advice/a6514/life–changing–hair–hacks/

- **Approved Aviation Hair Styles || Easy Hair Style in 3 Minutes**

  https://www.youtube.com/watch?v=gUvL5ZfxBy8

- **7 Easy Hair Do's For a Female Cabin Crew Interview| Crew Hacks**

  https://www.youtube.com/watch?v=H10Ts2C9L28&t=127s

- **Book – Timeless : Recreate the Classic Makeup and Hairstyles from 100 Years of Beauty Hardcover – October 2, 2018 by Louise Young (Author), Loulia Sheppard (Author)**

■

UNIT 03 *Skin and Hair Care for Men, and Makeup and Hair Style for Men*

UNIT STRUCTURE

3.0 Learning Objective

3.1 Introduction

3.2 Skin care for Men

3.3 Hair care for Men

3.4 Makeup for Men

- **3.4.1 Research Data about Makeup for Men**
- **3.4.2 Importance of Makeup**
- **3.4.3 Some tips for Makeup**

3.5 Basic items required for Men

- **3.5.1 Basic Items Required for Makeup**

3.6 HairStyle for Men

- **3.6.1 Different Hairstyles for Different Face Shapes**
- **3.6.2 Hair Colour**

3.7 Manicure and Pedicure for Men and Women

- **3.7.1 Importance of Manicure and Pedicure**
- **3.7.2 Manicure at Home**
- **3.7.3 Pedicure at Home**

3.8 Let Us Sum Up

3.9 Answer for Check Your Progress

3.10 Glossary

3.11 Assignment

3.12 Activities

3.13 Case Study

3.14 Further Readings

3.0 LEARNING OBJECTIVES :

After learning this unit, you will be able to understand about :

- Skin care for Men
- Hair care for Men
- Makeup for Men
- Basic items required for Makeup
- Hairstyle for Men
- Manicure and Pedicure for Men and Women

3.1 INTRODUCTION :

- Taking care of your skin is absolutely necessary.
- It has been observed, that in the past, men did not take care of their skin as much as women did. However, this is changing now.
- The main function of the skin is to protect against excessive loss or gain of body moisture. It also protects from the harsh ultraviolet rays of the sun.
- Good skin makes you look more attractive, thus boosting your confidence level.
- Makeup, and Hairstyle are used to enhance self–image, and self–presentation.
- Hair care is about caring for your hair and scalp, by regularly cleaning and nourishing it.

3.2 SKINCARE FOR MEN :

Skincare routine is more or less the same for Men and Women.

Please refer to Block 1 – Unit 2 – 1.2

❖ **Tips for Shaving :**

- A few specific tips during Shaving to avoid cuts, and razor burns :
- Use a good lather producing Shaving cream.
- Shave along the growth of the hair, not against the growth.
- Apply after shave lotion to moisturize and rehydrate the skin.

3.3 HAIRCARE FOR MEN :

Haircare routine is more or less the same for Men and Women.

Please refer to Block 1 – Unit 2 – 1.3

3.4 MAKEUP FOR MEN :

3.4.1 Research data about Makeup for Men :

A research data of 2018, shows that thirty–three percent of men between the age of 18 and 29 were open to wearing makeup, while another 30 percent between the age of 30 and 44 said they could be open to the idea of wearing makeup if they had to.

3.4.2 Importance of Makeup :

- Makeup makes you feel more Confident
- It will keep your skin protected
- Makeup helps in enhancing your physical appearance
- Makeup makes you look good in photos

3.4.3 Some tips for Makeup :

- Apply Moisturizer first for the Foundation to last longer
- Then Foundation for an even skin tone look
- Apply Concealer to hide the blemishes
- Apply Eyebrow and Facial Hair Filler

(Use eyebrow pencil to fill in gaps. You can use a brown eyebrow pencil to fill in gaps in your beard, if you have a beard. You could buy Beard makeup which is specifically designed for facial hair)

- Apply contour for a more sculpted look
- Apply Highlighter for a natural finish look
- Apply Finishing powder or loose powder for an even look

Example of Before and After Natural Looking Makeup

3.5 MAKE–UP ITEMS :

3.5.1 Basic items Required for Makeup :

- Foundation
- Translucent powder or Compact powder
- Concealer
- Cotton pads to remove makeup
- Eyebrow pencil of either brown or dark grey colour
- Beauty blender or sponge for foundation application or Foundation brush
- Powder brush
- Powder puffs
- Lip Balm neutral colour

Example of Grooming Items

❑ Check Your Progress – 1 :

1. Where should Hair Filler be applied ?

   (a) On hair on the head (b) On eyebrow and beard gaps

   (c) On hair on hands

2. Are men open to applying makeup ?

   (a) Yes (b) No (c) Makeup is for Women

3. How should shaving be done ?

(a) Against the hair growth

(b) Along the hair growth

(c) Don't have to follow anything specific

3.6 HAIRSTYLE FOR MEN :

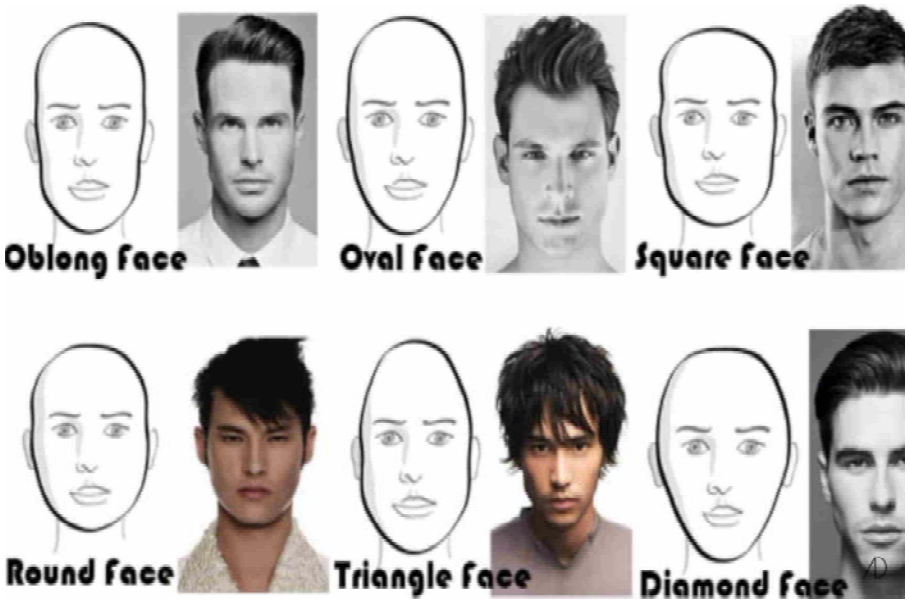
- Hair should not fall over the ears, eyebrows, or even touch the back of the collar.
- Facial hair must be neatly trimmed.
- Sideburns should not be longer than mid–ear.
- Moustache and Beard is not recommended for a Cabin Crew.

3.6.1 Different Hairstyles for Different Face Shapes :

There are seven basic face shapes :

Oval, Round, Square, Diamond, Heart, Pear, and Oblong.

Hair must be styled according to the shape of your face.



Example of Face Types and Hairstyles

3.6.2 Hair Colour :

Hair colour should not be one or two shades darker or lighter than your natural hair colour.

Unnatural colours like Orange and Blue must be avoided.

❑ Check Your Progress – 2 :

1. Which of the below mentioned, is the shape of a face ?

   (a) Straight (b) Obtuse (c) Diamond

2. Beard is recommended for Male Cabin Crew :

   (a) True (b) False (c) Don't know

3. How many shades darker or lighter can the hair colour be, as compared to your natural hair colour ?

   (a) Three or four (b) Two or three (c) One or two

3.7 MANICURE AND PEDICURE FOR MEN AND WOMEN :

3.7.1 Importance of Manicure and Pedicure :

Manicure is the process of taking care of your hands and nails.

Manicure helps in blood circulation, strengthening nails, and makes the hands look healthy, and attractive. Well–manicured hands help with boosting confidence level.

Pedicure is the process of taking care of your feet and toenails. Pedicure helps in blood circulation, strengthening nails, decreases feet related ailments, relaxes the feet, and make it look healthy, and attractive.

3.7.2 Manicure at Home :

- Remove the old nail polish with a good nail polish remover (for Women)
- Clip your nails, then file the nails using a nail file to smoothen the rough edges
- Soak your hands in warm water for a few minutes, then rub it gently with a soft brush to remove the dead skin cells.
- Apply cuticle softener to soften the cuticles, then use an Orange stick to push the cuticles down, and clean the nails.
- Rinse your hands in clean warm water
- Dry with a soft towel, and lightly massage hands with a moisturizing lotion or cream. Wipe off the excess lotion/cream
- Remove any leftover cream from the nails, and apply 2 to 3 coats of nail polish. Nail polish should not be too trendy or bright. (for Women)
- Nowadays a lot of gel nails are available, make sure you buy the right product or get the extensions done from a professional, else you could tend to get serious fungal infections in the nails.

Example of Manicure at home

3.7.3 Pedicure at Home :

- Remove the old nail polish with a good nail polish remover (For Women)
- Soak your feet in soapy warm water for a few minutes to remove all the dirt
- As the nails on your feet are harder than your hands, clip your toenails only after soaking in warm water to soften it first, then file the nails using a nail file to smoothen the rough edges around the nails
- Soak your feet again in warm water and rub it gently with a pumice stone to remove the dirt, and dead skin cells
- Apply cuticle softener, then use an Orange stick to push back the cuticles, and clean the nails
- Rinse your feet in clean warm water
- Dry with a soft towel, and lightly massage feet with cream. Wipe off the excess cream
- Remove any leftover cream from the nails, and apply 2 to 3 coats of nail polish (for Women)

Example of Pedicure at Home

❑ Check Your Progress – 3 :

1. Manicure is the care of what ?

   (a) Feet (b) Hands (c) Face

2. Is Pedicure different from Manicure ?

   (a) Yes (b) No (c) Maybe

3. What is Orange stick used for ?

(a) To mix the nail products

(b) To push back the cuticles

(c) To apply Nail polish

3.8 LET US SUM UP :

In this unit we learned about :

- Skincare for men
- Haircare for men
- Importance of makeup for men
- Some tips for makeup for men
- Basic items required for makeup for men
- Different hairstyles for different face shapes for men
- Hair colour for men
- Importance of Manicure and Pedicure
- Manicure at home
- Pedicure at home

3.9 ANSWER FOR CHECK YOUR PROGRESS :

❑ **Check Your Progress 1 :**

1. (B), 2. (A), 3. (B)

❑ **Check Your Progress 2 :**

1. (C), 2. (B), 3. (C)

❑ **Check Your Progress 3 :**

1. (B), 2. (A), 3. (B)

3.10 GLOSSARY :

Word	Meaning
Cotton face pads	A ball of soft Cotton to remove makeup
Clipper	Nail cutter
Cuticle	The dead skin at the base of finger and toe nails
Filler	A cosmetic used to fill gaps on skin or hair
Highlighter	Used to brighten the skin
Lather	Froth produced by soapy product
Orange stick	Orangewood stick mostly used to push back cuticles
Powder puff	A soft pad for applying powder
Pumice stone	Used for removing hard skin especially under the feet
Razor burns	Skin irritation caused by dry shaving
Rehydrate	To absorb moisture after dehydration

Research	Study or investigate systematically
Sculpted	To define and enhance a body part
Side burns	Facial hair grown on side of the face
Toe nails	Nails on the end of the toes
Translucent	Semi–transparent, allow light to pass through

3.11 ASSIGNMENT :

Find out five different face shapes within your family or friends, and suggest appropriate hairstyles that would look good on them.

3.12 ACTIVITY :

Practise manicure and pedicure at home.

Practise hair and skin care.

3.13 CASE STUDY :

- **Case Study of Jyoti's Story : Severe hair damage following a chemical straightening treatment**

  Link for complete case study – http ://www.joanneduplessis.com/case–study–jyotis–story–severe–hair–damage–following–a–chemical–straightening–treatment/

Jyoti telephoned me extremely distressed after attending a hairdressing salon where she had requested a Brazilian keratin treatment which was supposed to leave her hair straight and glossy.

Cause : Unknown to Jyoti the salon actually carried out a procedure called the L'oreal X–Tenso which is a chemical straightening procedure. Jyoti realised things were not quite right when, after the application of the product, her normally dark brown hair began to fade dramatically. She called over the hairdresser who immediately removed the product from her hair.

Impact : Despite a neutralising product being applied, it was clear to Jyoti that something had gone wrong. When her hair was being dried by the hairdresser, Jyoti was shocked to see that her hair had become faded, frazzled and dried out almost like a doll's hair. Her hair began to break and fall out.

What we did : I immediately arranged for Jyoti to be seen by a hair specialist who concluded that a chemical hair straightening procedure had been used. This was not what Jyoti had asked for and had resulted in her hair shafts being seriously damaged as well as causing significant scalp burns. Our expert concluded that Jyoti had been exposed to less than adequate standards of care and confirmed that my client's hair would take approximately 34 months to grow out to the stage it was at prior to this treatment.

The salon refused to accept responsibility for the damage caused to Jyoti's hair, even when served with our expert evidence. As a result I had no option but to issue county court proceedings against the salon which they chose to defend. Fortunately, very shortly before trial, the salon had a change of heart and decided to settle my client's claim. My client was overjoyed to accept a substantial sum in settlement of her damages.

Again what assisted Jyoti in this case was the fact that she wisely took photographs of her hair immediately following the treatment.

This proved extremely useful, in this case in particular, because Jyoti tried to remedy the damage done to her hair by approaching an alternative salon shortly after this disastrous treatment to try to remedy the damage done. The defendants tried to argue that it was the second treatment which had led to Jyoti's damaged hair. Luckily as we had photographs taken before the application of the further dye treatment our expert was able to conclude persuasively that the second treatment had no bearing upon the damage and that the damage was clearly evidenced in the photographs taken by our client immediately after the L'oreal X–tenso treatment. It is important that all clients be aware of the importance of obtaining good evidence of the damage caused to their hair by these treatments. As I always tell my clients it is not about the truth, it about the proof. I would therefore urge all my clients to ensure good photographs are taken and sent to me as quickly as possible.

What have you understood from this case study ? How would you have handled the situation if you were in Jyoti's place ?

3.14 FURTHER READING :

- **Skincare routine for men – video link**

  https://www.youtube.com/watch?v=HZT7OzBXh–A
- **Hairstyle according to face shape for Men – video link**

  https://www.youtube.com/watch?v=4–LVaUaBwBM
- **Manicure and Pedicure basics**

  https://allstarce.com/wp–content/uploads/2015/06/Manicure–Pedicure–Basics–rev.pdf
- **Book – 62 DIY Natural Beauty Recipes : How to Make Homemade Organic Skin Care Recipes, Hair and Body Care Products With Essential Oils Kindle Edition by Kelli Bhattacharjee (Author)**

■

UNIT 04 *Formal, Semi–Formal, and Informal Wear for Men and Women*

UNIT STRUCTURE

4.0 Learning Objective

4.1 Introduction

4.2 Wardrobe Essentials for Men

- **4.2.1 Basic Wardrobe Items**
- **4.2.2 Selecting/Buying an Outfit (Men)**
- **4.2.3 Footwear for Men**
- **4.2.4 Accessories for Men**
- **4.2.5 How to Dress for a Cabin Crew Interview (Men)**

4.3 Informal Wear for Men

- **4.3.1 Informal Wear for men**
- **4.3.2 How to Differentiate between Informal and Formal Dress Code**

4.4 Wardrobe Essentials for Women

- **4.4.1 Basic Wardrobe Items for women**
- **4.4.2 Informal Attire for Women**
- **4.4.3 Selecting/Buying an Outfit (Women)**
- **4.4.4 Footwear for Women**
- **4.4.5 Accessories for Women**
- **4.4.6 How to Dress for a Cabin Crew Interview (Women)**

4.5 Different Dress Codes

- **4.5.1 Difference Between Formal, Semi–Formal, and Informal Dress Codes for Men and Women**

4.6 Let Us Sum Up

4.7 Answer for Check Your Progress

4.8 Glossary

4.9 Assignment

4.10 Activities

4.11 Case Study

4.12 Further Readings

4.0 LEARNING OBJECTIVES :

After learning this unit, you will be able to understand about :

- Wardrobe Essentials for Men
- Informal wear for Men
- Wardrobe Essentials for Women
- Different Dress codes

4.1 INTRODUCTION :

A part of grooming is carrying yourself elegantly, and dressing in a comfortable appropriate way, to be presentable to others. You may want to give a little more attention to how you dress especially for formal occasions, like job interviews because what you wear may be substantially influencing your career path. Although nothing takes the place of talent, hard work, inborn ability and ambition, looking your professional best can give you an advantage.

It simply means Men and Women, dressing in a way that projects an image of the sophisticated, successful individual you are, or would like to become.

4.2 WARDROBE ESSENTIALS FOR MEN :

4.2.1 Basic Wardrobe Items :

- A two or three button Jacket/Blazer
- A well–tailored Suit
- A formal button–up cotton White shirt
- Few formal Shirts (off white, blue, lighter colours are preferred)
- Formal Trousers (at least one in black)
- Traditional silk Tie, with not more than three colours for simple pattern
- Black colour cotton Socks (socks should match the trousers)
- Leather black lace comfortable shoes (match your shoes with belt)
- Black or reversible Black/Brown belt with a simple elegant buckle
- Good quality Watch (preferably leather strap)
- A formal Kurta Pyjama
- Sneakers
- Denim Jeans (Informal/ Casual wear)
- Khakis or Cargo shorts (Casual wear)

4.2.2 Selecting/Buying an Outfit (Men) :

- Buy good quality fabric with good feel
- Comfortable to wear clothes, are just as important as the look and fit of it
- Pay attention to the collar size while buying a shirt
- With the shirt topmost button closed, and the tie knotted in place, there should be two finger space between the shirt collar and neck, to allow you to breathe normally
- Special attention should be paid to the cut and fit, length and colours of the shirt
- Blazer should not be too tight when it is buttoned up. The colour should match the trousers
- Trouser should be comfortable, and the length should be above the base of the shoes

4.2.3 Footwear for Men :

Wearing shoes with a high heel will give you a good posture, making you feel taller and more confident. Go for a comfortable shoe in a classic style that you can walk in, stand on and spend many hours wearing. Lace shoes are recommended for interviews.

4.2.4 Accessories for Men :

- Black belt, well–polished black leather shoes, and black socks are recommended
- A simple black leather strap watch would add to a professional look
- Black Leather Wallet and Black bag
- No tattoos should be visible
- Classic Sunglasses

4.2.5 How to dress for a Cabin Crew Interview (Men) :

- It is necessary to be clean shaven, have a conservative hairstyle, well–manicured hands, and to have a fresh, bright and neat attire.
- Hair should be kept short with no facial hair (keep sideburns trimmed).
- For the interview, men should have a corporate look. You can wear a single–breasted black colour suit. The suit should be of good quality fabric that will not wrinkle too easily.
- You could wear a White colour, well ironed shirt. If you have simple cufflinks, you could wear them as they look classy and elegant.
- Wear a simple, plain or coloured tie, with not more than three colours, and not too many prints.
- Black colour leather Belt, and black colour leather Shoes, and Socks.
- If you are wearing leather strap Watch, make sure it is black, to match with the belt and shoes.
- No jewellery should be worn.

Example of Dressing for Cabin Crew Interview

❑ **Check Your Progress – 1 :**

1. Wardrobe must have at least one trouser in this colour :

   (a) White (b) Black (c) Blue

2. Sideburn means :

   (a) Facial hair grown till mid ear (b) Eyebrow hair

   (c) Beard length

4.3 INFORMAL WEAR :

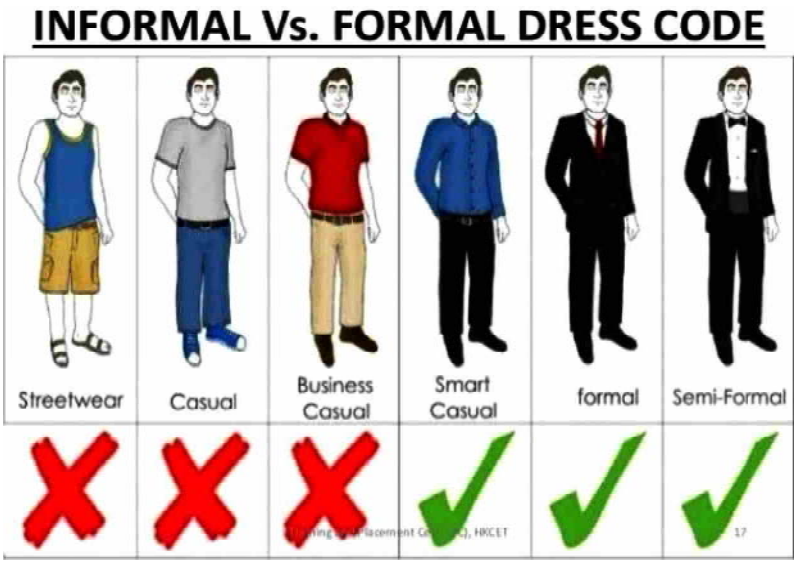
4.3.1 Informal Wear for Men :

Informal wear is often confused with Casual wear. Informal wear is also called Business wear, Corporate/Office wear, and Dress clothes. It is a Western dress code for clothing defined by a dress shirt with necktie, sometimes with a business suit for men.

4.3.2 How to Differentiate Between Informal and Formal Dress Code :

The main difference between formal and informal dressing is, Men at formal events are expected to dress in tuxedo, suits, blazers, bow ties and formal shoes.

Informal events on the other hand, allow their guests to dress as they please. You could wear a button–down or a polo shirt, paired with khakis, or dress pants. You could also wear a V–neck sweater, a blazer, or a sport coat.



Example of Informal vs. Formal Dress code

❑ **Check Your Progress – 2 :**

1. Business Casuals and Formal wear are the same :
   (a) Maybe (b) Yes (c) No
2. Informal clothes are to be worn to :
   (a) Wedding (b) Business Meeting (c) Picnic

4.4 WARDROBE ESSENTIALS FOR WOMEN :

4.4.1 Basic Wardrobe Items for Women :

- Trousers, and at least one good quality black formal trousers
- A black Blazer
- A Silk/Cotton White colour Shirt/Blouse
- A collection of Shirts/Blouses, Preferably in light or pastel shades
- A smart knee–length black skirt
- Closed shoes with comfortable heels
- Sneakers and other Footwear
- Well fitted Jeans
- Shorts/Cargoes
- T–Shirts
- Scarf
- Saree
- Salwar Kameez/Kurti
- Earrings
- A classic Leather Belt
- Watch
- Makeup and Hairstyle related products
- Bags to go with different occasions
- Classic Sunglasses
- Accessories

4.4.2 Informal Attire for Women :

Informal attire is a mode of dress that is meant to be less formal, while still providing more formal clothing than casual dress. For women, it often consists of suit jacket matched with a skirt and blouse, or a dress. Since the name for this style can be confused with casual wear, it is often called business attire or western business.

Example of Wardrobe Essentials for Women

4.4.3 Selecting/Buying an Outfit (Women) :

- Buy clothes that are comfortable, and of good quality, yet fashionable
- Cotton or natural fibres are a good option for warm weather
- Nylon should be avoided as it does not allow the skin to breathe, thus causing allergy and body odour
- Trousers should be of good fabric, fit well, and should be comfortable. If you are of a shorter stature, use longer length trousers to hide your heels, thus giving the illusion of extra height
- The ideal length of a Blazer should be between waist and hip lengths
- Shirts should not be too short, just above hip length is ideal
- Skirt should not be too tight, or else you will be uncomfortable while sitting down. You should be able to walk freely in it

4.4.4 Footwear for Women :

- While buying footwear, special care should be taken to try out both the shoes, as most people have different sizes on both feet.
- Walk around a little to ensure the shoes are comfortable.
- It is advisable to buy shoes in the afternoon or evening as the feet tend to swell up a little as the day progresses. Also, it is recommended to stand and take the shoe measurements.
- It is always better to buy leather shoes that fit perfectly, as it tends to loosen up a little with use.

- Buy shoes that are slick and stylish, to match your outfit.
- Black colour closed shoes with comfortable heels is recommended for an interview.

Example of Formal Shoes for Cabin Crew Interview

4.4.5 Accessories for Women :

- You will need a watch in a classic design to match the rest of your attire
- Only one ring per hand is allowed
- Pearl earrings, or small ear studs are recommended
- No facial piercings, bracelets or any other visible jewellery is allowed
- No tattoos should be visible
- A formal bag should be carried, to go with the attire
- Black or neutral colour Stockings should be worn under a skirt
- Classic Sunglasses will add to the look

4.4.6 How to Dress for a Cabin Crew Interview (Women) :

❖ **Clothes :**

- Wear a suit, which will give you a Corporate look
- A white cotton blouse/shirt with black jacket, and black skirt or trouser would be ideal
- If you wear a skirt, it should not be too tight or too short. Always wear stocking with the skirt
- Blouse/Shirt should be cotton or silk in a neutral colour, with long sleeves and should fit comfortably (not too tight)
- A classic square scarf that compliments the suit in colour or pattern is good

❖ **Hair :**

- Your hair should be short, pulled back, or tied up
- Use hair gel/spray to keep hair in place
- Hair accessories should be black in colour

❖ **Nails :**

- You should have clean, shaped, and polished nails
- The polish should be light or neutral in colour

- Do not have long nails with nail art
- Moisturize your hands for a firm and confident handshake

❖ **Shoes :**

- Closed shoes with around two inches heels, preferably black in colour
- Avoid open toe shoes, boots, stiletto heels, and white shoes
- Be sure to have your shoes polished and shining, and heels intact
- Wear leather shoes, avoid suede and other fabrics

❖ **Jewellery and Perfume :**

- Do not wear large hoop/round or dangling earrings
- Wear small studs or pearls earrings
- Do not wear more than one pair of earrings and two finger rings (one on each hand), one watch or bracelet
- Remove all non–traditional jewellery e.g. nose rings, eyebrow rings, and be sure to cover all tattoos
- Body spray and Perfume should be mild

Example of Dress Code for Interview

❑ **Check Your Progress – 3 :**

1. Body piercing and visible tattoos are allowed during interview

   (a) Yes (b) No (c) Maybe

2. What fabric/material is recommended for shoes, during an interview ?

   (a) Suede (b) Plastic (c) Leather

4.5 DIFFERENT DRESS CODES :

4.5.1 Difference between Formal, Semi–Formal, and Informal dress codes for Men and Women :

- Formal and semi–formal are two dress codes that are often used for similar occasions. They are used for Weddings, Charity dances, Awards ceremonies, and other formal events.
- Informal dress code is usually followed for Business meetings.
- A formal event is more sophisticated, and men are required to wear tuxedos, and women to wear elegant long dresses.
- Semi–formal events are less formal and does not require you to wear formal dress. However, you are expected to dress in a classy and sophisticated manner.
- Social functions performed outside office hours, such as Cocktails, Weddings, Graduation events or Gallery openings, generally require that you dress in a semi–formal style.

Example of Formal, Semi–Formal, and Informal Clothes

❑ **Check Your Progress – 4 :**

1. Formal and semi–formal dressing is often used for similar occasions :
   (a) Yes (b) No (c) Maybe
2. Which out of the following is Formal wear ?
   (a) Jeans (b) Business Suit (c) Tuxedo

4.6 LET US SUM UP :

In this unit we learned about :

- Wardrobe essentials for Men
- Selecting/Buying an Outfit (Men)
- Footwear for Men

- Accessories for Men
- How to dress for a Cabin Crew Interview (Men)
- Informal wear for Men
- How to differentiate between Informal and Formal dress code (Men)
- Basic wardrobe items for women
- Informal attire for women
- Selecting/Buying an Outfit (Women)
- Footwear for Women
- Accessories for Women
- How to dress for a Cabin Crew Interview (Women)
- Difference between Formal, Semi–Formal, and Informal dress codes for Men and Women

4.7 ANSWER FOR CHECK YOUR PROGRESS :

❑ **Check Your Progress 1 :**

1. (B), 2. (A)

❑ **Check Your Progress 2 :**

1. (C), 2. (B)

❑ **Check Your Progress 3 :**

1. (B), 2. (C)

❑ **Check Your Progress 4 :**

1. (A), 2. (C)

4.8 GLOSSARY :

Word	Meaning
Accessories	Accessories are articles such as belts and scarves which you wear or carry, but which are not part of your main clothing
Attire	Clothing, especially formal ones
Conservative clothes	Traditional clothes, not being bold in dressing style
Corporate look	Business look, uniform kind dressing (like Interview dressing)
Cufflinks	Cufflinks are items of jewellery that are used to secure the cuffs of dress shirts through a hole on each side of the cuff
Elegant	Graceful and stylish
Illusion	Sensory perception or imagination
Innate	Natural
Moisturize	To add some lotion to remove the dryness
Neutral colour	Pale or light shade, or no colour

Scarf	A piece of fabric or cloth worn around the neck
Sophisticated	Cultured, polished, stylish, elegant
Stature	Natural height
Stocking	Women's garment, typically made of translucent nylon or silk, that fits closely over the foot and is held up by suspenders or an elasticated strip at the upper thigh or waist
Stiletto	A woman's shoe with a thin, high tapering heel
Substantial	Of considerable importance, worth
Tattoos	A tattoo is a design that is drawn on someone's skin using needles to make little holes
Tuxedo	A black formal suit worn for an evening social event

4.9 ASSIGNMENT :

- If you had to buy clothes for an interview, what kind of a shop would you visit and what are the points to remember before buying an outfit. Visit a shop, follow all the points involved in choosing and buying a formal dress for interview. Make notes, and write an essay of your experience. This could help you prepare for the actual interview shopping, later on.
- Chose five different Airlines you would like to work with. Visit the website of each Airline and check for their grooming standards. Read articles, blogs, Cabin Crew interview experiences, and anything else you can find, to ensure you prepare well for the grooming process before the actual interview. Prepare notes, work on the areas of improvement : what you need to change or better, clothes, shoes, anything else that needs attention. Practise grooming every day. After one month review, and work on areas of improvement. How much have you improved from before, how can you do things differently to get better results. Continue this practise.

4.10 ACTIVITY :

Check your wardrobe to see what the wardrobe essentials you already have are, and what are the items you need to buy. Make a note of the items, as this will help you when you start looking for a job, and when you actually start working. Prepare in advance, this will increase your confidence level, as well.

4.11 CASE STUDY :

- **How to dress up for a Cabin crew interview.**

  Link for complete case study – https://flightattendantcentral.com/how–to–dress–for–your–cabin–crew–assessment–day/

How to dress for your cabin crew assessment day is a critical factor to consider. Your appearance will dictate the quality of the first impression, which is a significant element on the path to success at your cabin crew interview.

You are aiming to get a job in an industry that highly values appearance. The airlines want their flight attendants to be smiling, spotless, with shiny shoes, neatly ironed clothes, and charming look. When meeting someone new, we

humans take a mere 30 seconds to form an opinion. We base our judgment on body language and appearance. This first impression cannot be altered at a later stage, regardless of what you say or how well prepared you are for all the questions that you have to answer. You may think it is superficial, but this is how human beings function. We have no control over it.

Consider one study in which untrained subjects were shown 20 to 32–second videotaped segments of job applicants greeting interviewers. They then rated the applicants on attributes such as self–assurance and likability. Surprisingly, their assessments were very close to those of trained interviewers who spent at least 20 minutes with each applicant.

It has been shown that 55% of a person's opinion is driven by physical appearance. You want your interviewers to think the highest of you and offer you the job. In this article, we will focus on polishing your appearance, dressing for success on your assessment day and creating a positive first impression.

❖ **Ladies :**

1. **Suit :** On the assessment day, you should ideally wear a skirt suit. A skirt is feminine and in most cases a compulsory part of the uniform. The length of the skirt is another important aspect to consider. Aim for the middle of your knee as the minimum length and half of your calf as the maximum length. You may want to test how the skirt looks when you sit down – you don't want it to slide too high up or get wrinkled. Also, keep in mind that the group activities might require you to do some physical work : create a puzzle on the floor, build a lego construction or arrange objects in categories. If you have to bend down, you need to make sure that you remain decent.

   Your jacket should be fitted and elegant. If you prefer, you can wear a business dress and a jacket. Go for dark colors such as black, grey, navy or brown and stay away from bright colors or patterned models such as bright green or pink, flowers or animal prints.

2. **Shoes :** Wearing shoes with a high heel will give you a good posture, making you feel taller and more confident. Go for a comfortable shoe in a classic style that you can walk in, stand on and spend many hours wearing. Pumps are ideal, kitten heels are the minimum height, and 7–8cm should be your maximum height. Avoid strappy sandals, open–toes, bright colors such as gold or silver, decorative stones, platforms, shoes that are too high or flat. If you would consider going out to a bar or club with the shoes you have probably they are not the best choice for your interview. For the safest choices, go with colors such as black, brown, tan, dark grey or navy. Don't hesitate to wear colors such as deep green or red, if they are the only item of color in your outfit and they are paired with same color scarf or lipstick. For example, a red shoe can be worn with a black skirt, white or black shirt and red lipstick. Or a green one can be paired with a dark grey skirt, black shirt, and a green scarf.

   Do not forget that you will be required to remove your shoes for the arm–reach test so your pantyhose should be intact and your pedicure spotless. Choose an ensemble that is feminine, elegant and classy.

4. **Not too deep, nor too tight – In a word :** decency. If you wear a buttoned shirt, no more than one button should be open. If you have a blouse with cleavage, the blouse should not be deeper that one palm under your

collarbone. The same goes for tightness. You don't want to give a preview of your beach body. The skirt should not be so tight as to give you difficulty to sit down, and the blouse should be fitted but not too tight.

4. **Hair :** A flight attendant always keeps an elegant hairstyle. A wanna–be flight attendant should do the same thing. If you have long hair, tie in in a neat bun at the back of your head and secure it with some pins and a bit of hairspray. If you have a pixie crop, style it neatly. As a rule of thumb, if your hair can reach your shoulders, it should be tied back.

5. **Makeup :** Search for pictures of the airline's flight attendants and copy their makeup. Natural colors such as grey and brown work the best. Start your makeup session with a concealer or foundation to even out your skin – if you need it. Follow by applying eyeshadow on your upper eyelid and a coat or two of black or brown mascara. A bit of blush following the natural contour of your cheeks and as a final touch, a nude or red shade of lipstick. Avoid lip gloss as you will probably eat it during the first hours of the day. A good lipstick looks much more professional. Avoid smoky eyes and metallic shades, as well as too much blush or too much mascara. You want to look like yourself after you had an excellent night sleep.

   Your manicure and pedicure should also be taken care of, nails clean and of medium length, with a transparent coating or a neutral color. Avoid pointy nails, nail design as well as fluorescent or too dark colors. When it comes to makeup, less is more.

6. **Accessories :** There is one accessory that without a doubt belongs to the flight attendant world : a scarf. A delicate silk scarf will give you that extra touch that will make the potential employers imagine you wearing the airline scarf. You can wear it around your neck with a double or simple knot on the side. You can also tie it loosely in the front, or just without any knot visible. It will make your neck look longer and will keep your spine more erect. You cannot go wrong with wearing a scarf on your big day. It is worth mentioning though, that when taking the application photos, a scarf is not an item you should wear. As for the other accessories, have a minimalist approach to it. Keep it simple and tasteful : stud diamond or pearl earrings, a delicate necklace, a small watch. Avoid artisan earrings, plastic or wooden beads necklaces, bangles or too many rings with big stones or complicated design.

7. **The Most Important Ingredient :** The Smile – A warm and confident smile will put both you and the other person at ease. A positive, smiley face will make the person you talk to immediately perceive you as friendly, helpful, positive and a person easy to work with. When dealing with something unpleasant, smile and immediately you will feel a dose of optimism. And so will everybody else around you. We do search for one particular sign on a new face : a smile. "We can pick up a smile from 30 meters away," says Paul Ekman, professor of psychology at the University of California Medical School in San Francisco, and a pioneer of research on facial expressions. "A smile lets us know that we're likely to get a positive reception, and it"s hard not to reciprocate."

   Smile and the world will smile too.

❖ **Gentlemen :**

1. **Suit :** Your best choice is to go for a dark colored suit, with the pants and jacket in the same color and design. Go for black, grey, navy, tan, dark brown, with or without stripes. Stay away from light colors or pastel combinations.

2. **Shirt :** Go for a color complementing the rest of the ensemble. Safe choices are white, beige, light pink, light blue, blue, green, red, grey, black.

4. **Tie :** The tie is a must–have accessory for the male business attire for a cabin crew interview. Go for a simple design and pattern that matches your suit and shirt. Learn how to do a double knot (Windsor knot) here.

   Stay away from cartoons on the tie as well as leather ties, bow ties or scarfs.

4. **Shoes :** Dark shoes (black, brown, navy or grey), perfectly polished. No light colours, sports shoes, sandals, boots, high heels, inserts or fashion pieces. Classic is best.

5. **Hair :** Your hair needs to be short and neatly styled. Completely shaved heads are not accepted unless you have a medical reason for it, so try to keep your hair at least 2mm long. If your hair is longer, use gel to style it professionally.

   Before the big day, it might be a good idea to visit your barber for a haircut and a proper shave. No form of facial hair is appreciated. Also, you can't wear makeup during the interview.

6. **Accessories :** Men accessories are few and very simple.

   You will need a watch in a classic design to match the rest of your attire. If you are married, or you prefer to wear rings, keep them to your middle or ring finger only, no more than one ring per hand. Remove earrings, facial piercings, bracelets and whatever other visible jewellery you usually wear.

7. **The Smile :** Some think a man is more appealing if he keeps his mystery by not smiling. While this may be true for cowboy movies, during the cabin crew interview, you should appear as warm, polite and open. This is done by smiling. From the heart. Let us see your friendly and approachable self!

4.13 FURTHER READING :

- **Cabin Crew Interview, Male Grooming, What to Wear**

  www.youtube.com/watch?v=bFGYklsfRzE

- **How to Dress up for Cabin Crew Interview or any Personal HR Interview : Grooming Tips for Women**

  www.youtube.com/watch?v=QwyA87hCbMM

- **Fly High – How You Can Become A Flight Attendant Too! by Megha**

  https://www.amazon.in/Fly–High–Attendant–interview–questions/dp/B07CNT762H

- **Book – English for Cabin crew by Sue Ellis**

BLOCK SUMMARY :

This block gives students details about Personal grooming for both men and women, which covers, understanding of different types of skin and hair, and how to take care for it, basic makeup items required and techniques for applying make–up for different occasions, different hair styles and hair cut for different face types, ways to maintain a healthy, well balanced diet, importance of regular exercise and what happens when you do not exercise, buying the right kind of clothes, smart dressing for various occasions, accessories to be used for different occasions, and importance of personal hygiene and cleanliness. The practical and easy to follow instructions are explained in multiple ways; written, pictures, videos, articles, etc. This makes it simpler for students to understand and adapt, to whatever is most suitable to their unique personality.

Cabin Crew are seen as representative of their airlines, and are expected to always be well groomed, humble, polite, and friendly with everyone they interact with, professionally. All of us, have a distinct personality that can be developed, polished and refined. Practicing most of what has been covered in the block, will help in improving the outer and inner self, to bring about a positive change to life. This in turn, will help in maintaining a pleasing and attractive appearance, which is important for a positive self–image and self–confidence, which will enhance the chances of success in many areas of the student's life.

BLOCK ASSIGNMENT :

- **Short Answer Questions :**
  1. What is the difference between Manicure and Pedicure ?
  2. What is formal dressing ?
  3. Is skin care same for men and women ?
  4. How is diet and exercise related ?
  5. What are some diseases caused by poor hygiene ?
- **Long Answer Questions :**
  1. Explain different types of makeup, and makeup items used for applying makeup.
  2. How would you dress up for a cabin crew interview ? Male and Female.
  3. What are different types of hair, and how would you take care of your type of hair ?
  4. What is the difference between formal, semi–formal, and informal clothes for men and women ?
  5. Explain hand wash technique. When would you use this technique ?

AIR HOSTESS AND CABIN CREW MANAGEMENT

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ROLE OF SELF INSTRUCTIONAL MATERIAL IN DISTANCE LEARNING

The need to plan effective instruction is imperative for a successful distance teaching repertoire. This is due to the fact that the instructional designer, the tutor, the author (s) and the student are often separated by distance and may never meet in person. This is an increasingly common scenario in distance education instruction. As much as possible, teaching by distance should stimulate the student's intellectual involvement and contain all the necessary learning instructional activities that are capable of guiding the student through the course objectives. Therefore, the course / self-instructional material are completely equipped with everything that the syllabus prescribes.

To ensure effective instruction, a number of instructional design ideas are used and these help students to acquire knowledge, intellectual skills, motor skills and necessary attitudinal changes. In this respect, students' assessment and course evaluation are incorporated in the text.

The nature of instructional activities used in distance education self- instructional materials depends on the domain of learning that they reinforce in the text, that is, the cognitive, psychomotor and affective. These are further interpreted in the acquisition of knowledge, intellectual skills and motor skills. Students may be encouraged to gain, apply and communicate (orally or in writing) the knowledge acquired. Intellectual- skills objectives may be met by designing instructions that make use of students' prior knowledge and experiences in the discourse as the foundation on which newly acquired knowledge is built.

The provision of exercises in the form of assignments, projects and tutorial feedback is necessary. Instructional activities that teach motor skills need to be graphically demonstrated and the correct practices provided during tutorials. Instructional activities for inculcating change in attitude and behavior should create interest and demonstrate need and benefits gained by adopting the required change. Information on the adoption and procedures for practice of new attitudes may then be introduced.

Teaching and learning at a distance eliminates interactive communication cues, such as pauses, intonation and gestures, associated with the face-to-face method of teaching. This is

particularly so with the exclusive use of print media. Instructional activities built into the instructional repertoire provide this missing interaction between the student and the teacher. Therefore, the use of instructional activities to affect better distance teaching is not optional, but mandatory.

Our team of successful writers and authors has tried to reduce this.

Divide and to bring this Self Instructional Material as the best teaching and communication tool. Instructional activities are varied in order to assess the different facets of the domains of learning.

Distance education teaching repertoire involves extensive use of self- instructional materials, be they print or otherwise. These materials are designed to achieve certain pre-determined learning outcomes, namely goals and objectives that are contained in an instructional plan. Since the teaching process is affected over a distance, there is need to ensure that students actively participate in their learning by performing specific tasks that help them to understand the relevant concepts. Therefore, a set of exercises is built into the teaching repertoire in order to link what students and tutors do in the framework of the course outline. These could be in the form of students' assignments, a research project or a science practical exercise. Examples of instructional activities in distance education are too numerous to list. Instructional activities, when used in this context, help to motivate students, guide and measure students' performance (continuous assessment)

PREFACE

We have put in lots of hard work to make this book as user-friendly as possible, but we have not sacrificed quality. Experts were involved in preparing the materials. However, concepts are explained in easy language for you. We have included many tables and examples for easy understanding.

We sincerely hope this book will help you in every way you expect. All the best for your studies from our team!

AIR HOSTESS AND CABIN CREW MANAGEMENT

Contents

BLOCK 2 : HISTORY OF AVIATION, INDIAN AVIATION, AIRPORT RULES AND REGULATIONS, LOW COST AND FULL SERVICE AIRLINES

Unit 1 History of Aviation, Indian Aviation

Introduction, Introduction to Aviation, Early Attempts at Flying, Early Experiments in Flying, History of Aviation Industry, History of Air Travel, First Successful Flight, First Passenger on a Flight, First Transatlantic Flight, Four Forces of Flight, Four Forces Required for a Plane to Fly, Aviation Industry, Civil Aviation, Developments in Aviation after World War 1, Aircraft Innovations, First Modern Airliners, Pressurized Cabins, Impact of World War II on Aviation, New Technological Developments, Dawn of the Jet Age, The Federal Aviation Act of 1958, Wide–Body Aircraft and Supersonic Aircraft, History of Indian Aviation and its Future, The First Flight – Indian Aviation, Milestones, The Aviation Boom, Future of Indian Aviation

Unit 2 Aircraft Types, Commercial Airlines, Departments in Airlines

Introduction, Aircraft Types, Types of Aircraft, Aircraft Services, Some Commonly used Aircrafts and their Seating Capacity, Features of an Aircraft, Commercial Airline, Aircraft Manufacturers, First Airline, Five Oldest Airlines Still Operating, Seaplane, Airplane, Some Important Departments in an Airline, Line Personnel

Unit 3 Safety and Security Measures at the Airport, and Inside the Aircraft

Introduction, Rules and Regulations at the Airport, Rules and Regulations to be followed at the Airport, Rules and Regulations to be followed inside the Aircraft, Main Features of an Airport, Importance of Airports, Airport Components, Main two Departments in an Airport besides Airport Security, Airport Security, Ground Operations , Airports in India, International Airports, List of some International Airports

Unit 4 Civil Aviation Governing Bodies, Terminologies, Full Service and Low cost Airlines

Introduction, Abbreviations and Phonetic Codes, Some Commonly used Abbreviations and Terminologies, Phonetic Code by ICAO, Some Commonly used Terminologies in Aviation, List of Terminologies (Alphabetically), Civil Aviation Governing Bodies, Some Important Governing Bodies, Travel Cabin Class for Passengers, First Class, Business/ Executive Class, Premium Economy Class (Not on All Airlines and Sectors), Economy Class, Full–Service Airline, Full–Service Airline – India, Low Cost Airline, Low Cost Airline is also known as No–Frills or Budget Airline

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Air Hostess and Cabin Crew Management

BLOCK 2 : HISTORY OF AVIATION, INDIAN AVIATION, AIRPORT RULES AND REGULATIONS, LOW COST AND FULL SERVICE AIRLINES

UNIT 1 HISTORY OF AVIATION, INDIAN AVIATION

UNIT 2 AIRCRAFT TYPES, COMMERCIAL AIRLINES, DEPARTMENTS IN AIRLINES

UNIT 3 SAFETY AND SECURITY MEASURES AT THE AIRPORT, AND INSIDE THE AIRCRAFT

UNIT 4 CIVIL AVIATION GOVERNING BODIES, TERMINOLOGIES, FULL SERVICE AND LOW COST AIRLINES

HISTORY OF AVIATION, INDIAN AVIATION, AIRPORT RULES AND REGULATIONS, LOW COST AND FULL SERVICE AIRLINES

Block Introduction :

This block is to guide students, in gaining knowledge and information about the requirements of airline industry, to help in becoming a Cabin Crew with Domestic and International airlines.

The history of aviation goes back more than two thousand years. The airplane has been the most promising invention of the 20th century, simply because it has connected nations that would never been connected otherwise, and has shown us a new, unseen and glorious perspective of our earth. Civil aviation carries passengers, and delivers cargo to almost all the parts of the world. Aviation provides the fastest worldwide transportation network, which makes it necessary for global business. It generates economic growth, creates jobs, and facilitates international trade and tourism.

In this block, the students will be given a background about History of Aviation, Indian Aviation, Duties and Responsibilities of a cabin crew as per Airline policies, Safety and Security measures at the Airport and on–board a plane, Civil Aviation Governing Bodies, difference between Full Service and Low cost Airlines, and Airport Names in India and around the world.

The block explains about how and when aviation started, the importance of Indian aviation on global air travel, Future of Indian Aviation, features of an aircraft, Phonetic codes and terminologies used in Aviation industry, and different departments in the airlines. By going through this block, students will understand the difference between Full service airline and Low cost airline, and Safety and security measures taken at the airport by the airport staff.

Block Objectives :

After learning this block, you will be able to understand about :

Early attempts at Flying, Early experiments in flying, History of Air travel, First successful flight, First passenger on a flight, First Transatlantic flight, Four Forces required for a plane to fly, Aircraft Manufacturers, First Airline, Five oldest Airlines still operating, Seaplane, Airplane, Civil Aviation, Developments in Aviation after World War 1, Aircraft Innovations, First Modern Airliners, Pressurized Cabins, New technological developments, Dawn of the Jet Age, The

Federal Aviation Act of 1958, Wide–body Aircraft and Supersonic Aircraft, Types of Aircraft, Some commonly used Aircrafts and their Seating capacity, Aircraft services, Features of an Aircraft, The first flight – Indian Aviation, Milestones, The aviation boom, Future of Indian Aviation, Line Personnel, Rules and Regulations to be followed at the Airport, Rules and Regulations to be followed on–board a flight, Abbreviations, Phonetic codes, Terminologies, Civil Aviation Governing Bodies, First class, Business/Executive class, Premium Economy class, Economy class, Full–Service Airline, Low–cost Airline, Importance of Airports, Airport Components, Airport Security, Ground Operations, List of Airports in India, and International Airports.

Block Structure :

Unit 1 : History of Aviation, Indian Aviation

Unit 2 : Aircraft Types, Commercial Airlines, Departments in Airlines

Unit 3 : Safety and Security measures at the Airport, and inside the Aircraft

Unit 4 : Civil Aviation Governing Bodies, Terminologies, Full Service and Low cost Airlines

UNIT 01

History of Aviation, Indian Aviation

UNIT STRUCTURE

1.0 Learning Objectives

1.1 Introduction

1.2 Introduction to Aviation

- 1.2.1 Early Attempts at Flying
- 1.2.2 Early Experiments in Flying

1.3 History of Aviation Industry

- 1.3.1 History of Air Travel
- 1.3.2 First Successful Flight
- 1.3.3 First Passenger on a Flight
- 1.3.4 First Transatlantic Flight

1.4 Four Forces of Flight

- 1.4.1 Four Forces Required for a Plane to Fly

1.5 Aviation Industry

- 1.5.1 Civil Aviation
- 1.5.2 Developments in Aviation after World War 1
- 1.5.3 Aircraft Innovations
- 1.5.4 First Modern Airliners
- 1.5.5 Pressurized Cabins

1.6 Impact of World War II on Aviation

- 1.6.1 New Technological Developments
- 1.6.2 Dawn of the Jet Age
- 1.6.3 The Federal Aviation Act of 1958
- 1.6.4 Wide–Body Aircraft and Supersonic Aircraft

1.7 History of Indian Aviation and its Future

- 1.7.1 The First Flight – Indian Aviation
- 1.7.2 Milestones
- 1.7.3 The Aviation Boom
- 1.7.4 Future of Indian Aviation

1.8 Let Us Sum Up

1.9 Answer for Check Your Progress

1.10 Glossary

1.11 Assignment

1.12 Activity

1.13 Case Study

1.14 Further Reading

1.0 LEARNING OBJECTIVES :

After learning this unit, you will be able to understand about :

Introduction to Aviation, History of Aviation, Four Forces of Flight, Aviation Industry, Impact of World War II on Aviation, and History of Indian Aviation and its future.

1.1 INTRODUCTION :

Existence of Aviation is said to be over two thousand years old. History of Aviation refers to the time from when the first attempts to fly with Kites, Hot air Balloons, to Gliders, to now, flights powered by heavier than air Jets, supersonic, and Spaceflights. In this unit we will focus on history of Aviation in general, and Indian Aviation history, and future of Indian Aviation.

1.2 INTRODUCTION TO AVIATION :

1.2.1 Early Attempts at Flying :

As early as 400 BCE, there have been legends of men mounting devices made to fly or strapping typically birdlike wings, and attaching similar devices to themselves in attempts to fly by jumping off a tower, hill, or cliff.

During this early period, physical issues of actual dynamics of flying were not understood, and most attempts ended in serious injury or death when the devices lacked an effective tail balance, or the wings were not long enough.

1.2.2 Early Experiments in Flying :

Example of Early Attempts at Flying

- **Ornithopters :** Invented by Leonardo da Vinci, this wooden machine was made in 400 BC and designed to fly by a man, by flapping the wings, in the manner the birds fly
- **Hot Air Balloon :** Hot air balloon was developed in the 18th century, it was based on a very basic scientific principle of buoyancy developed by Archimedes. It was created by Montgolfier brothers. Hot air in the balloon is lighter than cool air outside, hence it floats. The hot air balloon is the first successful flight technology, carrying a human being
- **Gliders :** A glider is an aircraft that has fixed–wings, and no engines. It is supported in its flight, by the dynamic reaction of the air against its lifting surfaces, and whose free flight does not depend on an engine. Sir George Cayley designed the first glider to carry a human being.

❑ **Check Your Progress – 1 :**

1. Early attempts at flying started as early as :

   (a) 300 BCE (b) 400 BCE (c) 500 BCE

2. Who designed the first Glider ?

   (a) Henry Ford (b) Wright brothers

   (c) Sir George Cayley

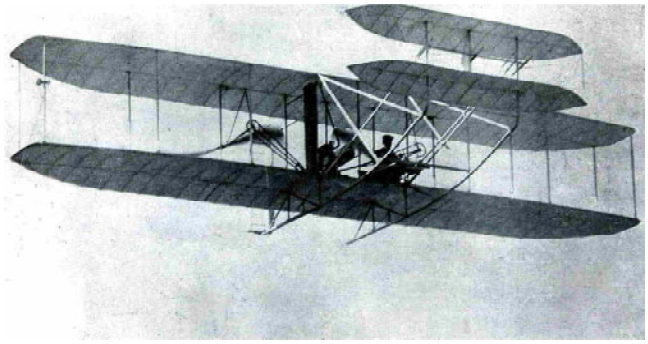
1.3 HISTORY OF AVIATION INDUSTRY :

1.3.1 History of Air Travel :

The history of air travel began with the flight of the Wright brothers on December 17, 1903. Their plane was an engine powered and controlled aircraft, whereas previous attempts to fly was done using gliders that had control and no power, or free flight which had power but no control.

1.3.2 First Successful Flight :

On December 17, 1903, Orville Wright and Wilbur Wright completed four years of research and design efforts with a 120–foot, 12–second flight at Kitty Hawk, North Carolina, USA. This was the first engine powered flight in a heavier–than–air machine.



Example of First Flight of Wright Brothers

1.3.3 First Passenger on a Flight :

The first person to fly as a passenger was Leon Delagrange, who rode with French pilot Henri Farman from a meadow outside of Paris in 1908.

1.3.4 First Transatlantic Flight :

Charles Lindbergh was the first Solo person, to fly The Spirit of St. Louis from New York to Paris in 33 and a half hours, the first nonstop flight across the Atlantic Ocean.

❑ **Check Your Progress – 2 :**

1. What was the Wright brothers famous for ?

   (a) First successful flight in Aviation History

   (b) First transatlantic flight

   (c) Designing Hot Air Balloon

1.4 FOUR FORCES OF FLIGHT :

1.4.1 Four Forces Required for a Plane to Fly :

(1) Thrust : Is the engine power which helps the aircraft in a forward movement, to gain speed for lifting off the ground. Propeller helps to thrust the plane forward.

(2) Drag : It is the opposite of thrust. It is the resistance of the air to the aircraft's forward movement. A wing is designed to reduce drag at the leading edge.

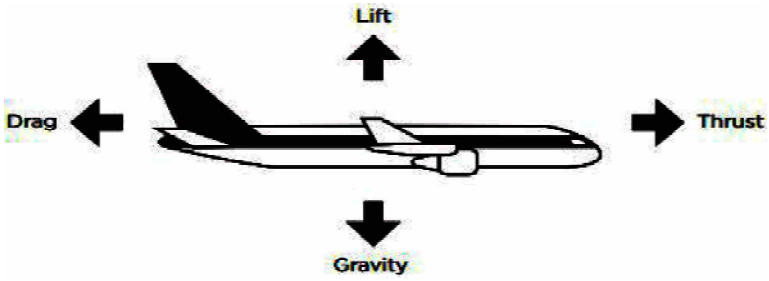
Spoilers are useful for decreasing lift without increasing the airspeed of the airplane or without increasing drag significantly. Pylons are the part on the wings of the aircraft between the wing and the engine. Without pylons, the drag on the wing will reduce the aircraft's speed, and overall performance.

(3) Lift : The force that helps to lift the aircraft upward into the air. Wings generate lift and control the airflow while flying. Wings produce lift and manage airflow using the rear/trailing edge. Extending the flaps increase the camber of the wings aerofoil, thus increasing lift at lower speeds, which is an important feature for landing. Slats adjust the angle of attack of the wings, increasing lift. The whole concept of the spoiler is to intentionally reduce the lift of the plane so that it can land properly.

(4) Weight : Gravitational force that that helps bring the aircraft down for landing. Opposite of lift. Weight is the force that pulls the plane down due to gravity. In order for the plane to get off the ground, the plane must overcome its weight through the force of lift. The more mass the plane has the more lift it has to produce in order to get off the ground.

When an airplane is flying straight, at the same level, and at a constant speed, the lift it produces balances its weight, and the thrust it produces balances its drag. However, this balance of forces changes as the airplane rises and descends, as it speeds increases and slows down, and as it turns.

For take–off, Thrust has to be more than the Drag, and Lift more than Weight.



Example of Four Forces of Flight

1.5 AVIATION INDUSTRY :

1.5.1 Civil Aviation :

The aviation industry is the business sector that manufactures and operates all types of aircraft.

Many airlines first buy the aircraft from the manufacturer, then sell it off to financiers, and take it back on lease. Some smaller companies leases planes in such a way that the company owning the plane arranges engineering services, at a cost.

Civil aviation is one of two major categories of flying, representing non–military aviation, which has both private and commercial planes.

1.5.2 Developments in Aviation after World War 1 :

Post–World War 1 (WW1), which ended in 1918, developments like emergence of Airmail, and use of Beacons took place. Aviation evolved rapidly during WW1, with modern and more effective aircraft replacing the basic machines that started flying in 1914.

Airmail : First Airmail service was started by the US government, between Chicago and Cleveland on May 15, 1919.

Henry Ford, the Automobile manufacturer was the first successful bidder for Airmail contract.

Beacons : The Army deployed rotating beacons (bright light) in a line between Columbus and Dayton, Ohio, a distance of about 80 miles, in 1921. The beacons, visible to pilots at 10–second intervals, made it possible to fly the route at night.

1.5.3 Aircraft Innovations :

Airlines wanted to attract passengers away from the railroads, for that they needed both larger, faster and safer airplanes. They wanted to win over people's trust which was shaken, due to a few accidents, which kept people from flying.

Aircraft manufacturers came up with so many improvements to aircraft in the 1930s that it was believed to be the most innovative period in aviation history. Air–cooled engines replaced water–cooled engines, reducing weight and making larger and faster planes possible. There were innovations in the Cockpit instruments like, better altimeters, airspeed indicators, rate–of–climb indicators, compasses, and the introduction of artificial horizon, which showed pilots the altitude of the aircraft relative to the ground (how high they were flying from ground level) – important for flying in reduced visibility.

Radio : Another important development to aviation was radio. By World War I, some pilots were taking radios up in the air with them so they could communicate with people on the ground. The airlines followed suit after the war, using radio to transmit weather information from the ground to their pilots, so they could avoid storms. Radio was also used as an additional help in navigation, when visibility was poor.

Marker Beacons : Marker beacons (VHF radio beacon) came next, allowing pilots to locate airports in poor visibility.

First Air Traffic Control : The first air traffic control tower was established in 1935, at what is now Newark International Airport, in New Jersey, USA.

1.5.4 First Modern Airliners :

Boeing built what generally is considered the first modern passenger airliner, the Boeing 247 which was introduced in May, 1933

Douglas Aircraft Company built the DC–1 in December 1933, which had a more powerful engine and could accommodate two more passengers.

Douglas Aircraft Company came up with DC–2 in May 1934, which was a new, longer version, and it was a big success.

Douglas Aircraft Company built DC–3 in December 1935, which was the first aircraft to enable airlines to make money carrying passengers.

1.5.5 Pressurized Cabins :

Although planes such as the Boeing 247 and the DC–3 had made important changes in aircraft design, they had a major drawback. They could not fly higher than 10,000 feet, because people became dizzy and even fainted, due to the reduced levels of oxygen at higher altitudes.

Boeing 307 Stratoliner, was introduced in 1940. It was the first pressurized aircraft, meaning that air was pumped into the aircraft as it gained altitude (went higher up in the air) to maintain an atmosphere inside the cabin, similar to the atmosphere that occurs naturally at lower altitudes (below 10,000 feet). With its regulated air compressor, the 33–seat Stratoliner could fly as high as 20,000 feet, and reach speeds of 200 miles per hour.

❑ **Check Your Progress – 3 :**

1. When was the first pressurized aircraft introduced ?

   (a) 1939 (b) 1940 (c) 1941

1.6 IMPACT OF WORLD WAR II ON AVIATION :

1.6.1 New Technological Developments :

World War II and Aviation had huge impact on each other. While mass production of aircrafts was the chief goal of the United States, the major innovations during the wartime period with the new developments of radar and jet engines, happened in Europe.

Jet engine : Frank Whittle, a British pilot, designed the first jet engine in 1930.

Helicopter : On September 14, 1939, the VS–300, the world's first practical helicopter, flew at Stratford, Connecticut, USA. Helicopters were used as flying ambulances to carry patients during the war. They can also be loaded with water to fight large fires. Military forces still use helicopters to move troops (Soldiers or Armed forces), and get required supplies to ships.

Radar : Another technological development with a much greater impact on the war's outcome (and later on commercial aviation) was radar. British scientists had been working on a device that could give them early warning of approaching enemy aircraft even before the war began, and by 1940, Britain had the Radar ready.

Cathode Ray Oscilloscope : British scientists also perfected the Cathode Ray Oscilloscope, which produced map–type outlines of surrounding countryside and showed aircraft as a pulsing (throbbing) light. This has benefitted aviation a lot.

Transponders : Americans, found a way to distinguish between enemy aircraft and allied (Someone you could trust) aircraft, by installing transponders (radio signals) aboard the allied aircraft that signalled their identity to radar operators.

1.6.2 Dawn of the Jet Age :

The Comet, a 36–seater Jet made by Britain in 1952, flew from London to Johannesburg, South Africa, at a high speed of 500 miles per hour. However,

two years later, the Comet could not keep up its success following two accidents one after the other, in which the fuselage burst apart during flight due to weakening of metal of the plane.

Jet made a come–back in 1958, with the first U.S. passenger jet, the Boeing 707. With a length of 125 feet and four engines, the 707 could carry up to 181 passengers and travel at speeds of 550 miles per hour. Its engines produced less vibration, putting less stress on the plane's airframe and reducing maintenance expenses. They also burned kerosene, which cost half as much as the high–octane gasoline used in more traditional planes. Jet Age arrived with the 707, which was first ordered and operated successfully by Pan Am. Soon, other airlines were waiting in queue to buy the new aircraft.

1.6.3 The Federal Aviation Act of 1958 :

Following World War II, air travel reached new heights, but with the industry's growth came new problems. The skies were getting too crowded for existing systems of aircraft separation. To bring down this issue, and similar other issues, the Federal Aviation Act of 1958, came into existence.

1.6.4 Wide–Body Aircraft and Supersonic Aircraft :

❖ **Wide–Bodied Aircraft :**

In 1969, Boeing came up with Boeing 747. It was the first wide–body jet, with two aisles, a distinctive upper deck over the front section of the fuselage, and four engines. With seating for as many as 450 passengers, it was twice as big as any other Boeing jet, and 80 percent bigger than the DC–8, which was the largest jet, up until that time.

Following suit, Douglas built its first wide–body, the DC–10, in 1970, Lockheed built the L–1011 in 1972.

Both the DC–10, and L–1011 had three engines (one under each wing and one on the tail) and were smaller than the 747, with seating capacity around 250 and 350 passengers, respectively.

❖ **Supersonic Commercial Aircraft :**

The Soviet Union was the first to succeed in testing their supersonic aircraft (faster than the speed of sound), Tupolev 144 in December of 1968.

On January 21, 1976, both British Airways and Air France took off on their respective supersonic aircraft, Concorde flights, at the same time, to fly as commercial supersonic service.

On October 24, 2003, the last commercial flight of Concorde, flew from New York to London.

❑ **Check Your Progress – 4 :**

1. Which aircraft has two aisles ?

   (a) Wide body (b) Narrow body (c) Fighter plane

1.7 HISTORY OF INDIAN AVIATION AND ITS FUTURE :

1.7.1 The first flight – Indian Aviation :

Indian Aviation officially started in 1932, with the introduction of the first airline, Tata Air Services founded by J.R.D Tata (known as father of Indian Aviation), which started as an Airmail carrier within India. The airline flew its

first flight in October 1932, flying from Karachi to Mumbai by India's first licenced pilot J.R.D Tata.

Father of Indian Aviation – JRD Tata

1.7.2 Milestones :

- By 1938, the airline progressed from being just a freight airline to a commercial airline, and was flying domestic flights to a number of destinations. The airline was renamed, Tata Airlines.
- In 1947, following independence of India from the British, Tata Airways was renamed Air India. It became a national carrier (airline) with the government taking 49% stake in the airline.
- Air India began flying its first international flights in 1948, the first flight was from Mumbai to London on a Lockheed Constellation.
- In 1950's there were many smaller airlines, all of which merged into two airlines named Air India, and Indian Airlines, which was run by the government after the airline industry was nationalized in 1953.
- India revoked all laws regulating the formation of airlines, and allowed the introduction of scheduled private airlines by 1994. This deregulation brought in new airlines such as, Jet Airways and ModiLuft. India's deregulation allowed foreign airlines like, Lufthansa to invest in ModiLuft, a joint–venture airline that did not succeed. However, ModiLuft went on to become SpiceJet, one of the major low–cost carrier.

1.7.3 The Aviation Boom :

- With year 2000 came aviation boom in India. Full–service carriers such as Air India and Jet Airways were challenged by the low–cost airlines which drastically reduced fares, thus allowing many more people to fly at a lower cost.
- Very good examples of low–cost airlines were IndiGo, SpiceJet, GoAir, and AirAsia – India. These airlines started occupying over 70% of the domestic market and continues to grow. This sudden growth of airlines, and low fares has positioned India as the third–largest aviation market in the world, requiring thousands of new aircraft in the coming years.
- With the growth of the Indian aviation market, a number of foreign airlines such as Emirates and Qatar have become major long–haul carriers, flying to over a dozen cities each, and holding a high share of the market.

1.7.4 Future of Indian Aviation :

As India remains the fastest–growing aviation market in the world, both aircraft manufacturers and airlines are looking to expand into the Indian market. Both Airbus and Boeing are set to sell their aircraft to the Indian market, which is said to buy around 2000 planes in the next couple of decades. Airbus, with its A320 which is a popular plane in India, has found success. Boeing is leading in the smaller, yet growing, wide body market.

Vistara Airlines has expanded their operations, and has become India's first private airline with a wide body aircraft. They are hoping to fill the slot of long–haul airline, left vacant by closure of Jet Airways, which for the time being is filled by foreign airlines.

Government of India has decided to sell its entire stake in Air India, and is in the process of privatizing the airline.

❑ **Check Your Progress – 5 :**

1. Who is Known as the Father of Indian Aviation ?

   (a) JRD Tata (b) Ratan Tata (c) Cyrus Tata

1.8 LET US SUM UP :

In this unit we learned about :

- Early attempts at flying
- Early Experiments in flying
- History of Aviation
- History of Air travel
- First successful flight
- First passenger on a flight
- First Transatlantic flight
- Four Forces required for a plane to fly
- Civil Aviation
- Development in Aviation after World War l
- Aircraft Innovation
- First Modern Airliners
- Pressurized Cabins
- New Technological developments
- Dawn of Jet Age
- The Federal Aviation Act of 1958
- Wide body aircraft and Supersonic aircraft
- First Indian flight
- Milestones in Indian Aviation
- The Aviation boom in India
- Future of Indian Aviation.

1.9 ANSWER FOR CHECK YOUR PROGRESS :

- **Check Your Progress 1 :**

  1. (B), 2. (C)

- **Check Your Progress 2 :**

  1. (A)

- **Check Your Progress 3 :**

  1. (B)

- **Check Your Progress 4 :**

  1. (A)

- **Check Your Progress 5 :**

  1. (A)

1.10 GLOSSARY :

Word	Dictionary Meaning
Abreast	Side by side in the same row, and facing the same way
Air Speed Indicator	A device for measuring the forward speed of the aircraft
Aerofoil	A structure with curved surfaces designed to give the most favourable ratio of lift to drag in flight
Adapt	Adjust to new conditions
Administer	Manage, Apply
Afloat	Floating in water
Aisles	A passage between rows of seats
Altimeter	An instrument for determining altitude from sea level
BCE	Before the Common Era (BC is commonly used – Before Christ)
Beacon	A light or other visible object serving as a signal, or warning, or to guide on an airfield
Bidder	A person or organization making a formal offer for something (for purchase)
BMI	Body Mass Index (BMI) is a person's weight in kilograms divided by the square of height in meters.
Buoyancy	The ability or tendency of something to float in water or other fluid
Camber	The bulge of the curve of an aerofoil from the leading edge to the trailing edge
Classified	Arranged in different categories
Cliff	A sharp rising or falling slope of a rock, especially at the edge of the sea

Compass	An instrument used to show geographical direction etc. North, South, East, West
Conventional	Is what is generally been done or believed
Deck	Level (two decks – two levels)
Deploy	Move into position or bring into effective action, if required to do something
Deregulation	Removal of restrictions
Distinctive	Characteristic of a person or thing that makes it from others
Dizzy	Having or feeling a sensation of spinning around and losing one's balance, fainting
Duration	The time during which something continues to happen (from, to)
Dynamics of Flying	Flight dynamics is the study of the performance, stability, and control of aircraft flying through the air
Emergence	The process of becoming visible after being hidden, to be seen
Empathy	The ability to understand, and share the feelings of what another person is going through
Evacuation	The action of emptying a place, emptying an aircraft
Evolved	Developed gradually or slowly, growth
Existence	A way of living, to live
Financiers	Someone who provides money for a particular project or job
Fleet	A number of aircrafts operating under the same airline
Follow Suit	Imitate or do as someone else has done
Freight	Goods transported in bulk by truck, train, ship, or aircraft
Fuselage	The main body of an aircraft
Horizon	The imaginary line at which the earth's surface and the sky appear to meet
Humility	Humility is the quality of being humble or not showing one's importance
Impact	The action of one object coming forcibly into contact with another
Indicator	A thing that shows the specific state or level of something, like a gauge or meter
Initiative	The ability to assess and start something independently
Innovations	A new method, idea, product, etc. A new way of doing

	something
Jet aircraft	An aircraft powered by one or more jet engines
Lease	A contract by which one party gives services to another for a specified time, usually in return for payment
Legend	An extremely famous and respected person
Long Haul Flight	Long distance flight, over six hours
Mass	A body of matter, usually of indefinite shape and often of a bigger size
Meadow	A piece of grassland, especially one used for hay
Monitoring	Maintain a close watch regularly
Mounting	To climb on something, to reach a higher position
Multi–cultural	Culture is the sum of attitudes, customs, and beliefs that distinguishes one group of people from another. Multi–cultural means people of different culture.
Navigation	The process or activity of accurately finding out one's position, and planning and following a particular route
Overhead	Above the level of the head
Passionate	Having strong feelings or beliefs
Patience	The capacity to accept or tolerate delay, problems, or suffering without becoming angry or tense
Post	After, in time
Rate–of–climb indicators	An instrument to show the speed at which the aircraft is climbing up the sky after take off
Recurrent	That which happens often, again and again
Refreshments	A light snack or a drink
Relocate	Move to a new place and make that your new home
Revoked	Cancelled whatever was there before
Spaceflights	Spaceflight (or space flight) is flight into or through outer space
Solo	Alone
Strapping	Lock or secure the strap tightly
Supersonic	Involving or denoting a speed greater than that of sound
VHF	Very High Frequency
Visibility	The distance one can see as determined by light and weather conditions

1.11 ASSIGNMENT :

Research different types of aircraft with narrow body and wide body. Write down comparison between the two. What are the major differences, and what is the advantages and disadvantages of both, narrow body aircraft and wide body aircraft.

1.12 ACTIVITY :

- **(How to make paper planes)**

  http://www.10paperairplanes.com/

Watch the above video. Once you make the paper plane the way they show it, using the four forces of flight, see how you can manoeuvre the paper plane with Thrust, Drag, Lift and Weight.

1.13 CASE STUDY :

- **YouTube link to The Story of Indigo in Hindi | Case Study on Indian Aviation Sector | 108 Years of Indian Aviation**

  https://www.youtube.com/watch?v=8QpFiT0qhRg

1.14 FURTHER READING :

- **100 years of flight; inventing the plane**

  http://teacher.scholastic.com/activities/flight/wright/invent.htm

- **Airships, Dirigibles, Zeppelins, & Blimps: What's the Difference ?**

  https://www.airships.net/dirigible/

- **How are airplanes made**

  https://www.oxfordsaudia.com/en/blog/aircraft–construction–how–are–airplanes–made/

- **YouTube link to Indian aviation history – TATA Airline History by Aviation Dreamer – Documentary**

  https://www.youtube.com/watch?v=li60i7P3sr4

- **Book – Flight : 100 Years of Aviation by R. G. Grant**

■

UNIT 02 *Aircraft Types, Commercial Airlines, Departments in Airlines*

UNIT STRUCTURE

2.0 Learning Objectives

2.1 Introduction

2.2 Aircraft Types

- **2.2.1 Types of Aircraft**
- **2.2.2 Aircraft Services**
- **2.2.3 Some Commonly used Aircrafts and their Seating Capacity**
- **2.2.4 Features of an Aircraft**

2.3 Commercial Airline

- **2.3.1 Aircraft Manufacturers**
- **2.3.2 First Airline**
- **2.3.3 Five Oldest Airlines Still Operating**
- **2.3.4 Seaplane**
- **2.3.5 Airplane**

2.4 Some Important Departments in an Airline

- **2.4.1 Line Personnel**

2.5 Let Us Sum Up

2.6 Answer for Check Your Progress

2.7 Glossary

2.8 Assignment

2.9 Activity

2.10 Case Study

2.11 Further Reading

2.0 LEARNING OBJECTIVES :

After learning this unit, you will be able to understand about :

Aircraft types, Commercial Airline, and some important departments in an Airline.

2.1 INTRODUCTION :

Existence of Aviation is said to be over two thousand years old. In this unit we will focus on different types of Aircraft, Commercial or commonly known as Passenger planes, and important departments in an Airline.

2.2 AIRCRAFT TYPES :

2.2.1 Types of Aircraft :

Aviation Industry deals with aircrafts, mainly in two different categories:

Military Aircraft : Military aircrafts are used to defend the country, or attack if necessary, through the sky.

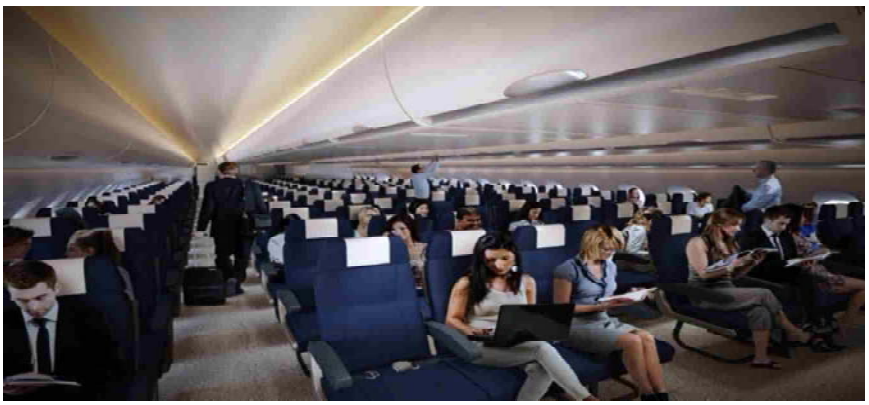
Civilian Aircraft : Civilian or Commercial aircrafts are used to transport passengers, and freight between selected airports.

Civilian Aircrafts are further divided into two categories :

Private Aircraft : A business jet, or private jet, is a jet aircraft designed for transporting small groups of people. Business jets may also be used for other purposes, such as removing of injured people, or deliveries of very important goods. Some Private Aircrafts are used by public figures, government officials, or the armed forces.

Commercial Aircraft : Commercial aircraft carry both, Passengers and Cargo. They are classified as :

Wide Body Aircraft : A wide body aircraft is also known as a twin–aisle aircraft, it is a jet airliner with a fuselage wide enough to accommodate two passenger aisles in a cabin, with seven or more seats abreast. Wide body aircraft was originally designed for a combination of efficiency and passenger comfort, and to increase the cargo space. Maximum capacity for passenger seating was 600 passengers. These aircrafts have four engines.



Example of Wide body Aircraft interior

Narrow Body Aircraft : Conventional or Narrow body aircraft has one aisle, which separates the cabin seating arrangement into two rows abreast, with up to six seats per row. Maximum capacity for passenger seating was 295. Cargo is also carried on these aircrafts. These aircrafts have two engines.

Example of Narrow body single aisle Aircraft interior

2.2.2 Aircraft Services : :

Passenger Aircraft : Passenger aircraft is designed to carry passengers in the main deck, and cargo/freight in the lower deck of an aircraft.

Cargo Aircraft : A cargo aircraft (also known as freight aircraft, freighter, airlifter or cargo jet) is a fixed–wing aircraft that is designed or converted for the carriage of cargo rather than passengers. Such aircraft generally feature one or more large doors for loading cargo.

Example of Cargo Plane

Combi Aircraft : Combi aircraft in commercial aviation, is an aircraft that can be used to carry either passengers, as an airliner, or cargo as a freighter. Such aircrafts may have a divider in the aircraft cabin, to allow both uses at the same time in a mixed passenger/freight combination.

2.2.3 Some Commonly used Aircrafts and Their Seating Capacity :

Aircraft Type	Seating Capacity
Boeing 737	Around 220
Boeing 747	Around 500
Boeing 777	Around 550
Airbus A220	Around 160
Airbus A320	Around 244
Airbus A330	Around 250
Airbus A340	Around 300
Airbus 380	Around 700

2.2.4 Features of an Aircraft :

Aircrafts are classified according to their features. They are :

Number of Engines : Commercial planes have a minimum of two to a maximum of four engines.

Range : The maximal total range is the maximum distance an aircraft can fly between take–off and landing, depending on how much fuel is carried, in a powered aircraft.

❖ **Length of Flight :**

Short Haul Flights : If an aircraft flies shorter than 600–800 nautical mile (1,100–1,500 km), it is called a short haul flight. Flying time is between 30 minutes and three hours.

Long Haul Flights : If an aircraft flies longer than 2,200–2,600 nautical mile (4,100–4,800 km), it is called long haul flight. Flying time is more than six hours.

Medium–Haul Flights : Any length of flight between short and long haul is called Medium haul flight.

Flying time is between three to six hours.

❑ **Check Your Progress – 1 :**

1. Civilian Aircrafts are divided into how many categories ?

   (a) Two (b) Three (c) Four

2. Boeing 737 seats around 500 passengers.

   (a) True (b) False

2.3 COMMERCIAL AIRLINE :

A Commercial airline is a company that provides air transport services for transporting passengers and freight/cargo/goods.

2.3.1 Aircraft Manufacturers :

❖ **First Licenced Aircraft Manufacturer :**

The Burgess Company (originally called Burgess Company and Curtis, Inc. –after Greely S. Curtis) was the first licensed aircraft manufacturer in the United States. The company received authorization to build Wright aircraft in the United States, on February 1, 1911.

❖ **The Largest Commercial Aircraft Manufacturers in the World :**

The largest manufacturers in the commercial aircraft industry are : Airbus, Boeing, and McDonnell Douglas.

Example of Airbus A380

Example of Boeing 747

In addition to the major airline fleets, there are also two smaller manufacturers:

Embraer and Bombardier.

2.3.2 First Airline :

The first airline was the German Airship Company DELAG, founded on 16 November 1909.

2.3.3 Five Oldest Airlines Still Operating :

- KLM – Royal Dutch Airline of Netherland

  Founded on : October 7, 1919
- Aviance – Colombia

  Founded on : December 5, 1919
- Qantas of Australia

  Founded on : November 16, 1920
- Aeroflot of Russia

  Founded on : March 17, 1923
- Czech Airlines of Czech Republic

  Founded on : October 6, 1923

2.3.4 Seaplane :

A seaplane is a powered fixed–wing aircraft capable of taking off and landing on water.

The first practical seaplanes were built and flown in the United States by Glenn H. Curtiss, in 1911 and 1912.

2.3.5 Airplane :

Aeroplane, first recorded in 1866, is made up of the prefix aero–, "air, aviation," and the word plane, referring to the structure designed to keep an air vehicle aloft.

❑ Check Your Progress – 2 :

1. The Burgess Company was the first licensed Aircraft manufacturer :

   (a) True (b) False (c) Maybe

2. Which was the very first Airline ?

   (a) Boeing (b) Airbus

   (c) German Airship Company DELAG

2.4 SOME IMPORTANT DEPARTMENTS IN AN AIRLINE :

2.4.1 Line Personnel :

Line personnel include everyone directly involved in producing or selling an airline's services, like the mechanics who maintain the planes, the pilots who fly them, the flight attendants who perform various inflight safety functions and serve passengers, the reservation desk, airport check–in and gate personnel who book and process the passengers, ramp service agents, security guards, etc.

Line personnel mainly have three divisions, which generally account for 85 percent of an airline's employees.

Line Personnel generally fall into three broad categories :

Engineering and maintenance : Maintenance department ensures that the aircraft is well maintained and safe to fly, that passengers are comfortable, that the aircrafts are well preserved and ensure maximum utilization of planes by keeping them in excellent condition.

Maintenance accounts for approximately 11 percent of an airline's employees and 10–15 percent of its operating expenses.

Flight Operations : Flight Operations department is responsible for operating an Airline's fleet of aircraft in safe and efficient manner. It schedules the timing of aircraft movement, flying schedule for flight crews. This department also develops and administers all policies and procedures necessary to maintain safety and fulfil all FAA (Federal Aviation Administration) operating requirements. It is in charge of all flight–crew training, both initial and recurrent training for both pilots and flight attendants. It also establishes the procedures crews must follow before, during and after each flight, to ensure safety.

Dispatchers too are a part of flight operations. Their main job is to release flights for take–off, following a review of all factors affecting a flight. They have to take into account the weather, routes the flight may follow, fuel requirements, and both the actual weight, and distribution of weight on board the aircraft, for a safe flight.

Sales and Marketing : The main activities of Sales and Marketing department is : pricing of tickets, scheduling, advertising, passenger ticket and cargo sales, reservations and customer service, including food service.

While all of them are important, pricing and scheduling (right ticket price for the right flight schedule) in particular is what makes an airline stay afloat.

Staff Personnel : Staff Personnel work mostly in corporate headquarters and fall into seven broad job categories : Finance and property, Information services, Personnel, Medical, Legal, Public relations, and Planning.

Subcontractors : Subcontractors are hired on contract basis by Airlines, partially or wholly for aircraft cleaning, fuelling, airport security, food service and sometimes maintenance work, while ensuring they meet all applicable federal safety standards.

❑ **Check Your Progress – 3 :**

1. Line Personnel mainly have how many divisions ?

   (a) One (b) Two (c) Three

2.5 LET US SUM UP :

In this unit we learned about :

- Types of Aircraft
- Aircraft services
- Some commonly used aircrafts
- Features of an Aircraft
- Aircraft manufacturers
- First Airline
- Five oldest Airline still operating
- Seaplane

- Airplane
- Some important departments in Airlines.

2.6 ANSWER FOR CHECK YOUR PROGRESS :

❑ **Check Your Progress 1 :**

1. (A), 2. (B)

❑ **Check Your Progress 2 :**

1. (A), 2. (C)

❑ **Check Your Progress 3 :**

1. (C)

2.7 GLOSSARY :

Word	Dictionary Meaning
Abreast	Side by side in the same row, and facing the same way
Aerofoil	A structure with curved surfaces designed to give the most favourable ratio of lift to drag in flight
Adapt	Adjust to new conditions
Administer	Manage, Apply
Afloat	Floating in water
Aisles	A passage between rows of seats
Altimeter	An instrument for determining altitude from sea level
BCE	Before the Common Era (BC is commonly used – Before Christ)
Beacon	A light or other visible object serving as a signal, or warning, or to guide on an airfield
Bidder	A person or organization making a formal offer for something (for purchase)
Classified	Arranged in different categories
Cliff	A sharp rising or falling slope of a rock, especially at the edge of the sea
Compass	An instrument used to show geographical direction etc. North, South, East, West
Conventional	Is what is generally been done or believed
Deck	Level (two decks – two levels)
Deploy	Move into position or bring into effective action, if required to do something
Deregulation	Removal of restrictions
Distinctive	Characteristic of a person or thing that makes it from others

Dizzy	Having or feeling a sensation of spinning around and losing one's balance, fainting
Duration	The time during which something continues to happen (from, to)
Dynamics of Flying	Flight dynamics is the study of the performance, stability, and control of aircraft flying through the air
Emergence	The process of becoming visible after being hidden, to be seen
Empathy	The ability to understand, and share the feelings of what another person is going through
Evacuation	The action of emptying a place, emptying an aircraft
Evolved	Developed gradually or slowly, growth
Existence	A way of living, to live
Financiers	Someone who provides money for a particular project or job
Fleet	A number of aircrafts operating under the same airline
Follow Suit	Imitate or do as someone else has done
Freight	Goods transported in bulk by truck, train, ship, or aircraft
Fuselage	The main body of an aircraft
Horizon	The imaginary line at which the earth's surface and the sky appear to meet
Humility	Humility is the quality of being humble or not showing one's importance
Impact	The action of one object coming forcibly into contact with another
Indicator	A thing that shows the specific state or level of something, like a gauge or meter
Initiative	The ability to assess and start something independently
Innovations	A new method, idea, product, etc. A new way of doing something
Jet aircraft	An aircraft powered by one or more jet engines
Lease	A contract by which one party gives services to another for a specified time, usually in return for payment
Legend	An extremely famous and respected person
Long Haul Flight	Long distance flight, over six hours
Mass	A body of matter, usually of indefinite shape and often of a bigger size
Meadow	A piece of grassland, especially one used for hay
Monitoring	Maintain a close watch regularly

Mounting	To climb on something, to reach a higher position
Multi–cultural	Culture is the sum of attitudes, customs, and beliefs that distinguishes one group of people from another. Multi–cultural means people of different culture.
Navigation	The process or activity of accurately finding out one's position, and planning and following a particular route
Overhead	Above the level of the head
Passionate	Having strong feelings or beliefs
Patience	The capacity to accept or tolerate delay, problems, or suffering without becoming angry or tense
Recurrent	That which happens often, again and again
Refreshments	A light snack or a drink
Relocate	Move to a new place and make that your new home
Revoked	Cancelled whatever was there before
Solo	Alone
Strapping	Lock or secure the strap tightly
VHF	Very High Frequency
Visibility	The distance one can see as determined by light and weather conditions

2.8 ASSIGNMENT :

Research different features of an aircraft. Write down difference between the features of older aircrafts and the more recent aircrafts. What are the major differences, and what are the advantages and disadvantages of the changes.

2.9 ACTIVITY :

Find out different departments of domestic as well as international airlines, as well as airports. Research both, Indian, as well as foreign airlines. Do a comparative study.

2.10 CASE STUDY :

- **Case Study of the Indian Aviation Sector : Soaring High or Turbulence Ahead**

Link for complete case study – https://www.managementstudyguide.com /case–study–of–indian–aviation–sector.htm

Take–off from Modest Beginnings : The Evolution of the Indian Aviation Sector

The Indian Aviation sector is poised to take off and soar high in an unprecedented manner. Indeed, the Aviation sector in India has come a long way from the humble beginnings in the pre–independence era where the legendary JRD Tata, pioneered the industry and introduced a small turboprop plane as the first connection to the outside world by air.

Now, the Aviation sector is a stage where it boasts of world–class airports, best in the breed airlines, and an enviable safety record, though minor skirmishes are reported often. From being a preserve of the rich to the present where the Aam Admi is the focus of the airline industry, the aviation sector mirrors the development and evolution of the Indian Economy over the decades.

Added to this is the fact that successive Indian Governments since the 1990s when the Indian Economy was liberalized have actively encouraged the development of the sector by providing subsidies and establishing world–class airports, though at a tardy pace given the inherent complexities of the Indian political and socioeconomic landscape.

Thus, it can be said that the Indian Aviation sector is both poised to take off as far as the future is concerned and is soaring high as far as the present is concerned.

❖ **Factors Dragging the Sector Down :**

Having said that, there are a few bottlenecks or chokepoints that have stymied the development and the growth of the Indian Aviation Sector. Prominent among these is the capacity addition in the airports across India where the present infrastructure is unable to support the ambitious expansion plans of the various airlines.

Indeed, even after building gleaming and glittering airports in all the Metros under the PPP or the Public Private Partnership model, airlines are routinely denied landing rights and parking bays for want of capacity.

Further, the fact that the blistering pace of growth in the sector means that despite adding capacity in a quick manner, airports are unable to handle the ever–increasing load of footfalls in terms of arrivals and departures.

Though the Indian Government has put in place policies such as the UDAAN Scheme, the Regional Connectivity Scheme, and various others aimed at persuading and incentivizing airlines to connect to remote locations, the pathetic state of the infrastructure in such areas means that such schemes would take time to fructify.

Of course, the massive push to develop Tier 2 and Tier 3 airports is clearly a right step in the direction of broadening the base of the infrastructure pyramid so that flyers from rural areas can benefit as well.

However, this push is succeeding in states where the state governments are actively encouraging such developments whereas in other regions, the initiative is lagging the former.

❖ **How the Indian Aviation Sector Became World Class :**

Having said that, it is also the case that the crowning glory of the Indian Aviation sector lies in the dirt cheap prices that are offered to the passengers and which are among the lowest in the world as far as LCC or Low Cost Carriers are concerned.

Talking about LCCs, the Indian Aviation sector was among the first in the developing world to take the LCC route with Capt Gopinath launching Deccan Aviation or Air Deccan which had the logo of the famous cartoonist, RK Lakshman's common man flying.

Though it is another matter that Air Deccan was acquired by the now defunct Kingfisher airlines, whose high flying promoter, Vijay Mallya, went

bankrupt a few years ago, the fact remains that the LCC concept caught on among other airlines s well.

Talking about the personalities and the airlines that have dominated the Indian Aviation sector, it is the case that most of the Airlines which took advantage of the liberalized Indian Economy in the 1990s were essentially one person shows meaning that the promoters or the CEOs often had a larger than life presence.

Indeed, people such as Mallya, Naresh Goyal of Jet Airways, the promoters of Spicejet, and others straddled the scene. However, many Industry experts have pointed out that the Indian Aviation sector can be more professionally managed as far as both airport and airline management is concerned.

Already, a start has been made here with the construction of the modern airports in Bengaluru, Mumbai, Delhi, and Hyderabad by a consortium of Indian and Foreign players. Also, airlines such as Indigo are professionally managed without personality cults or run by the whims and fancies of a single individual.

Moreover, with the re–entry of the venerable TATA group through tie–ups and partnerships, the Indian Aviation sector looks to be on its way to First World status.

❖ **Cautious Optimism Instead of Hyped Hope :**

As the title of this case study indicates, what the future holds for the Indian Aviation Sector can be characterized as cautious optimism instead of unrealized hopes. For instance, the growth in the passenger traffic has been dizzying over the last few years.

Further, the increase in the number of airlines and the concomitant capacity addition in terms of infrastructure and airports built has also been high. Thus, there is scope for ambition, though it has to be tempered with realism.

This is mainly on account of the various problems besetting the Indian Aviation Sector such as overcrowding both in terms of handling arrivals and departures in the airports as well as the very real problem of flights having to wait inordinately for landings and take–offs. Indeed, despite the capacity addition, except for New Delhi and Mumbai International Airports, no other airport in India has two runways.

Even in these airports, sometimes the number of arrivals and departures are so high that despite the two runways, aircraft have to wait to take off and land. This compares poorly with the major airports in the world where it is routine for air traffic controllers or ATCs to handle hundreds of aircraft movements each hour. Indeed, if India aspires to join the ranks of developed countries, there can be no better way to do so than by showcasing its Aviation Sector.

From Ambani to Aam Admi : How the Indian Aviation Sector became Egalitarian

Talking about the last point, the Indian Aviation Sector has long been a study in contrast where the predominantly poor India meets the glitzy and emerging as well as arriving (literally and metaphorically) India. This has led to frequent criticism by those who point to the anomaly and contradiction of a poor country investing in its airports when the money can instead be used to better the lives of the poor.

Indeed, this was the reason why the Indian Aviation Sector did not take–off during the 1970s and the 1980s when the dominant ideology was socialism.

As with many things that happened after the liberalization of the Indian Economy in the 1990s, the Aviation Sector too took wings and began to soar high. However, even in the 1990s and the early 2000s, there were many rules and regulations that stymied the growth of the sector as well as stunted the development of the same.

Indeed, it was not until a few years ago that the Indian Government permitted international tie–ups and it was only recently that the permission for domestic airlines to fly to international destinations was accorded. Thus, it can be said that it is only now that the Indian Aviation Sector can dream of soaring high.

❖ **Turbulence Ahead :**

Having said that, it is also the case that safety standards seem to be lax these days as evidenced b the number of aircrafts reporting defects and botched take–offs and landings. While it is true that the Indian Aviation Sector does not have any major accidents as a blot on its operations, it is always better to be safe than sorry and hence, it is time for the regulators and other stakeholders to take passenger safety seriously.

What is also worrying is the casual attitude towards passengers especially when they are boarding or deplaning. Indeed, while the Indian Media does tend to sensationalize the incidents, the repeated instances of airline crew and staff being rude to the passengers and worse, becoming violent with them does not any good to the Image of the Indian Aviation Sector.

Moreover, the way in which the long queues at the booking counters and the security checkpoints tend to become irritating and indeed, painful for the passengers does not bode well for the future of the Indian Aviation Sector. It is for these reasons that we believe that there can be turbulence ahead for the sector.

❖ **Premier to Poor : The Air India Saga :**

No case study on the Indian Aviation Sector is complete without a discussion on the national carrier, Air India, the merged entity representing the erstwhile Air India and Indian Airlines, the domestic carrier.

While it is now routine for commentators to lampoon Air India, it needs to be remembered that it was the premier Indian carrier in the post–Independence era until the liberalization of the Indian Economy.

Having said that, the wheel has come full circle and hence, its present status as a loss–making entity that is depending on governmental bailouts to stay afloat means that perhaps it is time to privatize it.

Indeed, its portfolio of landing rights and code share agreements as well as its fleet, though ageing, makes it attractive to foreign and domestic players alike who can convert these advantages into their own and at the same time, restructure it in such a manner that it becomes possible for it to become profitable again.

Thus, it needs to be watched as to what decision the political masters take in this regard. It can be said that politics plays a major role in determining the fate of Air India since there is the aspect of emotional and sentimental reasons as well.

❖ **Impact of Politics on the Indian Aviation Sector :**

Talking about politics and the future of the Indian Aviation Sector, it needs to be mentioned that the sector has grown with and without political interference. In other words, while in some cases, the political decisions helped the sector, in other cases, it grew despite the politicians meddling with it.

Indeed, in all cases, the sector has grown to live with both the adverse and the beneficial political decisions. For instance, a long pending demand of the sector has been to lower the high prices for Aviation and Turbine fuel.

In times when oil prices are at record lows, it makes sense for the government to cut the prices of ATF or Aviation Turbine Fuel. However, this has not happened and hence, airlines continue to grumble and at the same time, carry on with their operations.

Also, capacity addition and more landing rights are to be dealt with as well. On a more controversial note, the bilateral agreements between the Indian and the Foreign Governments about seat allocations or the number of passengers flying to and fro between Indian and Foreign Destinations seems to be taken with a view to favor some airlines over others.

❖ **Conclusion :**

It goes without saying that there are some measures that would minimize the path ahead for the sector. To start with, the present agreement on not having two airports within 150 Kilometres of each other can be reviewed especially where Bangalore and Hyderabad are concerned.

In both these cities, the airports in operation earlier have been mothballed despite massive investments in them mainly because the new airports and their owners specified the agreement on distance.

By reopening the old airports, significant capacity can be added thereby both lessening the load on the new airports as well as furthering the growth. To conclude, it can be said that it is a mixed bag as far as the Indian Aviation Sector is concerned wherein it is soaring high but also faces turbulence ahead.

2.11 FURTHER READING :

- **100 years of flight; inventing the plane**
  http://teacher.scholastic.com/activities/flight/wright/invent.htm
- **Airships, Dirigibles, Zeppelins, & Blimps : What's the Difference ?**
  https://www.airships.net/dirigible/
- **How are airplanes made**
  https://www.oxfordsaudia.com/en/blog/aircraft–construction–how–are–airplanes–made/
- **An overview of Commercial Aircrafts 2018–2019**
  https://www.dvbbank.com/~/media/Files/D/dvbbank–corp/aviation/dvb–overview–of–commercial–aircraft–2018–2019.pdf
- **YouTube link to Indian aviation history –TATA Airline History by Aviation Dreamer – Documentary**
  https://www.youtube.com/watch?v=li60i7P3sr4
- **YouTube link to 10 Biggest Passenger Aircrafts in The World (2019)**
  https://www.youtube.com/watch?v=o–zhu5qfplM
- **Book – The Wright Brothers by David McCullough**

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UNIT 03 *Safety and Security Measures at the Airport, and Inside the Aircraft*

UNIT STRUCTURE

3.0 Learning Objectives

3.1 Introduction

3.2 Rules and Regulations at the Airport

- **3.2.1 Rules and Regulations to be followed at the Airport**
- **3.2.2 Rules and Regulations to be followed inside the Aircraft**

3.3 Main Features of an Airport

- **3.3.1 Importance of Airports**
- **3.3.2 Airport Components**

3.4 Main two Departments in an Airport besides Airport Security

- **3.4.1 Airport Security**
- **3.4.2 Ground Operations**

3.5 Airports in India

3.6 International Airports

- **3.6.1 List of some International Airports**

3.7 Let Us Sum Up

3.8 Answer for Check Your Progress

3.9 Glossary

3.10 Assignment

3.11 Activity

3.12 Case Study

3.13 Further Reading

3.0 LEARNING OBJECTIVES :

After learning this unit, you will be able to understand about :

Rules and Regulations at the Airport, Main Features of an Airport, Main two Departments in an Airport besides Airport Security, Airports in India, and International Airports.

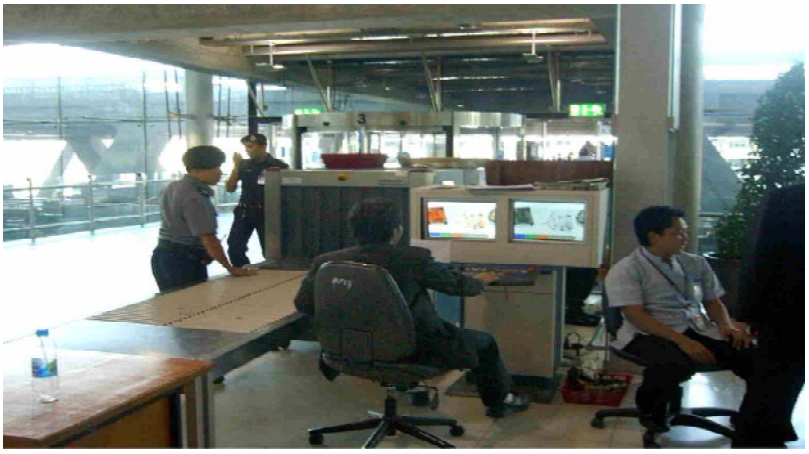
3.1 INTRODUCTION :

With the growth of Aviation Industry, and the number of people travelling on aircrafts, there is a need to pay special attention to the safety and security of Air travel. To reduce accidents and incidents, due to the growth of air travel, safety management has become very important, this can be accomplished by following all the rules and regulations laid down by the Aviation Industry. Airport security team is important because they make sure that the passengers are safe while flying, and that the airplane will reach its destination safely, and other passengers sitting around, is checked to be safe.

3.2 RULES AND REGULATIONS AT THE AIRPORT :

3.2.1 Rules and Regulations to be followed at the Airport :

- Carry your tickets and Identity proof
- Do not carry banned Airport security items
- Do not accept any packets to be taken on board, from unknown persons
- Label your bags correctly with your name and address, and remove tags and labels from previous flights. Use a unique tag for easy luggage identification
- Declare items of security before checking–in
- Do not pack any valuables in your check–in baggage
- Be aware of activities in and around your immediate surroundings. Inform the Airport Security if you are concerned about an unattended item or suspicious activity
- Remove prohibited items such as pocket knives, metal scissors, batteries, and any item with pointed tips, from your cabin bag
- Before approaching the check–in counters, your baggage will be put through the X–ray machines for screening, operated by Security personnel
- Be extra alert near the Security screening area
- Do not leave luggage unattended

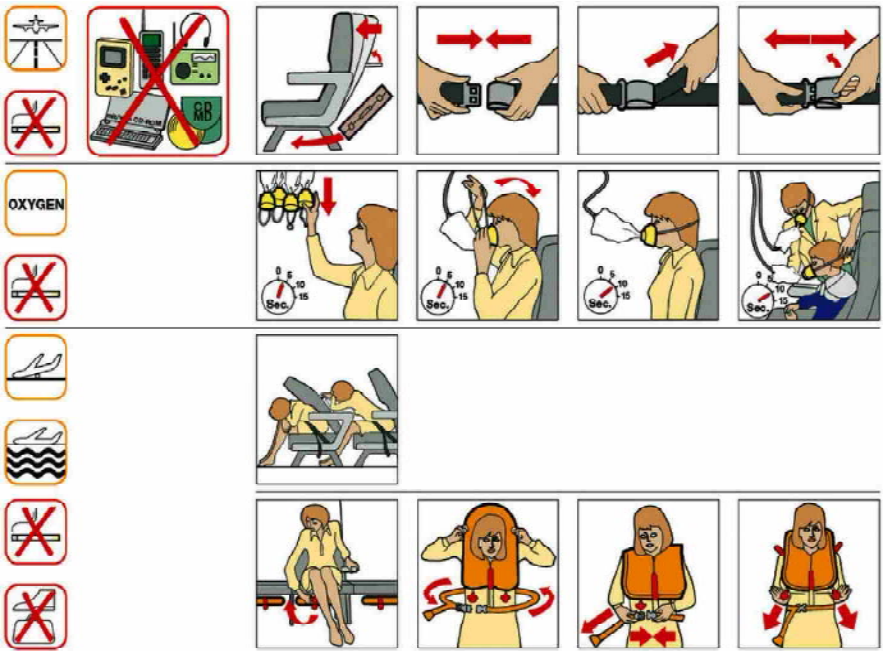


Example of Airport Security

3.2.2 Rules and Regulations to be followed inside the Aircraft :

- Always put your bag in the overhead stowage bin near your seat, where you can see it.
- The responsibility for your luggage is your own, as overhead bins are shared by many passengers, and airlines cannot keep an eye on your luggage, always.
- Study the passenger safety card before take–off and landing, and be alert when the Cabin Crew gives the safety briefing, so that the information remains fresh in your mind, in case of any emergency.
- To be prepared for any emergencies, make sure to check where the Emergency exits are, both in front of you, and behind you, before the aircraft takes off.

- Restrictions are there on–board related to electronic items, both by FAA (Federal Aviation Administration) and FCC (Federal Communication Commission), prohibiting the use of electronic devices like Cell phones during flights, because they emit signals that can interfere with the aircraft's instruments. However, Laptops and hand–held computer games, may be used, once the aircraft rises above 10,000 feet in altitude.
- Be aware of activities in and around you, and inform the Cabin Crew if you are concerned about any suspicious activity.



Example of Inflight Safety Card

❑ **Check Your Progress – 1 :**

1. To be prepared for any emergency, what should you check before the aircraft takes off ?

   (a) Emergency exits (b) Lavatories (c) Your luggage

2. If you become aware of any suspicious activities, who should you inform?

   (a) No one (b) Airport Security

   (c) Ask the person you are suspicious about

3.3 MAIN FEATURES OF AN AIRPORT :

3.3.1 Importance of Airports :

Airports play a major role in economic development. Airports are not just places to catch planes, or attend an in–transit business meeting, or then do some duty–free shopping. They are amongst the largest investments; a city and region make.

An airport consists of an airfield which is a landing area for the planes, it also has an accessible open–air space, including at least one operational runway for a plane to take off and land, and often includes utility buildings such as Air control towers, Hangars and Terminals.

An Airport's main function is to enable an aircraft to land and take off. In between these two operations, the aircraft may unload and load passengers, cargo, and crew, and be serviced, if required.

3.3.2 Airport Components :

Airport Terminal : Terminal is a building where the airport activities happen. Different offices of airlines, airport authority and related agencies are in the terminal. The entire airport is controlled from the terminal building except ATC. Gates are access or exit points for passengers to board or exit from the aircraft.

Automobile Parking Area : This is on the City side of the airport terminal, for parking and vehicle movement.

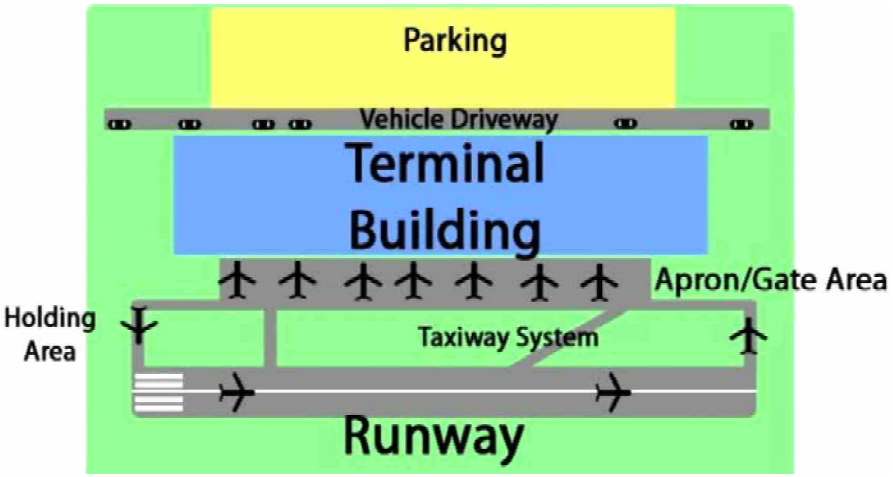
Hangars : These are for servicing, repair and storage of aircrafts. They are usually located away from the terminal building on the Airside.

Apron/Gate Area : It is a space allotted to an aircraft for parking, where passengers could also board the plane.

Holding Area : A defined area on an airfield where aircraft in motion, either taxiing or being towed can be held, to allow ground movement, or accommodate the queue for take–off.

Runway : It is a paved long and narrow straight rectangular strip of road, which is used for landing and take–off of aircrafts.

Taxiway : It is a paved, not necessarily straight way, over which an aeroplane may taxi while going to and from the runway.



Example of Components of an Airport

❑ **Check Your Progress – 2 :**

1. Is Runway a component of the Airport ?

   (a) Yes (b) No (c) Maybe

3.4 MAIN TWO DEPARTMENTS IN AN AIRPORT BESIDES AIRPORT SECURITY :

3.4.1 Airport Security :

CISF formed an Airport Security Group to protect Indian airports. Every airport has now been given an APSU (Airport Security Unit), a trained group to counter unlawful interference with civil aviation. Apart from the CISF, all domestic airlines have security groups, who looks after the aircraft security.

3.4.2 Ground Operations :

- **Ground Operations – Aircraft Handling**

The aircraft maintenance department is responsible for aircraft handling, and maintenance.

- **Ground Operations – Passenger and Cargo Handling**

Reservation or Ticketing Agent, Airport Check–in staff/Ground Staff or Customer Service Representative, and Gate Personnel, are associated with Passenger handling.

Cargo operations is associated with Cargo handling.

Reservation or Ticketing Agent : They are responsible for booking flight tickets and handle reservations for customers. Airline Ticketing Agents directly interact with customers, handle customer questions about flight timings, seat availability, fares, reservations etc.

Customer Service Representative (CSR) (Airport Check–in staff/ Ground Staff) : A CSR supports passengers by providing helpful information, answering questions, and handling complaints. They are the first contact for Passengers at the airport during Check–in, and issuing boarding passes. They keep passengers updated on any changes to flight information, and direct passengers to the correct gate for their flight.

Gate Agent : A gate agent works at the boarding gates of an airport. As a gate agent, you most likely might work for a single airline, and move to various gates as needed. Your job duties include checking boarding passes, assisting passengers onto flights, upgrading seats, accommodating passengers who arrive late, and other similar duties.

Cargo Handling Operations : Cargo handling operations at airports involve the preparation of cargo shipments, the loading and unloading of the aircraft, and the transfer of cargo between the storage facilities and land transport.

❑ **Check Your Progress – 3 :**

1. Cargo Agent is same as Gate Agent.

(a) True (b) False (c) Not sure

3.5 AIRPORTS IN INDIA :

3.5.1 List of Some Airports in India :

Name of Airport	IATA code	City
Indira Gandhi International Airport	DEL	Delhi
Chatrapati Shivaji Maharaj International Airport	BOM	Mumbai
Kempegowda International Airport	BLR	Bengaluru
Chennai International Airport	MAA	Chennai
Netaji Subhas Chandra Bose International Airport	CCU	Kolkata

Image of Chhatrapati Shivaji Maharaj International Airport, Mumbai

3.6 INTERNATIONAL AIRPORTS :

3.6.1 List of Some International Airports :

Name of Airport	IATA/ICAO code	City and Country
Hartsfield–Jackson Atlanta International Airport	ATL/KATL	Atlanta, USA
Beijing Capital International Airport	PEK/ZBAA	Beijing, China
Los Angeles International Airport	LAX/KLAX	Los Angeles, USA
Tokyo Haneda Airport	HND/RJTT	Tokyo, Japan
Dubai International Airport	DXB/OMDB	Dubai, UAE

Image of Dubai International Airport

❑ **Check Your Progress – 4 :**

1. International Airports do not have security check.

   (a) True (b) False (c) Not sure

3.7 LET US SUM UP :

In this unit we learned about :

- Rules and Regulations to be followed at the Airport
- Rules and Regulations to be followed inside the Aircraft
- Importance of Airports
- Airport Components
- Airport Security
- Ground Operations
- List of Airports in India
- List of some International Airports.

3.8 ANSWER FOR CHECK YOUR PROGRESS :

❑ **Check Your Progress 1 :**

1. (A), 2. (B)

❑ **Check Your Progress 2 :**

1. (A)

❑ **Check Your Progress 3 :**

1. (B)

❑ **Check Your Progress 4 :**

1. (B)

3.9 GLOSSARY :

Word	Meaning
Accessible	Reachable, available
Accommodating	Fitting in
Aerial	Happening in air
Airborne	Being in the air
Airfield	An area of land set aside for the take–off, landing, and maintenance of aircraft
Alight	Come down, descend, get down
Alert	Aware, watchful, attentive
Amenity	Useful item
Auxiliary	Supplementary or additional help and support
Banned	Prohibited or stopped
Boarding	The last checkpoint where the passengers are guided to the plane with the help of airport staff
Boarding pass	A document that gives a passenger permission to board the plane

Concept	An idea
Components	A part or element of a larger whole, especially a part of a machine or vehicle.
Comply	Act according to rules
Cockpit	Area of seating in a plane for pilots to fly an aircraft
Co–Pilot	Another person in the cockpit with the Captain
Constitute	Part of a whole
Declare	To make known or announce
Descent	An act of moving downwards
Differed	Not similar, different
Delegation	Number of people representing a group
Disembark	Leave or get off an aircraft
Designate	Appoint
Duty–free	Tax free
Embark	Go on board a plane, go inside
Emphasis	Special importance
Enable	Make it possible
Enclaves	Territories
Enhance	To improve
Enforce	Forced to do something
Established	Recognized and accepted
Excluding	Not including, except
Fatal	Causing death
First class lounge	Is an exclusive waiting area for first class passengers
Flag–Carrier	Owned by the country
Foot rest	Support for feet while sitting
Freight	Goods transported in huge quantity
Generate	Produce or create
Ground movement	Movement of aircraft on ground
Handoff	An action taken to transfer the radar identification of an aircraft, from one controller to another controller
Inaccessible	Unable to reach
Infrastructure	Facilities that are used to provide access to the airport by the general public

Investigate	A process conducted for the purpose of accident prevention which includes the gathering and analysis of information, the drawing of conclusions, including the determination of causes and, when appropriate, the making of safety recommendations
Jet exhaust	White trails, or contrails, left behind by a jet
Land transport	It is the movement of people, animals or goods from one location to another location, on land
Leading edge	Front (forward) part
Leg room/ seat pitch	The distance between a point on the seat you are sitting on, and the same point on the seat in front of you
Liaison	Contact or communication between people/company
Load	To fill with larger amount
On–board	Inflight or inside the plane
Parameters	A limit or boundary which defines the possibility of a particular process or activity
Path	Air route
Paved	Covered with flat stones or brick
Prohibited	Forbidden, banned, not allowed
Regulation	Is the act of controlling, through a law, rule, or order
Restriction	Limitation, controlled
Revenue	Income
Statutory	Requirement, permission
Storage facility	An area where the cargo is stored
Structural failure	Is an aspect of engineering which deals with the ability of a structure to support a designed load (weight, force, etc.) After some point in time cracks develop, and if left unchecked the wing will at some point fail, and the aircraft will crash
Suspicious	Having or showing a distrust of someone or something
Terminology	Terms or words used to describe something in particular
Towed	Pulled
Trailing edge	Rear (back) part
In–transit	Short break before going on in your journey
Unattended	Unguarded, unwatched, alone
Unique	Only one of its kind
Unload	To remove something

Unserviceable	Not in working order or fulfilling its function adequately; unfit for use "the crew decided the aircraft was unserviceable"
Valuables	Worth a lot of money or expensive; important

3.10 ASSIGNMENT :

List down the security procedure at the airport, before and after entering an aircraft, for international travel.

3.11 ACTIVITY :

Make a list of top ten airports in the world, with the most sophisticated security system. Find out which airport has the latest security system in India.

3.12 CASE STUDY :

- **Sustainable airports and climate change : A case study of GMR IGI Airport, Delhi**

Link for complete case study – https://www.internationalairport review.com/article/33768/climate–change–case–study–gmr–igi–airport–delhi/

Dr Prachee Javadekar, CEO & Director & Dr Sonal Bhat, Research Associate with Parigha Research & Consultancy in India, look at the progress Delhi International Airport is making towards mitigating the effects of climate change and a sustainable future.

Mahatma Gandhi, regarded as the father of our nation had said that we should act as 'trustees' and use natural resources wisely as it is our moral responsibility to ensure that we bequeath to the future generations a healthy planet.

The challenge of climate change calls for extraordinary vision, leadership, compassion and wisdom. Human ingenuity and intellect will also play an important role in addressing this challenge. The cumulative accumulation of greenhouse gases (GHGs) historically since industrial revolution has resulted in the current problem of global warming. This is further compounded by the tepid and inadequate response of the developed countries even after the adoption of the United Nations Framework Convention on Climate Change (UNFCCC) and delineation of obligations and responsibilities. As a result, an 'emission' ambition gap has been created calling for enhanced global actions to address it. India, even though not a part of the problem, has been an active and constructive participant in the search for solutions.

India has been active in addressing the climate change challenge. India ratified the Kyoto Protocol, has been involved in the international negotiations to develop a successor to this protocol, formulated a National Action Plan on Climate Change (2008), introduced eight National Missions (e.g. enhanced energy efficiency, strategic knowledge for climate change), established the Indian Network for Climate Change Assessment, and developed several Clean Development Mechanism(CDM) projects.

Regarding aviation and climate change, in a breakthrough development in late 2013, the International Civil Aviation Organisation (ICAO) agreed to develop a global market based system for aviation emissions in its next Assembly meeting

scheduled in 2016 for implementation from 2020 and to establish a CO2 emissions standard. Although the exact nature and implications to airlines of this system are not currently known, it is likely that it will be based on some form of carbon offsetting creating incentives for emissions reduction. Until recently, Indian scheduled airlines flying to European Union (EU) countries, were supposed to be part of the EU's Emissions Trading Scheme (ETS). Over the years, India took a leadership role in opposing with many other countries (e.g., US, Russia, China) the EU–ETS, refusing to provide data to the EU and supporting the work of ICAO. The ICAO agreement practically put an end to EU's initiative to include foreign airlines in their ETS. This was further corroborated by EU's decision in 2014 to restrict the ETS only to intra–European flights. Within this framework, a number of initiatives are also being implemented in the Indian aviation sector.

❖ **Aviation Sector and its Impact on Climate Change :**

India represents a growing aviation market with more than 100 airports that during fiscal year 2013/2014 handled around 170 million passengers. The major scheduled passenger airlines operate more than 400 aircrafts. Aviation represents around 1.5% of India's GDP and supports 9 million jobs, while the country ranks 9th in the global civil aviation market. It is expected that domestic and international passenger traffic will continue to grow at rates of 12% and 8% respectively and that India will become the 3rd largest aviation market in the world by 2020.

Aviation industry, though a small contributor, is aggressively working to minimise the adverse impact on the environment. India's aviation industry has also taken proactive initiatives to address this issue. The country's aviation stakeholders have taken a number of important steps to address their contribution to climate change. Directorate General of Civil Aviation (DGCA) has issued guidelines and Civil Aviation Requirements (CARs) addressing emission issues and creating environmental awareness in this sector. Indian aviation industry has a fleet of modern aircrafts and Indian airports are participating in the prestigious global initiative 'Airport Carbon Accreditation' program governed by Airport Council of India (ACI).

Apart from this, Airports Authority of India (AAI) is also working on several projects to improve the air traffic management at airports. The stakeholders have been advised to establish Environment Cell in their organisations and to develop their carbon footprint. Airlines have been advised for retrofitting on existing aircraft, adopting aggressive fuel efficiency methods, exploring the possibility of using biofuels, fixing of winglets & riblets, minimising dead weights on board, improving load factors, adhering to the maintenance schedules, selection of appropriate aircraft on a particular route, improving taxing and parking procedures, etc.

The challenge brought by the legacy of greenhouse gases forces us to reflect upon the interests of future generations. From intergenerational equity point of view, it is our moral responsibility to maintain and sustain the environment on the Earth and an obligation to pass it on to the future generations in reasonable condition. The Precautionary Principle to contain emission at source has been ingrained in environmental laws of India and is being applied very well in Civil Aviation sector.

A carbon footprint represents an important policy tool to understand the sources and magnitude of CO2 emissions, identify areas for intervention, make comparisons, formulate emission reduction proposals, and assess progress. A carbon footprint is historically defined as "the total sets of greenhouse gas (GHG) emissions caused by an organisation, event, product or person (Source : Wikipedia).

A Carbon Footprint is an important tool for assessment of an organisation's GHG emissions and its progress in the subsequent years. It also acts as an important framework tool to understand the various sources of CO2 emissions, gap analysis and formulation of policies for emission reduction. In order to formulate an effective policy to address the challenge of climate change, it is important to identify emission trends and make predictions about its future growth. This is especially important for fast growing industries, such as Indian aviation industry.

The first carbon footprint report for the year 2011 was released by DGCA and the Secretary General of the International Civil Aviation Organisation (ICAO) during the 49th DGCA Conference held in October, 2012 in New IGIA. The carbon footprint for the year 2012 was released during 38th ICAO General Assembly held at Montreal, Canada during September/ October, 2013.

❖ **Government Initiatives for Aviation Sector to Combat Climate Change :**

DGCA issued guidelines and Civil Aviation Requirements on addressing the use of aircraft power supply, fuel efficiency, single engine taxi and data reporting. One of the most important initiatives is release of Civil Aviation Requirements, 2015 on Climate Change Initiatives and Local Air Quality Monitoring in Civil Aviation. According to this CAR, the airports shall submit fuel and electricity consumption data and airlines shall submit ATF consumption for aircraft main engine and APUs annually. Both airport and airlines were also asked to develop their own carbon footprint management plan. DGCA also undertook the first–ever detailed carbon footprint of Indian aviation for 2011. Furthermore, a number of training sessions and workshops on climate change have been delivered to industry representatives both in India and abroad.

❖ **Airport Initiatives :**

Since airports represent the nodal point of aviation activities such flights, passenger/public access and third party operations, it shall play a key role in establishing guidelines for emission reductions. Airports can contribute to the reduction of aircraft emissions in collaboration with airlines, air traffic control and public authorities. In India, GMR Group and GVK Group are two major players in aviation industry, today.

GMR Group being a conscious partner, has been proactive in adopting measures towards GHG emissions. The GMR Group's , Indira Gandhi International Airport (IGIA), IGIA is one of the founding members of the India Green House Gas Program, an initiative by CII (Confederation of Indian Industries), TERI(The Energy & Resources Institute) and WRI (World Resources Institute), to support organisations to map and reduce greenhouse gases from various sectors.

❖ **Responsible GMR Group–Measures Undertaken at IGIA**

LEED certification

IGIA is the first in the world to have achieved LEED Gold rating for its green infrastructure. Terminal 3 of IGI Airport is passenger and environmentally responsible airport facilities.

Salient features of LEED Gold certified T3 building are :

Energy efficient infrastructure and technology adoption, Water efficient air conditioning, plumbing & irrigation,

Reduction in pollution & waste due to construction by effective site & waste management, Provision for eco–friendly vehicles, Rain water harvesting & reuse of treated waste water, Use of no chlro–fluro carbon based refrigerants, GreenCo Platinum certificate by CII.

IGI airport is certified as Green Company to Platinum Level under GreenCo Framework organised by CII–GBC for excellence in the field of energy, environment and sustainable developments. This framework assesses environmental performance of an organisation in 8 environmental related parameters energy efficiency, water conservation, GHG emission, renewable energy, waste management, material conservation, recycling & recyclables, green supply chain and innovation. IGI airport upgraded its GreenCo Rating from Gold Level to Platinum Level in the year 2016.

IGI Airport was the first airport in India to achieve Gold rating in the year 2015. Besides it has also received "the best practices award in renewable energy and GHG management" during the year 2015.

❖ **Clean Development Mechanism (CDM) :**

Energy efficiency measures implemented in T3 have been registered with UNFCCC as a CDM project. IGI airport is the first airport in the world that achieved CDM registration with UNFCCC. The components of CDM project are:

Energy efficient HVAC System, Tempered cooling system, Low u–value building envelope and roof, VVFD and radar sensor based travellators & escalators, Promotion of Renewable Energy.

GMR Group has installed 7.84 MW solar plant at IGI airport and is the first airport in India to have a mega solar plant at airside premises. This measure has been taken to promote renewable energy use and reduce associate emission and support National Climate Change Action Plan.

❖ **Environmental Management System & GHG Reporting :**

IGI airport's EMS is certified as per ISO 14001 :2004 since 2009. It is also certified under ISO 14064 for its GHG emission inventory and management. The airport has achieved Level 3 (optimisation of GHG emission) under Carbon Accreditation program managed by Airport Council International (ACI).

❖ **Energy Management System :**

IGI airport is the first airport in the world to be certified for Energy Management System (ISO 50001 :2011). With adoption of this, the airport is mandated to have all its processes well mapped, regularly reviewed and constantly improved to meet the airport policies. It helps in significant carbon emission reduction from airport function.

❖ **Fixed electrical ground power (FEGP) & pre–conditioned air (PCA):**

FEGP units prevent the use of auxiliary power unit resulting in reduced emissions from fuel combustion and related noise from aircraft APU. Aircrafts on ground require electrical energy for operating their control systems and other internal components. There are 78 stands at T3 equipped with FEGP and PCA units which significantly support in green building initiative at IGI airport.

❖ **Other GHG Mitigation Activities :**

Multimodal connectivity, Airport collaborative decision making, Dedicated CNG filling station inside airport ,Energy efficient advanced STP and WTP, Integrated building management system, Rain water harvesting, Battery operated vehicles for terminal buildings, Regular air quality monitoring around the airport, Regular vehicle pollution checks, Carpool network website for employees, Fuel hydrant systems, Landscaping and tree plantation, GHG inventory.

❖ **Conclusion :**

GMR Group has recognised the contribution that aviation makes to economic, social and cultural development in India and worldwide. They have also recognised the impact of aviation that can have on local communities and the environment. They believe that both aviation and airports can expand sustainably by enhancing economic and social benefits while also respecting environmental limits. They believe that the growth of aviation and avoiding dangerous climate change is not a zero sum game. Both can be achieved through use of technological advanced infrastructures, low carbon fuels and more efficient operations supported by aviation's participation with stakeholders.

Thus, achieving sustainable airports is key to GMR Group's vision for their airports to be 'India's hub of choice'.

3.13 FURTHER READING :

- **10 Air Travel Safety Tips (Ultimate Guide For 2020)**
  https://travelonthefly.com/air–travel–safety–tips/
- **AIR SAFETY PROCEDURES MANUAL**
  http://164.100.60.133/manuals/Air_Safety_Procedure_Manual.PDF
- **Book – Airline and Airport Operations (English, Paperback, by Edissa Uwayo)**

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UNIT 04 *Civil Aviation Governing Bodies, Terminologies, Full Service and Low cost Airlines*

UNIT STRUCTURE

4.0 Learning Objectives

4.1 Introduction

4.2 Abbreviations and Phonetic Codes

- **4.2.1 Some Commonly used Abbreviations and Terminologies**
- **4.2.2 Phonetic Code by ICAO**

4.3 Some Commonly used Terminologies in Aviation

- **4.3.1 List of Terminologies (Alphabetically)**

4.4 Civil Aviation Governing Bodies

- **4.4.1 Some Important Governing Bodies**

4.5 Travel cabin class for passengers

- **4.5.1 First Class**
- **4.5.2 Business/Executive Class**
- **4.5.3 Premium Economy Class (Not on All Airlines and Sectors)**
- **4.5.4 Economy Class**

4.6 Full–Service Airline

- **4.6.1 Full–Service Airline – India**

4.7 Low Cost Airline

- **4.7.1 Low Cost Airline is also known as No–Frills or Budget Airline**

4.8 Let Us Sum Up

4.9 Answer for Check Your Progress

4.10 Glossary

4.11 Assignment

4.12 Activity

4.13 Case Study

4.14 Further Reading

4.0 LEARNING OBJECTIVES :

After learning this unit, you will be able to understand about :

Abbreviations and phonetic codes, some commonly used Terminologies in Aviation, Civil Aviation Governing Bodies, Travel class cabin for passengers, Full Service Airline, and Low Cost Airline.

4.1 INTRODUCTION :

Low cost airlines have gained popularity due to its affordable pricing, which helps more and more people travel by air, and reach their destination faster. In Full service airlines, people have the option to choose from different cabins.

In this unit, we will learn about phonetics, and terminologies used in the airline industry. Also, we will learn about Civil Aviation Governing Bodies.

4.2 ABBREVIATIONS AND PHONETIC CODES :

4.2.1 Some Commonly used Abbreviations and Terminologies :

List of Abbreviations and Terminologies (Alphabetically) :

Abbreviation	Full form
AAI	Airports Authority of India
ABP	Able Bodied Passenger (physically fit person)
A/C	Aircraft
AEP	Airport Entry Pass
A/P	Aerodrome or Airport
AFT	Rear part of Aircraft
Airstair	An airstair is a set of steps built into an aircraft or positioned at the aircraft door so that passengers may board and alight the aircraft
AOG	Aircraft on Ground
AOM	Aircraft Operations Manual
APU	Auxiliary Power Unit
Apron	An area where Aircrafts are parked
ATA	Actual Time of Arrival
ATC	Air Traffic Control
ATD	Actual Time of Departure
B/C	Business Class
BCAS	Bureau of Civil Aviation Authority
CAA	Civil Aviation Authority
CAS	Civil Aviation Security
Carry–on or Cabin baggage	A carry–on or Cabin bag is smaller and travels with you in the cabin of the airplane
Cargo hold	Specific areas in the lower deck of the aircraft to store goods
Check–in or Checked baggage	Check–in or Checked bags are larger in size and travel in the cargo hold of a plane
CPR	Cardio Pulmonary Resuscitation
Dead Head	Crew travelling as a Passenger
Dangerous Goods	Dangerous goods are any articles or substances which are capable of posing as a significant risk to health, safety, or property, when they are transported by air. Dangerous goods like, dry ice, thermometer are allowed in permissible limits

DGCA	Directorate General of Civil Aviation
ETD	Estimated Time of Departure
ETA	Estimated Time of Arrival
Emergency Exits	Exits to be used during an emergency
FAA	Federal Aviation Administration
FSB	Fasten Seat Belt (to lock the seat belt around you, in a specific way)
FWD	Forward part of the Aircraft
Gate	Gate area is where passengers wait to board a plane
GMT/Zulu	Greenwich Mean Time
Hangar	Is a closed building structure to hold aircrafts
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
INF	Infant
Inflight Safety card	An aircraft safety card is a document instructing passengers on an aircraft, about the procedures for dealing with various emergency conditions that might take place, during the flight
Landing	Landing is the last part of a flight, where a flying aircraft returns to the ground. It is the opposite of take–off
Layover	When there is a long period of time between the flight you landed from, and the flight you will take to your next destination (generally, between four and 24 hours)
LSU	Lavatory Service Unit
OM	Flight Operation Manual
Overhead Stowage bin	Area above the seat to store your cabin baggage
OXY	Oxygen
PA	Public Address System
Parking Bay	Parking for a single aircraft
PAX	Passenger
PBE	Portable Breathing Equipment
Pre–flight Safety demonstration /briefing	It is a detailed explanation given before take–off to airline passengers about the safety features of the aircraft they are travelling in
PIC	Pilot In Command
Port Side	Left side of an Aircraft

PRM	Person with Reduced Mobility
PSU	Passenger Service Unit
Runway	A runway is a defined rectangular area of land prepared in an aerodrome, for the landing and take–off of aircrafts
SEP	Safety Equipment and Procedures
SOP	Standard Operating Procedures
STA	Scheduled Time of Arrival
STD	Scheduled Time of Departure
Starboard	Right side of an Aircraft
Take–off	Take–off is the phase of a flight in which an aircraft leaves the ground and becomes airborne
Taxiway	A taxiway is a path for aircraft at an airport, connecting runways with aprons, hangars, terminals and other facilities
Terminal	An airport terminal is a building within an airport where passengers go to depart on a flight, or the building at which they arrive upon landing. A terminal is made up of several gates where planes park, and passengers wait to board the plane
Transit flight	For a connecting flight, once your plane land, you'll pass through a transfer area that will take you to the gate for your next flight without having to check in again. Your bags will automatically pass through to the next flight without you having to collect them
TBN	To Be Notified
TOB	Total On Board
U/S	Unserviceable
WCH	Wheelchair

4.2.2 Phonetic Code by ICAO :

Phonetic alphabet code was specifically designed by ICAO, and has been in use since the 1950's. It is mainly used so that the messages the Pilots are trying to be convey over the radio, can be clearly understood. This alphabet code is very important to all pilots as it allows them to transmit messages, and radio calls to Air Traffic Controllers (ATC) and other traffic, in the area that they are flying.

Alphabet	Phonetic	Alphabet	Phonetic
A	Alpha	G	Golf
B	Bravo	H	Hotel
C	Charlie	I	India
D	Delta	J	Juliet
E	Echo	K	Kilo
F	Foxtrot	L	Lima

M	Mike	T	Tango
N	November	U	Uniform
O	Oscar	V	Victor
P	Papa	W	Whisky
Q	Quebec	X	X–ray
R	Romeo	Y	Yankee
S	Sierra	Z	Zulu

❑ **Check Your Progress – 1 :**

1. Who assigned phonetic alphabet code to Aviation ?

   (a) IATA (b) FAA (c) ICAO

2. What is the full form of A/C ?

   (a) Aircraft (b) Airport (c) Aerodrome

4.3 SOME COMMONLY USED TERMINOLOGIES IN AVIATION:

4.3.1 List of Terminologies (Alphabetically) :

The terminology used in aviation is the concepts and codes spoken by the Pilot, Co–pilot, Cabin Crew, Air Traffic Control Tower, Air Traffic Controller, etc. during a flight. Everybody uses the same words/terms/jargon/codes, all around the world, so that each and every pilot can communicate the same way, with the Air Traffic Control towers, thus avoiding miscommunication that could come up, otherwise.

Accident : An occurrence associated with the operation of an aircraft, which takes place from the time any person boards the aircraft, until all such persons have disembarked, and in which a person is fatally or seriously injured, or the aircraft sustains significant damage or structural failure, or the aircraft goes missing or becomes completely inaccessible.

Aerodrome : Any area of land or water used for aircraft operation, regardless of the facilities present, is called Aerodrome.

Airport : Airport is an airfield which is an area designated for the take–off and landing of aircrafts, including one or more runways, and for commercial airports with one or more passenger terminals.

Aileron : A control surface located on the trailing (rear or behind) edge of each wing tip. Deflection (changing direction) of these surfaces, controls the roll (a roll motion is an up and down movement of the wings of the aircraft).

Airfoil/Aerofoil : Any surface such as an airplane wing, aileron, or rudder designed to gain a lifting force, from the air moving past it.

Airworthiness : A term used to describe both the legal and mechanical status of an aircraft, with regard to how fit it is for flying.

Altimeter : An instrument which displays the altitude (height) above mean sea level (MSL) of an aircraft.

Artificial Horizon : An instrument which enables a pilot to determine the attitude of the aircraft in relation to the horizon, i.e. whether the aircraft is nose–up, nose–down, or tilting left or right.

Cargo : Anything carried on–board an aircraft other than passengers, including both mail and freight.

Cockpit Voice Recorder (CVR) : A device that records the sounds audible in the cockpit, as well as all radio transmissions made and received by the aircraft, and all intercom and public address announcements made in the aircraft. It generally is a continuous loop recorder that retains the sounds of the last 30 minutes.

Code Sharing : A marketing practice in which two airlines share the same two–letter code used to identify Carriers (Airlines) in the computer reservation systems. In a code–sharing agreement, two or more airlines share a flight. In this way, one airline can book a seat on a flight that is actually operated by another airline under a different flight number or code.

Combi Flight : A type of aircraft whose main deck is divided into two sections, one section is fitted with seats and other is used for cargo.

Compressor : A fan–like disk, or several disks, at the front end of a jet engine that draws air into the engine and compresses the air. The compressed air is then passed into a combustion chamber where it is mixed with fuel and burned, producing thermodynamic energy.

Computer Reservation System (CRS) : An electronic system for reserving seats on commercial flights.

Connecting Flight : A flight requiring passengers to change aircraft and/ or airlines, after the first departure and the final destination.

Deregulation : This term is commonly used in referring to the Airlines Deregulation Act, which ended government regulation of airline routes and rates.

Direct Flight : A flight with one or more stops in between, but no change of aircraft.Dispatcher – The dispatcher is responsible for authorizing the departure of an aircraft, after ensuring among other things, that the aircraft's crew have all the proper information necessary for their flight, and that the aircraft is in proper mechanical condition.

Elevator : A control surface, usually on the trailing edge of the horizontal stabilizer, which is used to control the pitch attitude of an aircraft. Movement of the elevator will force the nose of an aircraft up or down.

Empennage : A collective term that refers to all of the various tail assembly of an aircraft, i.e., the vertical and horizontal stabilizers.

Federal Aviation Administration (FAA) : FAA is responsible for air safety and operation of the air traffic control system. The FAA also administers a program which provides grants from the Airport and Airway Trust Fund for airport development.

Flaps : It controls surfaces installed on the trailing edge of a wing, and uses it to increase the amount of lift generated by the wing at slower speeds. Flaps also have the effect of slowing an aircraft during its landing approach.

Flight Data Recorder (FDR) : Records relevant technical information about a flight. An FDR will record information about the performance of various aircraft systems, as well as the aircraft's speed, altitude, direction heading to, and other flight parameters. Like a cockpit voice recorder (CVR), a flight data recorder is designed to withstand the forces of a crash so that its information may be used to reconstruct the circumstances leading up to the accident (in some cases, a digital flight data recorder, or DFDR).

Flight Deck : Also called the Cockpit, it is in the front most section of an aircraft, where pilots sit and control the aircraft.

Flight Plan : A required planning document that covers the expected operational details of a flight such as destination, route, fuel on board, etc.

Flight Track : A line on a map showing exactly where an aircraft is actually flying.

Freight : All air cargo excluding mail.

Frequent–Flyer Programs : Airline marketing programs designed to win customer loyalty by giving them "points" for each mile flown. Points can be cashed in later for free flights or upgrades in cabin service.

Fuselage : The main body of an aircraft, which is cylindrical in shape. It contains the cockpit, main cabin and cargo compartments.

Glideslope : The ideal descent path to a runway. It can be electronically defined by radio signals transmitted from the ground. An aircraft carrying a special radio receiver can detect this electronic glide path and follow it down to the runway.

Ground Power Unit (GPU) : Aircraft runs engines or auxiliary power units while on the ground. It may be done for maintenance, to provide power, or engine testing.

Horizontal Stabilizer : The small wings at the rear of an aircraft's fuselage that balance the lift forces generated by the main wings farther forward on the fuselage. The stabilizer also usually contains the elevator.

Incident : An incident is defined as : An occurrence, other than an accident, associated with the operation of an aircraft which affects, or could affect the safety of operation.

Instrument Flight Rules (IFR) : It rules governing flight, in certain limited visibility and cloud conditions. Under IFR, an aircraft is required to be in contact with air traffic control facilities, and is separated by ATC from all other IFR aircraft.

Instrument Landing System (ILS) : It provides radio–based horizontal and vertical guidance to an aircraft approaching a runway. It is used to guide landing aircraft, during conditions of low visibility.

Aerobridge/Jetway : It is a certain kind of aircraft loading bridge, which allows passengers direct, protected access to an aircraft, from the airport terminal.

Knot : An abbreviation for one nautical mile per hour. Since a nautical mile is 15 percent longer than a statutes mile, a speed expressed in knots is 15% higher than it would be if expressed in miles per hour.

Lift : It is the force generated by the movement of air across the wings of an aircraft. When enough lift is generated to overcome the weight of an aircraft, the aircraft rises up in the sky.

Load Factor : The percentage of available seats that are filled with passengers who have paid for their flight, or the percent of freight capacity that is utilized.

Minimum Equipment List (MEL) : It is a list of aircraft equipment that must be in good working order before an aircraft may legally take off with passengers.

Missed Approach : Is a standard procedure, in which an aircraft descending to arrive at an airport decides not to land, and commences to climb. It may occur due to an obstructed runway, engineering issue, or bad weather.

Nonstop Flight : A flight with no stops in between a single take–off and landing.

Pitch : A description of the movement of the nose of an aircraft up or down, in relation to its previous altitude.

Pressurized Aircraft : An aircraft that is kept at a designated atmospheric pressure so that passengers, and crew can breathe normally.

Propfan : One of several terms used to describe new generations of jet engines which typically turn very large, multi–bladed propeller–like fans in order to produce the thrust needed for flight.

Pylon : The part of an aircraft's structure which connects an engine to either a wing or the fuselage.

Radar : It is based on the principle that ultra–high frequency radio waves travel at a precise speed, and are reflected from objects they strike. Radar is used to determine an object's direction and distance.

Ramp : The aircraft parking area at an airport, usually next to a terminal.

Revenue Passenger Mile (RPM) : One paying passenger flown one mile. It is the principal measure of airline passenger traffic.

Rudder : It is a control surface, usually installed on the trailing edge of the vertical stabilizer, which controls the yaw motion of the aircraft – that is, the motion of the nose of the aircraft from left and right.

Seat Pitch : The distance between seats in a passenger cabin of an aircraft, as measured from any point on a given seat to the corresponding point on the seat in front of, or behind it.

Simulator : Is a ground–based device, which is used to train pilots in flight scenarios, including emergency situations.

Slats : Special surfaces attached to, or actually part of the leading edge of the wing, which when extended, produces extra lift during take–off and landing.

Speed Brakes : Air brakes or speed brakes are a type of flight control surfaces used on an aircraft to increase drag or increase the angle of approach, and slow the aircraft during landing.

Spoilers : These are special panels built into the upper surface of the wing, when raised, "spoil" the flow of air across the wing, and thereby reduce the amount of lift generated. They are helpful during a descent.

Stall : Results when a wing exceeds its angle of attack (angle between airfoil and relative flow of wind), the airflow is disrupted, this in turn does not let the wing produce lift, which might lead to sudden drop and possible loss of control.

Supersonic Flight : A plane that fly at speeds greater than the speed of sound, which changes according to altitude, but which is more than 700 miles per hour at sea level.

Terminal Control Area (TCA) : A designated zone around and above the busiest airports. A flight in TCAs carries strict requirements for pilot experience, aircraft equipment, and communications capability.

Terminal Radar Approach Control Facility (TRACON) : Controls aircraft immediately after, and prior to landings and take–offs, or during the climb and approach phases (when the flight is closer to landing) of flight.

Thrust : The force produced by a jet engine or propeller, to help the aircraft to move forward.

Traffic Alert and Collision Avoidance System (TCAS) : Installed in commercial jet planes, it helps to search for and alert pilots to the presence of other aircrafts. Enhanced versions of TCAS also advise pilots on actions to take, to avoid aircraft that are getting too close.

Transponder : Is a receiver/transmitter device which will generate a reply signal which would be on different frequencies, upon proper interrogation.

Turbofan : A type of jet engine in which a certain portion of the engine's airflow bypasses the combustion chamber.

Turbojet : A "pure" jet engine whose power is solely the result of its jet exhaust.

Turboprop : A type of engine that uses a jet engine to turn a propeller. Turboprops are often used on domestic and business aircraft because of their relative efficiency at speeds slower than, and altitudes lower than, those of a typical jet.

Unducted Fan : A kind of engine that uses the basic core of a jet engine to drive large, fan–like blades which produce the major thrust component of the engine. A propfan is one kind of unducted fan.

Vertical Stabilizer : The large "tail" surface normally found on top of the rear of the fuselage. The rudder is usually installed at the trailing edge of the vertical stabilizer.

Visual Flight Rules (VFR) : These are rules governing flight during periods of generally good visibility and limited cloud cover. Aircraft flying under VFR are not required to be in contact with air traffic controllers, and are responsible for their own separation from other aircraft.

Wide body Aircraft : Generally considered to be any airliner with more than one aisle in the passenger cabin. Technically, if an aircraft has a fuselage diameter in excess of 200 inches, it may be considered a wide body.

Yaw : A description of the movement of the nose of an aircraft from side to side, or left and right. Yaw motion is controlled by the vertical stabilizer and the rudder, on the tail of the aircraft.

❑ Check Your Progress – 2 :

1. What is an Aircraft parking area called ?

   (a) YAW (b) RAMP (c) THRUST

2. What is a flight with no stops in between a departure and arrival called?

   (a) Nonstop flight (b) Connecting flight (c) Direct flight

4.4 CIVIL AVIATION GOVERNING BODIES :

4.4.1 Some Important Governing Bodies :

❖ **Directorate General of Civil Aviation (DGCA) :**

The Directorate General of Civil Aviation is the regulatory body in the field of Civil Aviation primarily dealing with safety issues.

It is responsible for regulation of air transport services to/from/within India and for enforcement of civil air regulations, air safety and airworthiness standards.

It also co–ordinates all regulatory functions with International Civil Aviation Organisation.

It investigates aviation accidents and incidents.

DGCA issues licence to all aerodromes, and Pilots.

It is responsible for Registration of Civil Aircrafts.

The headquarters are located in New Delhi, India.

❖ **International Civil Aviation Organization (ICAO) :**

The International Civil Aviation Organization (ICAO) is a UN specialized agency, established by United States in 1944 to manage the administration and governance of the Convention on International Civil Aviation (Chicago Convention).

The ICAO aircraft type designator is a two, three, or four character alphanumeric (part alphabet and part number) code designating every aircraft type (and some sub–types) that may appear in flight planning. For example : ICAO designated three letter code for AirAsia is AXM, and two letter IATA code is AK.

India is one of the ICAO's founder members, having attended the Chicago Conference in 1944, and has since been a member of the council of the ICAO, including the Provisional ICAO between 1944 and 1947. India has maintained a permanent delegation at the headquarters of ICAO in Montreal, Canada.

❖ **The Bureau of Civil Aviation Security (BCAS) :**

BCAS functions under the Ministry of Civil Aviation and is responsible for aviation security at all civil airports in India.

Airport security in the past, was under the control of airport police.

Every airport has now been given an APSU (Airport Security Unit), a trained unit to counter unlawful interference with civil aviation.

Apart from the CISF, every domestic airline has a security group who looks after the aircraft security.

❖ **Airport Authority of India (AAI) :**

Airports Authority of India (AAI) is a statutory body constituted by an Act of Parliament and came into being on 1st April 1995, by merging National Airports Authority and International Airports Authority of India.

The functions of AAI are creating, upgrading, maintaining and managing civil aviation infrastructure both on the ground, and air space in the country, as accepted by ICAO.

AAI manages 125 airports, which include 18 International Airport, 07 Customs Airports, 78 Domestic Airports, and 26 Civil Enclaves at Defence airfields.

❖ **International Air Transport Association (IATA) :**

IATA is one of the largest travel and tourism organization promoting the liaison among the airlines all over the world.

IATA is the official trade organization for the world's airlines (more than 85 participating nations).

The organization sets regulations and industry policies for the airlines and supports airline activities.

IATA sets the international standard for services and business practices amongst member airlines.

IATA has designed the three–digit airport codes used internationally.

❖ **Federal Aviation Administration (FAA) :**

The Federal Aviation Administration (FAA) is a governmental body of the United States with powers to regulate all aspects of civil aviation in that nation as well as over its surrounding international waters.

FAA globally conducts certain functions for safety in and outside of the United States, such as performing air traffic control handoffs and assessing whether a foreign civil aviation authority complies with international aviation standards.

❑ **Check Your Progress – 3 :**

1. What was BCAS mainly responsible for ?

   (a) Railway security (b) Seaport security (c) Civil Airport security

2. ICAO was established in :

   (a) 1943 (b) 1944 (c) 1945

4.5 TRAVEL CABIN CLASS FOR PASSENGERS :

4.5.1 First Class :

There are four cabin classes offered on most aircrafts by Commercial airlines : First class, Business class, Premium economy, and Economy.

On a First–class cabin, seats are usually limited (usually around 20), in a cabin toward the front of the aircraft, and is the highest priced of all the cabins. The services offered are superior to those in business class. First class is characterized by having a larger amount of space between seats (including those that can be converted into beds), a personal TV set, high quality food and drink, personalized service, privacy, and passengers with complimentary items (e.g. pyjamas, shoes and toiletries). Passengers in this class have a separate check–in, access to the airline's first–class lounge, preferred boarding, or private transportation from the terminal to the plane. Due to its high cost not many passengers prefer to fly first class, and so very few airlines offer first class travel service.

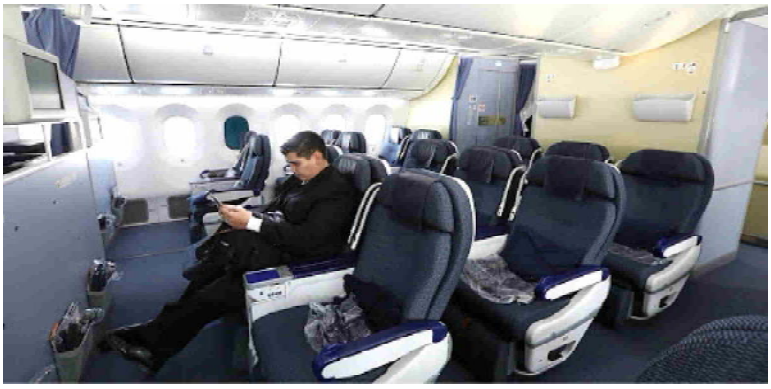
4.5.2 Business/Executive Class :

Business class (also known as executive class) flight tickets are also expensive, but much more affordable than first class. Business class offers more

amenities to travellers than Premium and Economy class. These may include better quality food and wine, wider entertainment options, amenity kit, more comfortable seats with more room to recline and more legroom, among other things.

4.5.3 Premium Economy Class (Not on All Airlines and Sectors) :

Premium Economy class is a travel class offered by some airlines in order to provide a better flying experience to the Economy class passenger, but for much less money than Business class. It is often limited to a few extra services such as more legroom/seat pitch, as well as complimentary food and drinks on–board. Some airlines offer a fold–down foot rest, an amenity kit, premium food and drinks, on long–haul international flights.



Example of Premium Economy Seats

4.5.4 Economy Class :

Economy class is the airline travel class with the lowest ticket price, and the level of comfort is lower than that of the other classes. This class is mainly differentiated by the short distance between each seat thus reducing leg space/ seat pitch for comfort, and a smaller variety of food and entertainment.

4.4 FULL–SERVICE AIRLINE :

4.6.1 Full–Service Airline – India :

A full–service airline typically offers passengers Inflight entertainment, Meals, Checked baggage allowance, Beverages and comforts such as Blankets and Pillows, in the ticket price. Full–service airlines often have a long history, and are flag carriers for their countries of origin.

Air India and Vistara are the two Full–Service airlines of India.

4.7 LOW COST AIRLINE :

4.7.1 Low Cost Airline is also known as No–Frills or Budget Airline :

Low cost airline is an airline that is operated with an especially high emphasis on reducing operating costs, and without some of the inflight traditional services and amenities provided in the fare, resulting in lower fares and fewer comforts.

To make up for revenue lost in decreased ticket prices, the airline may charge extra fees for items like carry–on baggage. Food is also sold in the aircraft.

Air India Express, Air Asia India, GoAir, Indigo, and SpiceJet, are Low cost airlines of India.

Example of Low cost Airline (Indigo)

❑ **Check Your Progress – 4 :**

1. Low cost Airline is same as No–Frills Airline.

   (a) Yes (b) No (c) Maybe

2. Which among the listed below is a Full Service Airline ?

   (a) GoAir (b) Vistara (c) Indigo

4.8 LET US SUM UP :

In this unit we learned about :

- Abbreviations
- Phonetic codes
- Terminologies
- Civil Aviation Governing Bodies
- First class, Business/Executive class
- Premium Economy class
- Economy class
- Full–Service Airline
- Low–cost Airline.

4.9 ANSWER FOR CHECK YOUR PROGRESS :

❑ **Check Your Progress 1 :**

1. (C), 2. (B)

❑ **Check Your Progress 2 :**

1. (B), 2. (A)

❑ **Check Your Progress 3 :**

1. (C), 2. (B)

❑ **Check Your Progress 4 :**

1. (A), 2. (B)

4.10 GLOSSARY :

Word	Meaning
Abbreviation	Short form of a word
Accessible	Reachable, available
Accommodating	Fitting in
Aerial	Happening in air
Airborne	Being in the air
Airfield	An area of land set aside for the take–off, landing, and maintenance of aircraft
Alight	Come down, descend, get down
Alert	Aware, watchful, attentive
Amenity	Useful item
Auxiliary	Supplementary or additional help and support
Banned	Prohibited or stopped
Boarding	The last checkpoint where the passengers are guided to the plane with the help of airport staff
Boarding pass	A document that gives a passenger permission to board the plane
Cardio Pulmonary Resuscitation	Is a lifesaving technique useful in many emergencies, including a heart attack or near drowning, in which someone's breathing or heartbeat has stopped
Concept	An idea
Components	A part or element of a larger whole, especially a part of a machine or vehicle.
Comply	Act according to rules
Cockpit	Area of seating in a plane for pilots to fly an aircraft
Co–Pilot	Another person in the cockpit with the Captain
Constitute	Part of a whole
Declare	To make known or announce
Descent	An act of moving downwards
Differed	Not similar, different
Delegation	Number of people representing a group
Disembark	Leave or get off an aircraft
Designate	Appoint
Duty–free	Tax free
Embark	Go on board a plane, go inside

Emphasis	Special importance
Enable	Make it possible
Enclaves	Territories
Enhance	To improve
Enforce	Forced to do something
Established	Recognized and accepted
Excluding	Not including, except
Fatal	Causing death
First class lounge	Is an exclusive waiting area for first class passengers
Flag–Carrier	Owned by the country
Foot rest	Support for feet while sitting
Freight	Goods transported in huge quantity
Generate	Produce or create
Greenwich Mean Time	Greenwich Mean Time is the time measured on the Earth's zero–degree line of longitude, or meridian. This runs from the North Pole to the South Pole, passing through the Old Royal Observatory in the London suburb of Greenwich
Ground movement	Movement of aircraft on ground
Handoff	An action taken to transfer the radar identification of an aircraft, from one controller to another controller
Inaccessible	Unable to reach
Infrastructure	Facilities that are used to provide access to the airport by the general public
Investigate	A process conducted for the purpose of accident prevention which includes the gathering and analysis of information, the drawing of conclusions, including the determination of causes and, when appropriate, the making of safety recommendations
Jargon	These are words that are designed to be understood by people working within the chosen industry
Jet exhaust	White trails, or contrails, left behind by a jet
Land transport	It is the movement of people, animals or goods from one location to another location, on land
Leading edge	Front (forward) part
Leg room/seat pitch	The distance between a point on the seat you are sitting on, and the same point on the seat in front of you
Liaison	Contact or communication between people/company
Load	To fill with larger amount

On–board	Inflight or inside the plane
Parameters	A limit or boundary which defines the possibility of a particular process or activity
Path	Air route
Paved	Covered with flat stones or brick
Phonetic	Sound of your speech
Prohibited	Forbidden, banned, not allowed
Propeller	A mechanical device for propelling an aircraft, consisting of a revolving shaft with two or more broad, angled blades attached to it
Person with	
Reduced mobility	Any person whose movement is reduced due to a physical incapacity, an intellectual deficiency, age, illness, or any other cause of disability when using transport, and whose situation needs special attention
Regulation	Is the act of controlling, through a law, rule, or order
Restriction	Limitation, controlled
Revenue	Income
Seat upgrade	Is a situation, where a passenger on an originally lower–class ticket travels in a higher class of travel, due to several reasons
Statutory	Requirement, permission
Storage facility	An area where the cargo is stored
Structural failure	Is an aspect of engineering which deals with the ability of a structure to support a designed load (weight, force, etc.) After some point in time cracks develop, and if left unchecked the wing will at some point fail, and the aircraft will crash
Suspicious	Having or showing a distrust of someone or something
Terminology	Terms or words used to describe something in particular
Towed	Pulled
Trailing edge	Rear (back) part
In–transit	Short break before going on in your journey
Transponder Interrogation	Is used to determine a detailed information from a suitably equipped aircraft, or is generally determined by pulse spacing between two or more interrogation pulses
Unattended	Unguarded, unwatched, alone
Unique	Only one of its kind
Unload	To remove something

Unserviceable	Not in working order or fulfilling its function adequately; unfit for use "the crew decided the aircraft was unserviceable"
Valuables	Worth a lot of money or expensive; important

4.11 ASSIGNMENT :

Go through the terminologies thoroughly, and write down without looking, what each term stands for. Check to see how many you have understood correctly, and how many do you need to work on. Continue to work on it, till you get it all right.

4.12 ACTIVITY :

Learn the Aviation Phonetic, and practise it without looking. Practise with family and friends, to make it more fun, and interesting.

4.13 CASE STUDY :

- **A Study on Aircraft Accidents in India : Reasons and Basic Lessons Learnt**

  https://www.ijert.org/research/a–study–on–aircraft–accidents–in–india–reasons–and–basic–lessons–learnt–IJERTV3IS120105.pdf

4.14 FURTHER READING :

- **A guide to airline codes**

  https://www.airfarewatchdog.com/airline–codes/

- **THE AVIATION PHONETIC ALPHABET – with pronunciation**

  https://cdn.ymaws.com/www.iiah.org/resource/resmgr/imported/Aviation%20Alphabet.pdf

- **Full service and low cost airlines : What are the main differences ?**

  https://refundor.com/en/news/full–service–and–low–cost–airlines–differences

- **Book – Airline and Airport Operations (English, Paperback, by Edissa Uwayo)**

BLOCK SUMMARY :

This block gives students details about Early attempts at Flying, Early experiments in flying, History of Air travel, First successful flight, First passenger on a flight, First Transatlantic flight, Four Forces required for a plane to fly, Aircraft Manufacturers, First Airline, Five oldest Airlines still operating, Seaplane, Airplane, Civil Aviation, Developments in Aviation after World War 1, Aircraft Innovations, First Modern Airliners, Pressurized Cabins, New technological developments, Dawn of the Jet Age, The Federal Aviation Act of 1958, Wide–body Aircraft and Supersonic Aircraft, Types of Aircraft, Some commonly used Aircrafts and their Seating capacity, Aircraft services, Features of an Aircraft, The first flight – Indian Aviation, Milestones, The aviation boom, Future of Indian Aviation, Line Personnel, Rules and Regulations to be followed at the Airport, Rules and Regulations to be followed On–board a flight, Abbreviations, Phonetic codes, Terminologies, Civil Aviation Governing Bodies, First class, Business/ Executive class, Premium Economy class, Economy class, Full–Service Airline, Low–cost Airline, Importance of Airports, Airport Components, Airport Security, Ground Operations, List of Airports in India, and List of some International Airports.

The practical and easy to follow instructions are explained in multiple ways in this block : written, pictures, videos, articles, etc. This makes it simpler for students to understand and retain information for a longer period.

BLOCK ASSIGNMENT :

- **Short Answer Questions :**

  1. What is the full form of DGCA ?
  2. What is the main difference between a sea plane and an airplane ?
  3. How is the full form of BCAS ?
  4. Who is known as the father of Indian Aviation ?
  5. Who is responsible for the first successful flight to have flown in the air ?

- **Long Answer Questions :**

  1. What are the rules and regulations to be followed on board a flight, for your own safety ?
  2. Explain the milestones of Indian aviation.
  3. What is the difference between a Full service airline and Low cost airline ?
  4. Explain the procedure of check–in to boarding of a plane for a passenger.
  5. What are the three main classes of travel and the differences in service, in an aircraft ?

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The content is developed by taking reference of online and print publications that are mentioned in Bibliography. The content developed represents the breadth of research excellence in this multidisciplinary academic field. Some of the information, illustrations and examples are taken "as is" and as available in the references mentioned in Bibliography for academic purpose and better understanding by learner.'

ROLE OF SELF INSTRUCTIONAL MATERIAL IN DISTANCE LEARNING

The need to plan effective instruction is imperative for a successful distance teaching repertoire. This is due to the fact that the instructional designer, the tutor, the author (s) and the student are often separated by distance and may never meet in person. This is an increasingly common scenario in distance education instruction. As much as possible, teaching by distance should stimulate the student's intellectual involvement and contain all the necessary learning instructional activities that are capable of guiding the student through the course objectives. Therefore, the course / self-instructional material are completely equipped with everything that the syllabus prescribes.

To ensure effective instruction, a number of instructional design ideas are used and these help students to acquire knowledge, intellectual skills, motor skills and necessary attitudinal changes. In this respect, students' assessment and course evaluation are incorporated in the text.

The nature of instructional activities used in distance education self- instructional materials depends on the domain of learning that they reinforce in the text, that is, the cognitive, psychomotor and affective. These are further interpreted in the acquisition of knowledge, intellectual skills and motor skills. Students may be encouraged to gain, apply and communicate (orally or in writing) the knowledge acquired. Intellectual- skills objectives may be met by designing instructions that make use of students' prior knowledge and experiences in the discourse as the foundation on which newly acquired knowledge is built.

The provision of exercises in the form of assignments, projects and tutorial feedback is necessary. Instructional activities that teach motor skills need to be graphically demonstrated and the correct practices provided during tutorials. Instructional activities for inculcating change in attitude and behavior should create interest and demonstrate need and benefits gained by adopting the required change. Information on the adoption and procedures for practice of new attitudes may then be introduced.

Teaching and learning at a distance eliminates interactive communication cues, such as pauses, intonation and gestures, associated with the face-to-face method of teaching. This is

particularly so with the exclusive use of print media. Instructional activities built into the instructional repertoire provide this missing interaction between the student and the teacher. Therefore, the use of instructional activities to affect better distance teaching is not optional, but mandatory.

Our team of successful writers and authors has tried to reduce this.

Divide and to bring this Self Instructional Material as the best teaching and communication tool. Instructional activities are varied in order to assess the different facets of the domains of learning.

Distance education teaching repertoire involves extensive use of self- instructional materials, be they print or otherwise. These materials are designed to achieve certain pre-determined learning outcomes, namely goals and objectives that are contained in an instructional plan. Since the teaching process is affected over a distance, there is need to ensure that students actively participate in their learning by performing specific tasks that help them to understand the relevant concepts. Therefore, a set of exercises is built into the teaching repertoire in order to link what students and tutors do in the framework of the course outline. These could be in the form of students' assignments, a research project or a science practical exercise. Examples of instructional activities in distance education are too numerous to list. Instructional activities, when used in this context, help to motivate students, guide and measure students' performance (continuous assessment)

PREFACE

We have put in lots of hard work to make this book as user-friendly as possible, but we have not sacrificed quality. Experts were involved in preparing the materials. However, concepts are explained in easy language for you. We have included many tables and examples for easy understanding.

We sincerely hope this book will help you in every way you expect. All the best for your studies from our team!

AIR HOSTESS AND CABIN CREW MANAGEMENT

Contents

BLOCK 3 : IN–FLIGHT SERVICES, MEAL SERVICES, SPECIAL NEED PASSENGERS

Unit 1 Galley, Catering and Meals, Pre–Flight Service, Service After Take–Off, Pre–Landing and Post–Landing Service

Introduction, Galley, Catering, and Meals, Galley, Working in the Galley, Cabin Crew Serving the Flight Deck, Airline Meals, Catering of Inflight Meals, Special Meals, Pre–Flight Service, Pre–Flight Check for All Three Class of Travel, Services After Take–Off, General Duties for All Travel Class, After Take–Off, Pre Landing Service, Duties During Descent, Post Landing Duties, Duties After Landing

Unit 2 Meal Service, Meal Codes, Alcoholic Service, Non–Alcoholic Service, Crockery and Cutlery, Waste Management

Introduction, Meal Service, Meal Service on an Aircraft, Timing of Meals Served Inflight, Meals on India Based Airlines (Full Service Airlines), Pre–Order Meals on India Based Airlines (Low Cost Airlines), Meal Codes, Importance of Meal Codes, Alcoholic Beverages, Alcoholic Beverages Served Inflight, Non–Alcoholic Beverages, Non–Alcoholic Beverages Served Inflight, Crockery and Cutlery, Crockery and Cutlery Used Inflight, Waste Management, Airline Waste Management

Unit 3 Special Need Passengers, Terminologies, Recommended Phrases, DPNA Code, VVIP, VIP and CIP, Deportees and Prisoners

Introduction, Special Need Passengers, Passengers Who Need Special Attention, Cabin Crew Training, Terminologies, Terminologies to Understand During Flight Booking, Recommended Phrases, Phrases Recommended to Address Special Need Passengers, Few Points to be Aware of Around Special Need Passengers, DPNA Code, DPNA (Disabled Passenger with Intellectual or Developmental Disability Needing Assistance), VVIP, VIP, and CIP, VVIP (Very Very Important Person) and VIP (Very Important Person), CIP (Commercially Important Person), Deportees and Prisoners, Deportees, Prisoners

Dr. Babasaheb Ambedkar Open University Ahmedabad

BBAATR–108

Air Hostess and Cabin Crew Management

BLOCK 3 : IN–FLIGHT SERVICES, MEAL SERVICES, SPECIAL NEED PASSENGERS

UNIT 1 GALLEY, CATERING AND MEALS, PRE–FLIGHT SERVICE, SERVICE AFTER TAKE–OFF, PRE–LANDING AND POST–LANDING SERVICE

UNIT 2 MEAL SERVICE, MEAL CODES, ALCOHOLIC SERVICE, NON–ALCOHOLIC SERVICE, CROCKERY AND CUTLERY, WASTE MANAGEMENT

UNIT 3 SPECIAL NEED PASSENGERS, TERMINOLOGIES, RECOMMENDED PHRASES, DPNA CODE, VVIP, VIP AND CIP, DEPORTEES AND PRISONERS

IN–FLIGHT SERVICES, MEAL SERVICES, SPECIAL NEED PASSENGERS

Block Introduction :

This block is to guide students, in gaining knowledge and information about the requirements of airline industry, to help in becoming a Cabin Crew with Domestic and International airlines.

Inflight passenger service is providing support to passengers before, during, and after a flight. The difficulties and complexities of air travel can make support a major challenge, but improving it can lead to happier passengers, better travel experiences, and improved services.

In this block, the students will be given a background about Galley, Catering, and Meals, Pre–flight Service, Services after take–off, Pre landing service, Post landing duties, Meal service, Meal Codes, Alcoholic beverages, Non–Alcoholic beverages, Crockery and Cutlery, Waste Management, Special Need Passengers, Terminologies, Recommended phrases, DPNA code, VVIP, VIP, CIP, Deportees and Prisoners.

The block explains about the duties carried out by the cabin crew in the galley, in the cabin, duties before take–off, during a flight, before and after landing, and general services and meal services in all three travel class. By going through this block, students will understand the difference between alcoholic and non–alcoholic drinks served inflight, mocktail and cocktail, how catering is done in the aircraft, different meals services in first class, business class, and economy class. Also, special need assistance that is provided at the airport by the ground staff, and the cabin crew in the aircraft, to passengers, who have specified special needs.

Block Objectives :

After learning this block, you will be able to understand about :

Galley, Working in the Galley, Cabin crew serving the flight deck, Airline meal, Catering of Inflight meals, Special meal, Pre–flight check for different class of travel, General duties after take–off, Duties during descent, Duties after landing, Meal service on an aircraft, Timings of meals served inside, Meals on India based Airlines (Full service Airlines), Pre–order meals on India based Airlines (Low cost Airlines), Importance of meal codes, Alcoholic beverages served inflight, Non–Alcoholic beverages served inflight, Crockery and cutlery

used inflight, Airline Waste Management, Passengers who need special attention, Cabin crew training, Terminologies to understand during flight booking, Phrases recommended to address special need passengers, Few points to be aware of around special need passengers, DPNA code, VVIP (Very Very Important Person) and VIP (Very Important Person), CIP (Commercially Important Person), Deportees, and Prisoners.

Block Structure :

Unit 1 : Galley, Catering and Meals, Pre–Flight Service, Service After Take–Off, Pre–Landing and Post–Landing Service

Unit 2 : Meal Service, Meal Codes, Alcoholic Service, Non–Alcoholic Service, Crockery and Cutlery, Waste Management

Unit 3 : Special Need Passengers, Terminologies, Recommended Phrases, DPNA Code, VVIP, VIP and CIP, Deportees and Prisoners

UNIT 01

Galley, Catering and Meals, Pre–Flight Service, Service After Take–Off, Pre–Landing and Post–Landing Service

UNIT STRUCTURE

1.0 Learning Objective

1.1 Introduction

1.2 Galley, Catering, and Meals

- **1.2.1 Galley**
- **1.2.2 Working in the Galley**
- **1.2.3 Cabin Crew Serving the Flight Deck**
- **1.2.4 Airline Meals**
- **1.2.5 Catering of Inflight Meals**
- **1.2.6 Special Meals**

1.3 Pre–Flight Service

- **1.3.1 Pre–Flight Check for All Three Class of Travel**

1.4 Services After Take–Off

- **1.4.1 General Duties for All Travel Class, After Take–Off**

1.5 Pre Landing Service

- **1.5.1 Duties During Descent**

1.6 Post Landing Duties

- **1.6.1 Duties After Landing**

1.7 Let Us Sum Up

1.8 Answer for Check Your Progress

1.9 Glossary

1.10 Assignment

1.11 Activity

1.12 Case Study

1.13 Further Reading

1.0 LEARNING OBJECTIVES :

After learning this unit, you will be able to understand about :

Galleys, Catering, and Meals, Pre–flight service, Services after take–off, Pre landing service, and Post landing duties.

1.1 INTRODUCTION :

Inflight travel traditionally have three separate classes : First class, Business class, and Economy class. However, there are some airlines that cater to Premium Economy class, as well. Fares on these classes vary as per the class of travel, and so do the quality of services, First class being the most expensive.

Cabin configuration, and the sector flown will determine how many classes of service are offered. Some airlines have aircrafts with all three classes, some with two : Business class and Economy, and some with just one, all Economy.

1.2 GALLEY, CATERING AND MEALS :

1.2.1 Galley :

It is said that the first galley (kitchen) in aircraft was found in large airships such as the Zeppelin, and it consisted of a hotplate with sink.

The Douglas Aircraft DC–3, was the first airplane with a planned galley for food service.

Galleys on commercial airlines include not only areas to serve and store food and beverages, but also contain Cabin crew/flight attendant jump seats, emergency equipment storage, as well as anything else flight attendants may need during the flight. The galley is a confined area where usually, the prepared dishes are not cooked on the spot, but only reheated ready meals, as safety regulations prohibit the cooking of a complete meal in the aircraft.

Full service airlines and low cost airlines use their galleys in different ways. Full service airlines need to use almost all of the space of the galley, as they need to serve every passenger in the aircraft.

Low cost airlines use this space to store food and drinks, and for sale on board.

Location of Galleys – Galleys are usually located near the doors used for embarking and disembarking an aircraft. On narrow body aircrafts, like the A320 or the 737, there are only two galleys. One at the aft/back, and one at the forward/ front of the aircraft. On these smaller planes the back galley will serve the economy cabin, and the front one the business class.

On the wide body aircrafts, like the A330s and the 777s, there are usually 4 galleys. The largest galley is located in the aft of the aircraft between the last set of doors. There is another galley in the economy cabin between the second last set of doors. This is a smaller galley which helps the aft galley during the service. Generally the larger kitchen at the back of the aircraft is operated by the economy cabin supervisor. A junior cabin crew operates the smaller galley. The other two galleys are in the Business class cabin and the First class cabin.

Components in a Galley – Non–electrical, and Electrical, is how components in a galley is classified.

❖ **Non–electrical component :**

Meal tray, Dry store, Containers, Drawers, Cabinets etc.

Some of the **electrical components** of a galley :

Oven – Is used to heat food in bulk

Microwave – To heat food quickly (Not found on all aircrafts)

Tea/Coffee maker – To make and serve tea and coffee

Hot jugs – To boil water

Water heater – Supplies hot water to the galley

Chiller – are used to preserve food for a longer time. Dry ice is used for chilling.

Galleys are kept clean at all times, as food and drinks are handled here.

Example of an Aircraft Galley

1.2.2 Working in the Galley :

As a galley operator, you need to think about a lot of things and organize everything the other crew members might need for their service in the cabin. The galley operator has to prepare the welcome drinks, and time the heating of the meals. She/he is also responsible for checking that catering has loaded enough meals for the flight.

Also, in the first class and business class cabins the galley operator is responsible for plating the meals. The appearance of a dish in these cabins will depend a lot on the cabin crew's skills.

It is very important in an aircraft, to secure every removable container with latches, trolley with brakes, and door with locks, to prevent them from falling out or opening, especially during take–off, landing and turbulence.

1.2.3 Cabin Crew Serving the Flight Deck :

First class galley operator offers the cockpit crew beverages on ground, and beverages and meals once the plane has reached cruising altitude.

Once the meal choices have been prepared, the cabin crew presents the options (often there are three), to the cockpit crew. The Co–Pilot usually waits for the Captain to make the first choice, as they cannot choose the same meal in case one of them falls ill due to food poisoning, which would be disastrous if both were affected.

Purser checks with the cockpit crew periodically, to ensure that everything is fine during the flight.

Example of Food Served in Cockpit

(Cabin crew are provided with meals on flights, and their meals are marked as Cabin Crew meal)

1.2.4 Airline Meals :

The first in–flight meals were served in 1919, on the Handley–Page flight, from London to Paris. It was a packed lunch consisting of a sandwich and some fruit.

In 1936, United Airlines installed the first on–board kitchens to provide passengers with hot meals.

In–flight meal, is a meal served to passengers on board a commercial airline. Preparation of the food served on the plane starts around 10 to 12 hours, before the actual serving of food, in–flight.

These meals differ widely in quality and quantity across different airline companies, and classes of travel. They range from a simple snack or soft drink in a short–haul economy class, to a ten–course gourmet meal in a first class long–haul flight. The types of food offered also vary widely from country to country, elements of local cuisine are incorporated, sometimes both from the flight originating country and different destination countries.

1.2.5 Catering of Inflight Meals :

Inflight meals are prepared by specialist airline catering services, and are brought by caterer on board the aircraft in special trailer trucks. The supply of food is one of the most important logistics tasks in passenger transport. Requirements of the airline, passenger numbers, and special orders must be coordinated before delivery.

Example of Catering Being Uploaded in the Aft Galley

The food, prepared, portioned and often frozen by caterers, is warmed in ovens, and served to passengers using an airline meal trolley cart. In most modern aircraft, the food is delivered directly by trolleys and containers. For example, a Boeing 747–400 will be stocked with 114 containers, 102 trolleys and 18 ovens. Airline meal trolley, is a small serving cart supplied by an air carrier for use by cabin crew inside the aircraft for transport of beverages, airline meals, and other items during a flight.

Example of an Aircraft Trolley Cart

1.2.6 Special Meals :

Most airlines serve special meals – For passengers who are conscious about the food they eat, be it for health, religious or personal reasons, special meal services are offered on most of the airlines. Special/Alternative meals must be ordered online at least 48 hours before the flight. Some of the special meals offered by airlines are the following :

(a) **Allergies –** Gluten–free (Gluten is a protein found in wheat)

(b) **Intolerances –** Dairy free food (Dairy is milk or products made from milk)

(c) **Religious beliefs –** Halal meal (meat prepared according to Muslim law), and Kosher meal (food prepared according to Jewish law)

(d) **Medical issues –** Low calorie/low fat/low salt or Diabetic meals (for people with high blood sugar)

(e) **Individual preferences –** Vegetarians and Vegans (no animal products, including meat, eggs and dairy)

(f) **Child meal –** Meal for children from the age of 02 to 11 years

❑ **Check Your Progress – 1 :**

1. Galleys are located near the doors used for embarkation and disembarkation.

   (a) True (b) False (c) Maybe

2. Some of the electrical components of a galley are :

   (a) Tray, Containers (b) Oven, Hot jug (c) Dry stores, Tongs

3. Inflight meals are :

   (a) Cooked inflight

   (b) Heated inflight

   (c) Cooked and heated inflight

1.3 PRE–FLIGHT SERVICE :

1.3.1 Pre–Flight Check for all Three Class of Travel :

Pre–Flight check on First class, Business class, and Economy class on a commercial aircraft, is more or less the same. The pre–flight checks are carried out by Cabin Manager/Supervisor/ Senior Purser/Cabin crew.

Besides securing the cabin, and looking into the cleanliness of the cabin and cockpit, they make sure the pillows, blankets, headsets, and magazine folders are arranged well. They check passenger amenities, also check the seating chart on board. They check crew bunk and rest area for unauthorised loading. They check the lavatories for cleanliness, and ensure the toiletries are well stocked.

They conduct emergency demonstration, and explain Oxygen system, Life jackets, and Passenger service unit to the passengers. They ensure that no overhead bins are open, and that no items are lying loose in the cabin.

Passengers are offered hot/cold towels, and pre–flight drinks. Pillows are distributed, on request.

Newspaper/magazines are offered, and they also distribute giveaways to the passengers.

Before take–off, they clear the cabin of glasses and towels, and secures the cabin.

They also check the passenger seating chart on board.

Any other items that need to be checked before take–off.

Galley – The cabin crew that works in the galley (galley operator), checks the trays and food casseroles to make sure that food loaded would be enough for the number of passengers on that flight. They also check if any special foods are brought on board, like the ones for children, diabetics, and passengers with gluten intolerance, lactose, peanuts and so on. They also check the meals, menu card, dry stores, etc. They also check galley items like silverware, linen, crockery, cutlery, glassware etc. They check whether the galley equipment is in working condition. They ensure that the galley items are secured for take–off.

Bar – The cabin crew responsible for the bar fill in the refrigerators with bottles of white wine, champagne, beer and juice. They check if the bar is well stocked.

Example of a Well–Stocked Bar Cart

Duty free – The cabin crew responsible for selling the Duty Free will check and tally the stock in the cart.

❑ **Check Your Progress – 2 :**

1. Traditionally how many types of travel class is offered by the airlines ?
   (a) One (b) Two (c) Three
2. Bar service is offered on all flights.
   (a) True (b) False (c) Don't know

1.4 SERVICE AFTER TAKE–OFF :

1.4.1 General Duties for All Travel Class, After Take–off :

Once the aircraft has taken off and when the captain informs the crew that it is safe for them to resume their duties, cabin crew starts with their preparation for inflight drinks and meal service. Most of the time, the seat belt sign would still be on when the cabin crew is allowed to get up from their seats. At this time, cabin crew must ensure that passengers continue to remain seated until the seat belt sign have been switched off.

They start heating the meals by switching on the oven.

Before the meal service begins, they attend to call bells, if any. Also, any unattended requests before take–off is fulfilled as soon as possible, after take–off.

They take a walk around the cabin to check if anyone needs anything like, cabin temperature adjustment request. Cabin temperature can be adjusted in the cockpit, so any such requests have to be conveyed to the cockpit crew.

If it is a sector serving alcohol, then alcohol service is conducted first, then the meal service. Trolleys are prepared with alcohol, juices, tea and coffee, water, ice, snacks/peanuts etc. to be served to passengers after the seat belt sign is turned off.

Cabin crew work in their designated area/zone serving drinks and meals. Once they are done with serving passengers in their zone, they help other zones, if required.

Once the meal service is over, when the passengers have finished their meals, cabin crew takes the same trolley which is empty now, back into the cabin for clearance, and clears the meal trays.

In the final clearance, cabin crew takes the trash cart through the cabin to clear any cups, glasses, cutlery, or any item that need to be cleared.

Duty free cart may be taken out in the cabin for sale, after the meal service.

If it is a longer flight with more than one service, then after a pre decided gap, another meal service will be conducted by the cabin crew.

If it is a night flight, after the meal service, cabin crew ensures that the cabin light is dimmed and window shades closed, for passengers to sleep undisturbed.

If it is a day flight, cabin lights are not dimmed. However, window shades could be closed to block out the light, if anybody needs to sleep.

Cabin crew frequently walk around the cabin to ensure that the passengers are comfortable, and attends to requests, if any. They attend call bells, checks

the lavatory and make sure they are clean and well stocked, and make sure nobody is smoking in the lavatories. Always be vigilant to any emergencies.

❑ **Check Your Progress – 3 :**

1. Where can cabin temperature be adjusted ?

   (a) Galley (b) Lavatory (c) Cockpit

1.5 PRE LANDING SERVICE :

1.5.1 Duties During Descent :

When the aircraft has started descent, inflight services come to an end. If alcohol, soft drinks, tea/coffee or anything else is being served it cannot be continued, as cabin crew needs to put away things and secure the galley, for landing. Bars have to be closed, Inflight duty free sales has to be closed, cash has to be tallied and paper work done, Customs form have to be filled, if it is an international flight.

When the seat belt sign comes on, cabin crew secures the cabin just like it is done before take–off. Once the cabin is secure, the secure check is given to the cabin supervisor. They make sure that there are no passengers in the lavatory, and that all the passengers are in their seats with seat belt fastened. Cabin crew takes their seats, when the captain instructs them to.

Example of Aircraft Landing

❑ **Check Your Progress – 4 :**

1. What does descent mean ?

   (a) When the aircraft is decreasing its altitude in preparation for landing

   (b) When the aircraft is increasing its altitude in preparation for climbing up in air

   (c) Cruising

1.6 POST LANDING DUTIES :

1.6.1 Duties After Landing :

When the aircraft has landed and has turned from the active runway and is taxing, cabin crew gets up from their seats, make necessary announcements, and make sure passengers do not get up from their seats, open the overhead bin and remove their baggage or use the lavatories.

Once the aircraft has come to a complete halt, and the step ladder is in place, the door is opened and the ground staff is handed over required documents, and they will convey important information like connecting flights status/ schedule, conveyor belt number for passenger checked in bags, etc. Based on that cabin supervisor makes necessary announcements.

Once all the passengers disembark, cabin crew checks for security, the lavatories, overhead bins, and seat pockets, to check if anything is left behind in the aircraft by the passengers. Headsets are collected in a bag.

Flight supervisor prepares a flight report.

Immigration and custom forms are filled. Before sign off, Debriefing is done, discussing issues during the flight, any emergencies, passenger issues or meal issues.

❑ **Check Your Progress – 5 :**

1. What do you mainly find in the seat pockets of an aircraft seat ?

   (a) Nothing (b) Safety instruction card, Air sickness bag

   (c) Pre packed meal

1.7 LET US SUM UP :

In this unit we learned about :

- Galley
- Working in the Galley
- Cabin crew serving the flight deck
- Airline meal
- Catering of Inflight meals
- Special meal
- Pre–flight check for different class of travel
- General duties after take–off
- Duties during descent
- Duties after landing

1.8 ANSWER FOR CHECK YOUR PROGRESS :

❑ **Check Your Progress 1 :**

1. (A), 2. (B), 3. (B)

❑ **Check Your Progress 2 :**

1. (C), 2. (B)

❑ **Check Your Progress 3 :**

1. (C)

❑ **Check Your Progress 4 :**

1. (A)

❑ **Check Your Progress 5 :**

1. (B)

1.9 GLOSSARY :

Word	Meaning
Active Runway	A defined rectangular area of an airfield, prepared for the landing and take–off run of aircraft along its length, before it turns to taxi
Airship	A power–driven aircraft that is kept buoyant/afloat by a body of gas (usually helium, formerly hydrogen) which is lighter than air
Amenities	Items offered inflight to passengers like pillow, blanket, etc.
Amenity kit	It is a small bag or pouch of personal care items like skin lotion, toothbrush, socks, eye shades etc. that airlines provide on long–haul or international flights, usually for passengers in first class or business class
Bar cart	A trolley with alcoholic drink
Bar uplift	Bar items ordered to refill the bar with things which was used up during the flight
Cabin crew jump seat	These are folding seats used by cabin which are normally located near emergency exits so that flight attendants can quickly open the exit door for an emergency evacuation
Cabin crew bunk	Crew rest area used during breaks for sleeping on a very long flight
Call bell	Is a button on the PSU to get the attention of a cabin crew for assistance
Airline Catering	Airlines catering is defined as the highly specialized skill, technology and quality oriented food catering for the airline passengers and the crew members with a greater emphasis on hygiene aspects and just in time production
Cuisine	A particular style of cooking
Casserole	A dish cooked in oven
Cutlery	Knives, forks, and spoons used for eating or serving food
Crockery	Plates, dishes, cups, and other similar items, especially ones made of earthenware or chinaware
Cabin temperature	Aircraft temperatures are generally kept at between 22°C and 24°C
Conveyor belt	This belt deliver checked–in bags at the baggage claim area
Cold towels	Prepacked towels given to passengers to clean their hands especially if the weather is warm, after boarding
Dry Ice	Dry ice is generally carried aboard aircraft to keep food (galley or cargo), medicine, or biological materials in a frozen or chilled condition

Duty free products	Duty–free refers to the act of being able to purchase an item in particular circumstances without paying import, sales, value–added, or other taxes
Debriefing	Post flight briefing, any kind of incident during the flight is discussed and reviewed
Emergency demonstration	A live demonstration is performed by one or more flight attendants standing up in the aisles, while another flight attendant narrates over the public address system In an emergency, flight attendants are trained to calmly instruct passengers how to respond, given the type of emergency
Full service airline	A full service airline typically offers passengers in– flight entertainment, checked baggage, meals, beverages and comforts such as blankets and pillows in the ticket price. The seats generally have more recline than a low cost carrier as well as more leg room
Giveaways	Free items given to passengers
Glassware	Glasses of different sizes and shapes, each one serving a different beverage or drink
Ground staff	Ground Staff work in the aviation industry where they are engaged in various roles at the airport. Ground Staff ensures the safety and comfort of passengers, including checking in baggage, providing information, assisting disabled passengers, confirming reservations, and selling tickets
Hotplate	A flat heated surface, typically metal or ceramic, used for cooking food or keeping it hot
Headsets	Headphone used to listen to music or watch a movie
Hot towels	Prepacked towels given to passengers to clean their hands especially if the weather is cold, after boarding
Incorporate	To mix one thing with another
Immigration form	Form to be filled while entering another country
Low cost airline	Low–cost carriers, also called low–cost or budget airlines, are airlines that offer lower fares–and fewer amenities–than traditional full service airlines
Logistics	The commercial activity of transporting goods to customers
Lactose	A sugar present in milk
Linen	Articles such as sheets or clothes made, or originally made, of a material called linen
Loading	Filling a space with some quantity of item
Magazine folder	Magazines and newspapers are folded and presented to the passengers

Plating	The arrangement and overall styling of food upon bringing it to the plate
Partitioned	Divided
Positioned	Arranged in a particular way
Range	A set of different things of the same general type
Resume	Begin again after a pause
Set of doors	Two doors across horizontally (One door on left, the other right)
Sector	A portion of a journey (one take–off and landing)
Well–stocked	Having or containing sufficient goods, wares, food, etc.
Silverware	Dishes, containers, or cutlery made of or coated with silver, or made of a material resembling silver
Step ladder	A short folding ladder with flat steps and a small platform to board or deplane the aircraft
Unauthorised	Not having permission
Vigilant	Alert, be aware of
Welcome drink	Is a beverage, typically an alcoholic cocktail, that you receive after boarding

1.10 ASSIGNMENT :

Research five International airlines, on the differences between the meal services in all three travel classes : First class, Business class, and Economy class. Write an essay on the findings.

1.11 ACTIVITY :

Research about the differences during Pre–flight, after take–off, before and after landing duties of cabin crew, in both Domestic and International flights. Try to explain to your family/friends what you have understood from the research. Once you have explained to them, ask them to say it back to you. This way, you will know how good you are at presenting your information. The points that they could not pick up, work on those areas of improvement.

1.12 CASE STUDY :

- **Study of a Lower deck Galley for Airliners**

  https://www.scielo.br/pdf/jatm/v4n1/2175–9146–jatm–04–01–0081.pdf

- **Cabin Crew Food Safety Training : An Exploratory Study**

  Link for complete case study – https://repository.cardiffmet.ac.uk/handle/10369/8102

❖ **Abstract :**

The production and service of airlines meals is a "high–risk mass catering operation" with food safety implications, including temperature control during receiving/loading, storing and regeneration of meals, personal hygiene, cross–contamination, food allergy and poisoning. Food service is a crucial part of cabin

crew on–board duties, therefore and according to the regulations, cabin crew should be educated/trained on food safety and hygiene. However, while a plethora of studies have been conducted on food handlers' food safety training in different sectors of the catering industry, to date; there is no in–depth study on cabin crew food safety training. Thus this study aimed to investigate cabin crew food safety training through the development of a conceptual framework to inform the study. Based on a mixed methods design and pragmatic worldview, this study employed a partially mixed methods sequential exploratory equal status typology. It involved two separate, but integrated strands. The first strand was qualitative based on a snowballing technique, in which a sample of 26 cabin crew training managers/supervisors participated in in–depth, semi–structured interviews from 20 airlines worldwide. In addition, content analysis of documents, e.g., airlines' websites was conducted. The qualitative findings revealed that majority of airlines train cabin crew on food safety. However, training was not based on training needs analysis (TNA) and was not aligned with cabin crew roles and duties. Additionally, few airlines evaluated independently the reaction, knowledge, behaviours and results of their cabin crew food safety training. These findings informed the need for quantifying and generalising of cabin crew food safety issues, therefore an intermediate model was developed. The second strand was quantitative based on a random purposive sample of 307 cabin crew from the 20 airlines participated in the first strand. Structural equation modelling (SEM) was used for measuring the relationships between six constructs of the intermediate model; (training, knowledge, attitudes, self–reported practices, barriers and training needs). The SEM findings revealed that food safety training affects positively and significantly the knowledge, attitudes and self–reported practices. Food training affects negatively and significantly the perceived training needs. However, there were significant differences between trained and untrained cabin crew. The findings also exposed the influence of barriers to food safety training and behaviours of both models; trained and untrained. This is the first study on cabin crew food safety training. It contributed to knowledge by providing two revised models which improve understanding of cabin crew food safety training which could inform the development of future cabin crew food safety training. Finally, this study developed a range of recommendations, limitations and future research opportunities.

1.13 FURTHER READING :

- **How Airplane Food is Made ? Inside Gate Gourmet Kitchen**

  https://www.youtube.com/watch?v=1m6h59wI_yI
- **Flight–Catering**

  http://epubs.surrey.ac.uk/2200/2/E66589A3.pdf
- **IFSA World Food Safety Guidelines 2016**

  https://cdn.ymaws.com/ifsa.aero/resource/resmgr/World_Food_Safety_Guidelines.pdf
- **An Inside Look at a Day in the Life of an Emirates Flight Attendant**

  https://www.travelandleisure.com/airlines–airports/day–in–life–emirates–flight–attendant
- **Book – Food and Beverage Service and Operations (English, Hardcover by Sanjeev Et Al. Kumar)**

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UNIT 02

Meal Service, Meal Codes, Alcoholic Service, Non–Alcoholic Service, Crockery and Cutlery, Waste Management

UNIT STRUCTURE

2.0 Learning Objective

2.1 Introduction

2.2 Meal Service

2.2.1 Meal Service on an Aircraft

2.2.2 Timing of Meals Served Inflight

2.2.3 Meals on India Based Airlines (Full Service Airlines)

2.2.4 Pre–Order Meals on India Based Airlines (Low Cost Airlines)

2.3 Meal Codes

2.3.1 Importance of Meal Codes

2.4 Alcoholic Beverages

2.4.1 Alcoholic Beverages Served Inflight

2.5 Non–Alcoholic Beverages

2.5.1 Non–Alcoholic Beverages Served Inflight

2.6 Crockery and Cutlery

2.6.1 Crockery and Cutlery Used Inflight

2.7 Waste Management

2.7.1 Airline Waste Management

2.8 Let Us Sum Up

2.9 Answer for Check Your Progress

2.10 Glossary

2.11 Assignment

2.12 Activity

2.13 Case Study

2.14 Further Reading

2.0 LEARNING OBJECTIVES :

After learning this unit, you will be able to understand about :

Meal service, Meal Codes, Alcoholic beverages, Non–Alcoholic beverages, Crockery and Cutlery, and Waste Management.

2.1 INTRODUCTION :

Serving food and drinks to the passengers is an essential part of cabin crew duty. The preparation for meal service is done in the galley. There are different meal services offered to the passengers depending on the travel class. Both alcoholic and non–alcoholic beverages are served to the passengers. Meal codes

are given for special meals to identify them easily. Aircraft in operation today mainly use the familiar airline meal trolley system.

2.2 MEAL SERVICE :

2.2.1 Meal Service on an Aircraft :

The type of food and service varies depending upon the airline and class of travel. Meals may be served on one tray (generally in premium and economy classes), or in multiple courses with no tray and with a tablecloth, metal cutlery, and glassware (generally in first class and business class). Mostly, the food is a reflection of the culture of the country the airline is departing from, or the country that the airplane is destined for (e.g. Indian, Japanese, Chinese, or Western meals).

The meals services are generally arranged into two categories :

- **Major Meal Service –** This kind of service is provided on long haul flights, where you need at least 45 minutes to complete the service, as it is more detailed.

The service starts with a beverage round, and the main meal is served later. However, many a times both beverage and meal service are conducted together.

Example of a Meal Service

The three major meals are :

Breakfast – Breakfast service in most airlines could consist of : Tea/coffee, Juice, Fruit compote (diced/sliced mixed fruit), entrée or main course (choice of vegetarian or non–vegetarian food), Bread with butter and preserves (jam/honey)

- **Example of Breakfast served on a short–haul Aeroflot (Russian) Flight :**

During morning flights a cooked breakfast or smaller continental–style breakfast may be served. On long haul flights (and short/medium haul flights within Asia) breakfast normally includes an entrée of pancakes or eggs, traditional fried breakfast foods such as sausages and grilled tomatoes, and often muffins or pastries, fruits, and breakfast cereal on the side.

Lunch/Dinner – Food service for lunch and dinner is the same, and the food could consists of : Appetiser/Hors d'oeuvre (first class and business class only), Salad, Soup (first class only), entrée or main course (choice of vegetarian or non–vegetarian food) with Breads and accompaniments, Dessert, Fresh fruits and cheese (first class only), Tea/Coffee.

The classic economy airline meal consists of meat or fish, vegetables or salad, a bread roll, and a dessert. (Condiments which typically are salt, pepper,

and sugar are supplied in small sachets, along with plastic or metal cutlery and paper dry/wet napkin). All of these are neatly packed and placed on a plastic tray.

Supper is mostly the same, only soup is omitted for first class passengers.

- **Minor Meal Service –** This kind of service is provided on a long sector, where a small meal like, breakfast or snacks is served to the passengers. The service is not as detailed, and it does not take a long time to complete the service, like the major meal service does.

  Breakfast – Breakfast service in most airlines could consist of : Tea/coffee, Juice, Fruits (optional), Bread with butter and preserves (jam/honey), and Dessert.

- **Example of Breakfast served on a short–haul Aeroflot (Russian) flight :**

On shorter flights a continental–style breakfast, generally including a miniature box of breakfast cereal, fruits and either a muffin, pastry, or bagel. Coffee and tea are offered as well, and sometimes hot chocolate.

Mid–morning snack – Mid–morning snack could consists of : Tea/coffee, Fruits (optional), cold main course (sandwiches and puff pastries), and Dessert.

Afternoon Tea – Afternoon tea could consists of : Tea/coffee, main course (hot/cold), and Dessert.

Collation meal (light meal) – Collation meal could consists of : Tea/ Coffee, Open sandwiches/Cold cuts/Cheese and bread

On long–haul international flights in first class and business class, most Asian and European airlines serve gourmet meals, while carriers based in the US tend to serve multicourse meals including a cocktail snack, appetizer, soup, salad, entrée (chicken, beef, fish, or pasta), cheeses with fruit, and ice cream.

2.2.2 Timing of Meals Served Inflight :

- For **domestic flights**, passengers are served meals at the following meal times :

  Breakfast – 0530 to 0930 hours

  Morning tea – 0930–1130 hours

  Lunch – 1200–1430 hours

  Afternoon tea – 1500–1830 hours

  Dinner – 1830–2230 hours

  Supper is after 2300 hours

- For **international flights**, availability of meals varies, based on departure time and flight length :

  Snacks – 5 a.m. – 8 p.m. on flights over 700 miles (about 2+ hours)

  Breakfast – 5 a.m. – 9 :45 a.m. on flights over 1,100 miles (about 3+ hours)

  Light/Full meals – 9 :45 a.m. – 8 p.m. on flights over 1,100 miles (about 3+ hours)

- Flights less than 2 hours will only have a snack/beverage service.

If your flight is not during the scheduled breakfast, lunch and dinner hours, a light snack may be offered on flights longer than three hours in economy class.

Two meals and a snack are usually served on a 14 hours flight.

Early morning flights usually will have a hot breakfast, during day time hot meal is served during lunch time, and in the evening, hot dinner is served. In case the flight is longer than 10 hours, a snack is also available.

In case of long–haul flights, when boarding an 8 am flight, passengers are served breakfast followed by lunch and dinner along with alcoholic and non–alcoholic beverages. If boarding a 3 pm flight, the first meal would be lunch. If boarding an 11 pm flight, the first meal would be dinner followed by subsequent meals in all cases.

Some airlines also give passengers the option of asking for snacks in between the regular service. Hot and cold beverages too are available on request.

Generally for long haul international flights leaving late night out of India, there are two meals served, one of which is a late dinner after take–off and then a meal before landing, which is breakfast.

2.2.3 Meals on India based Airlines (Full service Airlines) :

As of August 2020, India has just two full service airlines : Air India and Vistara.

- **Air India –** In economy class, complimentary Refreshments/ meals are served on all Air India operated flights. Domestic meals are vegetarian only, and no alcohol is served. On longer domestic routes hot meals at main meal times are served. Shorter flights offer snack boxes that contain a small drink and a snack.

First Class – The meal service offered are cocktails, entrees like, Grilled Lamb Chops and Parmesan Cheese Omelettes, Chicken Malai Kabab and Shahi Korma, with vintage wine or Champagne as accompaniment. Cracker and cheese, Dessert and chocolates, and Liqueurs are also part of the meal service.

Example of Air India First Class Meal

Business class – The meal service offered is entrees accompanied by wine. Main meal is served with wine or Champagne as accompaniment, on a tray with metal cutlery, glassware, and cloth napkin. Cracker and cheese, Dessert and chocolates, and wine are served separately after the meal trays are cleared.

Economy class – Choice of Continental or Indian cuisine Non–veg/ Veg is offered for international flights. Complimentary liquor/ wine is served on international routes.

- **Vistara –** Vistara is the only India based airline to have Premium Economy class (on certain sectors).

Business Class – The meal service offered is a 3–course meal cuisine, both Indian and international, and is served on fine bone china crockery with linen.

Premium Economy – The main dish of a meal service comprises of vegetarian or non–vegetarian with a dessert, or snacks, depending on the duration of the flight. Juices, aerated drinks and hot beverages are offered throughout the flight.

Economy Class – For travel within India, complimentary hot meals are served to passengers booked on Economy Flexi and Standard fares. Passengers booking on Economy Lite fares are served complimentary hot beverage (tea/ coffee). They also have the option to purchase light snacks, on board.

All passengers traveling outside India are served meals and beverage on board, irrespective of the fare the flight was booked.

2.2.4 Pre–Order Meals on India Based Airlines (Low Cost Airlines) :

- **Indigo –** IndiGo offers a selection of food and beverages for sale on board. At the time of booking a flight with Indigo, you can select to purchase an inflight meal. If you forget to do so at the time of booking, you can also add the meals up to 24 hours before departure. The choices include vegetarian and non–vegetarian options and include a beverage.

Example of a Meal on Indigo Flight

Complimentary drinking water is offered on all IndiGo flights.

- **GoAir –** GoAir economy class passengers may also pre–order a vegetarian or non–vegetarian meal when making their reservation, for more information check here. These combos can be purchased up to 12 hours before departure and to collect your meal inflight, you must provide a copy of your e–ticket to the crew on your flight.
- **Spicejet –** Spicejet is a low–cost airline based in India, which means that passengers can purchase food from the on–board menu, or pre–order a meal from the online assortment before the flight. SpiceJet Max passengers will receive complimentary meals and be seated at the front of the economy class cabin.
- **Air India Express –** Air India Express offers pre–set meals varying from hot meals, to snacks, to fresh cut fruits (in addition to soft beverages/ tea/ coffee) which can be purchased in advance. Free complimentary snack box is provided with tea/ coffee.
- **AirAsia –** Low–cost airline Air Asia in–flight meals are optional and not included in the ticket price. You can buy your meal either on board or order online in advance. For flights shorter than 75 minutes, you cannot buy hot meals on board the flight.

CPML stands for corporate meal which is served complimentary to corporate travellers whose booking are confirmed under corporate fare through their respective travel desk portal.

Passengers are allowed to carry cold snacks, non–alcoholic drinks, snack bars, biscuits and packaged food that do not spill or get spoiled. For the convenience of other passengers, messy, oily or smelly food items are not allowed on–board.

❑ **Check Your Progress – 1 :**

1. Does GoAir offer free meals during a flight ?

   (a) Yes (b) No (c) Maybe

2. When is Afternoon tea served in the aircraft ?

   (a) 1500–1830 hours (b) 1830–2230 hours (c) 1300–1500 hours

2.3 MEAL CODES :

2.3.1 Importance of Meal Codes :

Cabin Crew are required to know the different meal codes when delivering meal services on–board a flight. They need to be able to respond to the request of the passenger and deliver them the correct meal. This not only ensures that the passengers are happy and receive a good standard of customer service, but it also ensures passengers don't eat anything they are not allowed to.

❖ **IATA Meal Codes :**

ALML – Allergen Meal (Allergen free meals are generally free of : Seafood, wheat, buckwheat, dairy, eggs nuts plus other ingredients.)

AVML – Asian Vegetarian Meal (a vegetarian meal that normally includes spices and flavours from India.)

BBML – Baby Meal (Baby Meal can be ordered for infants under 2 years of age.)

BLML – Bland Meal (Bland Meal is ordered by those who suffer from stomach or intestinal problems.)

CHML – Children Meal (they usually contain soft and easy to chew foods which are usually both easily identifiable and healthy.)

DBML – Diabetic Meal (for those who suffer from diabetes (high sugar levels) It's a low sugar meal.)

FPML – Fruit Platter Meal (Fruit Platter meal may be ordered by people who are fasting, or perhaps when vegan/gluten free options are not available.)

GFML – Gluten Intolerant Meal (Gluten Free meal is designed for those who suffer from celiac disease or can't tolerate gluten in their diet.)

HFML – High Fibre Meal (high fibre foods such as whole grains, fruits, vegetables, nuts, and seeds.)

HNML – Hindu Non–Vegetarian Meal (This is a meal for people who follow Hindu custom. Meals are non–vegetarian and cooked in Indian style. Generally the Hindu meal will contain : Lamb, chicken, fish, eggs, pulses, starches, milk and dairy products. The meal will not contain : Veal, Beef, and Raw/Smoked Fish.)

KSML – Kosher Meal (Kosher Meal is a meal where the food is chosen, prepared and served in accordance with Jewish religious guidelines.)

LCML – Low Calorie Meal (Low Calorie meal is a meal of extremely low levels of calories and suited to people who are on a low calorie diet.)

LFML – Low Fat/Cholesterol Meal (Low Fat meal is a meal of limited fat and cholesterol suited to people who wish to follow a low fat restricted diet.)

LSML – Low Sodium/Salt free Meal (Low Salt meal is suited for people with high blood pressure, heart disease, fluid retention or kidney problems.)

LPML – Low Protein Meal (containing restricted quantity of protein, mainly for liver and kidney ailments. Meals contain fresh fruit and vegetables, vegetable fats and seasoning, and very little eggs and meat.)

MOML – Muslim Meal (a meal that is prepared in accordance with the Islamic tradition and custom.)

NLML – Non–Lactose Meal (lactose free meal for people who are allergic or intolerant to milk and milk products.)

NSML – Non Salt Meal (meals with no salt)

PRML – Low Purine Meal (a meal with a low quantity of purine (seafood, organ meats and alcoholic beverages, especially beer are not good for people suffering from gout))

ORML – Oriental Meal (Dishes of Chinese, Korean and Japanese cuisine)

PFML – Peanut Free Meal (meals without peanuts for passengers who are allergic to peanuts)

RVML – Raw Vegetarian Meal (Raw vegetarian meal is a meal consisting of only raw fruits and vegetables.)

SFML – Seafood Meal (option for passengers who wish to only eat seafood, like prawns and lobster)

SPML – Special Meal, Specify Food

VGML – Vegetarian Meal (Vegetarian meal is a meal option for passengers who wish to consume meals free of animal products. However, milk and milk products are consumed.)

VVML – Vegan Meal (meal option for passengers who wish to consume meals free of animal products.)

VJML – Vegetarian Jain Meal (This meal is for members of the Jain community who are pure vegetarians. It is prepared with a selection of Indian condiments. It contains one or more of these ingredients : fresh fruit and stem vegetables that grow above the ground.)

VLML – Vegetarian Lacto Meal (This meal includes dairy, but excludes eggs. Most vegetarians in India avoid eggs. Grains, pulses, dairy, and vegetables are the main food groups in the Indian vegetarian diet.)

VOML – Vegetarian Oriental Meal (meal for passengers who prefer an oriental style meal.)

❑ Check Your Progress – 2 :

1. What is the meal code for Diabetic meal ?

   (a) DML (b) DDML (c) DBML

2. What is the meal code for Vegetarian Jain Meal ?

   (a) VJML (b) VLML (c) VVML

2.4 ALCOHOLIC BEVERAGES :

2.4.1 Alcoholic Beverages Served Inflight :

Only alcoholic beverages served by a cabin crew may be consumed on board. Customers must be 21 years or older to consume alcohol.

In India, alcoholic drinks are not served on domestic flights. For International flights, alcoholic beverages are complimentary.

Different types of alcoholic beverages are : **Hot or Cold**

Hot alcoholic beverages are generally served hot or warm –

- **Sake** is a Japanese wine made from rice.
- **Mixed drinks** are prepared from mixing different kinds of drinks like Cognac and Brandy with hot water or honey.
- **Cider** is made from fermented apple juice.

Cold alcoholic beverages are generally served chilled or iced. They are broadly divided into spirits and fermented beverages –

Beer and wine fall under fermented beverages.

Brandy, gin, rum, tequila, vodka, whiskey, and liqueurs fall under spirits.

- **Cocktail –** A cocktail is a mixture of alcoholic and non–alcoholic beverages. Cocktail is typically made with a distilled liquor (such as arrack, brandy, cachaça, gin, rum, tequila, vodka, or whiskey) as its base ingredient, then it is mixed with other ingredients and garnish.

Cosmopolitan, Long Island Iced Tea, Pina Colada, and Margarita are some popular cocktails.

❖ **Some Cocktail Recipes :**

Cosmopolitan – Main Ingredients : Fresh lime juice, Cranberry juice, Vodka Citron. Standard Garnish : Lime wedge, Lemon slice. Drinkware : Cocktail glass.

This is a frothy bright pink colour drink, and is generally served straight up without ice.

Long Island Iced Tea – Main Ingredients : Cola, Lemon juice, Gin, Light Rum, Vodka, Tequila. Standard Garnish : Lemon spiral. Drinkware : Highball glass.

A type of alcoholic mixed drink, Long Island Iced Tea doesn't contain any type of tea, as the name says. It is a colourless orange–flavoured liqueur which typically contains 22% alcohol content.

Pina Colada – Pina Colada is a sweet cocktail which is usually served either blended or shaken with ice. The term 'Pina Colada' means 'strained pineapple' which refers to the freshly pressed and strained pineapple juice.

Main Ingredients : Pineapple juice, White rum, Coconut cream. Standard Garnish : Pineapple slice or Maraschino cherry. Drinkware : Poco Grande glass.

- **Aperitif –** is an alcoholic drink taken before a meal to stimulate the appetite.

Common choices for an aperitif are vermouth, champagne, pastis, gin, raki, fino, dry sherry and any still, dry, and light white wine.

- **Wines –** Wine is classified into 5 main categories :

Red, White, Rose, Sweet or Dessert and Sparkling wines.

Popular Red wines : Cabernet Sauvignon, Merlot, Pinot Noir, Syrah/Shiraz, and Zinfandel.

Some popular Indian Red wines : Cabernet Shiraz, Sette, and Big Banyan Merlot

Popular White wines : Buttercream Chardonnay, Belvino Pinot Grigio, Double Dog Dare Moscato, Kia Ora Marlborough Sauv Blanc, and Double Dog Dare Chardonnay.

Some popular Indian White wines : Fratelli Sangiovese Bianco, Fratelli Vitae Chardonnay, and Reveilo

During inflight meals, Red wines are usually offered with red meat (e.g. beef, mutton), and White wines are offered with white meat (e.g. fish or chicken).

❑ **Check Your Progress – 3 :**

1. What is the base of a cocktail drink ?

   (a) Alcohol (b) Fruit juice (c) Water

2. Vermouth is a :

   (a) Wine (b) Aperitif (c) Spirit

2.5 NON–ALCOHOLIC BEVERAGES :

2.5.1 Non–Alcoholic Beverages Served Inflight :

Any beverage that does not contain alcohol, is a non–alcoholic beverage.

Non–alcoholic beverages are both hot, and cold.

Tea, Coffee, and Hot chocolate are some examples of hot non–alcoholic beverages.

Cold non–alcoholic beverages are normally served chilled. Some of the popular non–alcoholic beverages are, aerated drinks like colas, fruit juices, and milk shakes.

- **Mocktail –** is a non–alcoholic drink consisting of a mixture of fruit juices or other soft drinks. Some popular mocktails are Nojito (Virgin Mojito), Strawberry–Banana Margarita, and Tomato Lassi.

❖ **Some Simple Mocktail Recipes to Make at Home :**

Nojito (Virgin Mojito) – 12 to 14 small mint leaves or 6–8 big ones, 1 ounce fresh lime juice, 2 tablespoons confectioner's sugar, 4 ounces club soda (or Sprite).

Put the mint leaves, lime juice and brown sugar in a tall cocktail glass and muddle the leaves. Fill the glass with ice cubes and add the club soda. Stir to mix up the sugar. Garnish with another mint sprig.

Strawberry–Banana Margarita – 1 cup strawberries, halved and frozen, 1 ripe banana, peeled, sliced and frozen, 1 1/2 ounces orange juice, 2 tablespoons fresh lime juice, 1 cup crushed ice.

Freeze the strawberry and banana slices for a couple of hours. Put everything in the blender and blend in short spurts – you want it smooth but still thick. Pour into frosted margarita glasses and serve.

Tomato Lassi – 2 ounces plain yogurt, 2 ounces tomato juice, 4 ounces water, 1/8 teaspoon salt, Sprig of mint leaves

Thoroughly blend the tomato juice, yogurt and salt together in a blender. Fill a tall glass almost all the way with ice cubes. Pour the mixture into the glass over the ice cubes, and garnish with mint leaves.

❑ **Check Your Progress – 4 :**

1. Is mocktail made without alcohol ?

   (a) Yes (b) No (c) Maybe

2. Which is a hot non–alcoholic beverage ?

   (a) Lassi (b) Tea (c) Pina Colada

2.6 CROCKERY AND CUTLERY :

2.6.1 Crockery and Cutlery Used Inflight :

Crockery/Tableware – Tableware are the dishes or dishware used for setting a table, serving food and dining. It consists of crockery like plates, dishes, bowls, and cups used for eating, which is usually made of some ceramic material.

Example of Airline Crockery

Cutlery – Cutlery is a collective ensemble of eating and serving utensils such as knives, forks and spoons.

- While serving food in first class, and Business class, crockery and cutlery are divided into Main course crockery and cutlery, and Dessert crockery and cutlery.

Main course crockery and cutlery – Items that are used to serve food include dinner plate, soup bowl and plate, butter knife, service knife, fish fork, dinner fork, salad fork, fish knife, soup spoon, and dinner spoon.

Dessert crockery and cutlery – Desserts are served after the main meal. Dessert plates, and dessert bowls are used to serve with dessert forks and spoons. Knife and fork are used for serving fruit and cheese.

- **Serviceware –** Different types of Jugs, pots, dishes, trays and salvers used by cabin crew during service is called serviceware.

Service cutlery cabin crew uses for service includes :

Wine opener/Corkscrew – A corkscrew is a tool for drawing corks from wine bottles and other household bottles that may be sealed with corks.

Service gear – Service gear is based on fork and spoon. Handling food using a service gear is the most important skill because it affects our way of serving clean food to guest.

Cruet sets – Typically these include salt and pepper shakers, and often cruets or bottles of vinegar and olive oil. The stand and containers form a cruet set.

Example of Cutlery

- **Glassware –** Glassware refers to glass items used as tableware, (dishes, cutlery, flatware), and drinkware used to set a table for eating a meal. There is a wide variety of glassware of different sizes and shapes, each one serving a different beverage or drink.

Champagne/flute glass, high ball glass, red wine goblets, and white wine goblets are different types of glassware used on board a flight for serving the passengers. Ice–creams, and sorbets are served in glass bowls.

Example of Glassware

- **Silverware –** The objects in silverware are made of Electro Plated Nickel Silver (EPNS). These are made from an alloy of brass, zinc, stainless steel or nickel with silver plating of 10 to 15 microns. Silverware includes spoons, forks, knives, hollowware, drinkware, tongs, ice bucket, and a salver.

Economy meal is mostly served on plastic or aluminium foil, with metal or plastic cutlery. Plastic or paper glasses are used for drinks. Paper napkins are offered.

❑ **Check Your Progress – 5 :**

1. Service ware and silverware are the same.

   (a) Yes (b) No (c) Maybe

2. Economy class and First class use different crockery and cutlery.

   (a) Maybe (b) No (c) Yes

2.7 WASTE MANAGEMENT :

2.7.1 Airline Waste Management :

Airline passengers alone generated 5.7 million tons of waste globally in 2016, most of which went to landfills or the incinerator, according to the International Air Transport Association, an industry trade group of some 290 airlines. By 2030, this number is expected to nearly double to an annual 10 million tons.

IN A SINGLE YEAR, AIRLINES TOSS 9,000 TONS OF PLASTIC AND ENOUGH ALUMINUM CANS TO BUILD 58 NEW BOEING 747's.

Airlines are switching to recyclable or compostable service ware, and recyclable paper cups in the hope of reducing waste.

An example of waste management : On an Australia's Qantas flight, from Sydney to Adelaide, Qantas replaced the 1,000–plus single–use plastic items with biodegradable alternatives made from sugarcane and crop starch. By collecting all leftover items for reuse, recycling, or composting, Qantas crew members reduced the 75 pounds of trash from a typical flight on the route, to the contents of a small plastic bag.

While waste management is by and large the responsibility of the airline, much of its success relies on the types of facilities airports provide, as well.

2.8 LET US SUM UP :

In this unit we learned about :

- Meal service on an aircraft
- Timings of meals served inside
- Meals on India based Airlines (Full service Airlines)
- Pre–order meals on India based Airlines (Low cost Airlines)
- Importance of meal codes
- Alcoholic beverages served inflight
- Non–Alcoholic beverages served inflight
- Crockery and cutlery used inflight
- Airline Waste Management

2.9 ANSWER FOR CHECK YOUR PROGRESS :

❑ **Check Your Progress 1 :**

1. (B), 2. (A)

❑ **Check Your Progress 2 :**

1. (C), 2. (A)

❑ **Check Your Progress 3 :**

1. (A), 2. (B)

❑ **Check Your Progress 4 :**

1. (A), 2. (B)

❑ **Check Your Progress 5 :**

1. (B), 2. (C)

2.10 GLOSSARY :

Word	Meaning
Appetiser	A small dish of food or a drink taken before a meal or the main course of a meal to stimulate one's appetite
Appetite	A natural desire to satisfy a need for food
Assortment	Consisting of different or various kinds
Aerated drink	Carbonated drinks or fizzy drinks are beverages that contain dissolved carbon dioxide
Beverage	Is one other than water, as tea, coffee, beer, or milk
Biodegradable	Capable of being decomposed by bacteria or other living organisms and thereby avoiding pollution
Continental breakfast	A light breakfast, typically consisting of coffee and bread rolls with butter and jam
Cocktail snack	Is an appetizer served as a first course during a meal. appetiser, appetizer, starter – food or drink to stimulate the appetite (usually served before a meal or as the first course)
Complementary	To combine in such a way as to enhance or emphasize the qualities of each other, or another
Combo meal	A combination meal, often referred as a combo–meal, is a type of meal that typically includes food items and a beverage
Compostable	Compostable means that a product is capable of disintegrating into natural elements in a compost environment, leaving no toxicity in the soil. This typically must occur in about 90 days
Dessert	the sweet course eaten at the end of a meal
Entree	The main course of a meal
Food accompaniment	Accompaniments are generally flavoured food and sauces offered with specific main dishes to enhance the flavour and appetite
Hors d'oeuvre	A small savoury dish, typically one served as an appetizer
Incinerator	An apparatus for burning waste material, especially industrial waste, at high temperatures until it is reduced to ash
Long haul flight	Any flight longer than seven hours is considered a "long–haul" flight. These are usually international flights
Liqueur	A strong, sweet alcoholic spirit, usually drunk after a meal
Land fills	A landfill site, also known as a tip, dump, rubbish dump, garbage dump, or dumping ground, is a site for the disposal of waste materials
Multicourse meal	A full–course dinner is a dinner consisting of multiple dishes, or courses. In its simplest form, it can consist of three or four courses; for example : first course, a main course, and dessert.

Pre–set meals	A type of menu featuring a pre–selected list of dishes at a set price
Recycle	Convert (waste) into reusable material
Stimulate	Encourage or arouse interest or enthusiasm in
Supper	An evening meal, typically a light meal
Three course meal	A full–course dinner is a dinner consisting of multiple dishes, or courses. In its simplest form, it can consist of three courses; for example : first course, a main course, and dessert
Trash	Waste material

2.11 ASSIGNMENT :

After going through the meal service, write down the different meal services provided at different flight times.

Research two low–cost airlines, and two full service/ full–fare airlines, relating to their flight timings, and meal services. Write an article comparing meal services of both the low cost–airlines, and full service airlines.

2.12 ACTIVITY :

Watch the video, and try to practise service with family members or friends, with appropriate tool available at home.

- **Cabin Crew Business Class Service training**

  https://www.youtube.com/watch?v=Yk2eHPV94L0

2.13 CASE STUDY :

- **IATA Cabin Waste Handbook**

  https://www.iata.org/contentassets/821b593dd8cd4f4aa33b63ab9e35368b/iata–cabin–waste–handbook––final–resized.pdf

- **Analysing Factors Impacting Students' Choice between Low–Cost and Full–Fare Airlines**

  https://core.ac.uk/download/pdf/225886039.pdf

- **Case study : Flight catering**

  Link for complete case study – https://www.hoteliermiddleeast.com/22825–case–study–flight–catering

Qantas' new Economy Class menu was launched in November 2014; we investigate

Qantas launched a new Economy Class menu in November 2014, with 50% larger servings and better quality food. Devina Divecha finds out what has changed and how the airline is catering for its 5 million Economy passengers every year. In November 2014, Australian airline Qantas launched its new Economy Class menu. Not only does the menu now feature larger servings, new in–flight services have also been implemented to speed up delivery and clearing of food.

Qantas head of customer experience Kylie Morris confirms the airline had been reviewing the Economy dining proposition for 12 months prior to launch.

She says : "We found, particularly when we looked across all airlines in the market, that everyone was doing the same thing. At Qantas, we want to be pioneering in what we offer.

"So we came up with a programme that would reinvent our total Economy experience, not just from a food perspective, but from a service perspective." She continues : "We've been able to increase the size of our customers' meals by 50% as well as, at the same time, increasing the amount of service interactions with our cabin crew and reducing the amount of service time. This means you are left with your finished meal in front of you for a lot less [time], and it also means the carts are out of the aisle much, much faster – around 30 minutes faster than previous timing."

The launch of the new menu occurred in November 2014, and by March 1, 2015, Qantas plans to have a complete global roll–out of the experience. Morris says : "We've got a really expedited roll–out and that means our customers will be able to get access to these amazing meals a lot faster."

❖ **Preparation :**

To begin with, the team invested heavily in customer research. Morris reveals some very specific findings came to light about key menu design items customers were looking for.

"They're after always a comfort choice, things that feel easy and comfortable, like we have a ragout or a spaghetti Bolognese, or we have a chicken pie.

"We're always going to have a healthy option. And then we've got a menu item based on your destination, so it's regionally inspired. So for example, on Dubai [routes], we're offering tahini barramundi with preserved lemon couscous and chickpeas," she notes.

Catering on a large scale involves layers of complexity already, without adding challenges no doubt faced mid–flight. Not only does the staff have to deal with a large number of customers, there are space concerns that need to be considered as well.

Morris agrees, and explains further : "There is always a lot of complexity when we're dealing with an airline. We have to think around, 'how do we cater for 300 economy customers in a really small kitchen space ?'"

She says points to be noted include the meal size, tray dimensions, and ensuring all the food can be fit into the ovens and carts.

Morris says : "Everything that we have designed has limitations and challenges. That's why we worked really hard with our chefs and all of our global caterers, as well as our cabin crew, to find that optimal solution that would mean we actually could hit all of our aspirations – which were increasing the quality and size of our food, at the same time, not increasing the cost.

"We were really focused to make sure any investment that we have goes directly to our customers' dining experience." Qantas chairman Alan Joyce also said at the new menu launch that the catering team at QCatering has streamlined the organisation's backend processes allowing it to invest 40% more into the meals.

When it came to the regular challenges faced in–flight, from a food perspective, the team has to ensure sensitive items such as meat and proteins are thought about carefully – they need to stay moist, rather than dry out.

There is also the size aspect. Morris laughs, and says : "Think about it : it's like we're catering for a wedding on a plane. We're doing it out of a kitchen that's the size of two metres by three metres. We have to work with all these carts and galleys, and it really is such a team collaboration."

Packing of items such as salt and pepper, cutlery and serving plates needs to be planned carefully. Oven space needs to be sufficient so meals can be cooked quickly. And then there's weight. "We need to take all our packaging and our plastic with us – managing that end–to–end cycle is so important. There's so many complexities whenever you're catering for an airline, and with our team of experts, we are able to overcome these," she explains.

❖ **In Practice :**

Morris reveals more about what's new, saying : "We've introduced a welcome drink – the cabin crew will be out of their seats as soon as the seat belt sign is off and within five minutes, be out in the cabin offering the customers a welcome drink." This is the Bickford's signature welcome drink after take–off, featuring flavours exclusive to Qantas including lemon & elderflower, pink grapefruit, and pomegranate & blueberry.

Another feature, which Joyce also highlighted in his launch speech, is a new butter–infused bread roll. Morris adds : "This has been really popular with our customers, and we've removed the need to have those small butter packs handed out. Getting rid of that extra weight is just perfect and we've really delivered a quality outcome." The airline has also reduced waste on this front.

Morris continues : "And finally, as part of our offering, we've moved from two choices to three choices as a standard (four with Select on Q–Eat)."

Speaking of which, Qantas is now also offering its Select on Q–Eat service to certain routes on International Economy (previously only available on Business and Premium Economy), which provides "access to an exclusive dish".

The airline has made significant investment into finding great Australian producers and designing menus with the highest quality produce, according to Morris. In fact, Joyce said that Business and First suppliers are now also supplying the new Economy service. Qantas buys from more than 1500 Australian providers of foods, wines and beverages, including Ruby and Roy's, Weis' Frozen Foods and Bickford's.

Morris says : "For example, there's a wagyu beef main meal item, which is actually David Blackmore's – who is one of Australia's well–known beef producers. This type of produce is used in the top restaurants, not just in Australia but around the world."

When the food, size, placement of all the equipment and food in the galleys, and the carts were designed, the food and service team collaborated heavily. Previously, cabin crew were able to load approximately 30 meals into every cart. Now they load almost three times as many, which means they can deliver the service faster. Morris adds : "It means they're not retreating back to the galley, messing around with the ovens and moving meals from ovens to carts three times. They can get out and serve a majority of our customers in one go."

Morris says this is because of the way the meal has been designed – the airline tray has been removed, and instead features a serving plate.

❖ **Feedback :**

Through the programme of work, Qantas carried out six trial flights at different iterations in the cycle. Morris says : "We always do pilots of any new programme we're launching and it's really important for us in the development cycle."

The team used those trial flights to get real–time feedback from customers and from the crew as to what was working and where change was needed.

Customer satisfaction on those flights more than doubled – record highs according to its chairman Andrew Joyce.

Morris adds to this : "From the six flights that I've seen our customer feedback on already, it was phenomenal, and we're clearing cabins of an A380 with 400 customers in Economy in less than a quarter of the time that we used to."

She says : "We've also spent a significant amount of time in communicating with and training all our service teams so they understand why we're making the change, why our customers are going to love it, and what they need to do to make sure they deliver on our Qantas service promise to our customers. We've had a phenomenal, phenomenal response.

"Our cabin crew teams are so proud to offer these propositions to our customers. What we're seeing is our customers are loving the new service, as well as the new dining experience."

❖ **Some of the new features on the menu :**

– Smoky barbecue beef with roasted sweet potato, broccoli and corn

– Honey–roasted chicken farro salad and seasonal vegetables with pumpkin and sesame seeds

– Scrambled egg with chicken sausage, tomato, hash brown and baked beans

– Ruby and Roy's traditional Greek yoghurt with granola

– Self–serve and grazing options include : Weis ice–cream bars, Maltesers, Carman's muesli bites, pulled beef sliders with capsicum and tomato relish and fresh fruit

– Lindt chocolate offered with the tea and coffee service

2.14 FURTHER READING :

- **First class Breakfast Service on a Boeing 737 [] | Traveling With Tee! [] | Flight Attendant Life**

  https://www.youtube.com/watch?v=Uk3odgxInRY

- **5–STAR AIRLINE | JAPAN AIRLINES | BUSINESS CLASS | INFLIGHT MEAL AND CABIN SERVICE**

  https://www.youtube.com/watch?v=wWpdnvpIUNc

- **EXPERIENCE : The Aeroflot airplane food in Premium Economy Class**

  https://www.youtube.com/watch?v=tmDr0sOB2uI

- **Philippine Airlines PR 422 | Economy Class In–flight Meal Service**

  https://www.youtube.com/watch?v=w88TLSEKcio

Meal Service, Meal Codes, Alcoholic Service, Non–Alcoholic Service, Crockery and Cutlery, Waste Management

- **[HD] Economy Meals on Big Airlines (Emirates, Delta, United, Air Canada & More)**

  https://www.youtube.com/watch?v=Mou0V6m9eaM
- **What goes into a plane meal ? Singapore Airlines business class Book the Cook**

  https://www.youtube.com/watch?v=RCcuhB2DQ90
- **Air India – Inflight Experience – Meal service**

  http://www.airindia.in/inflight–experience.htm
- **Vistara – Inflight Dining experience**

  https://www.airvistara.com/in/en/vistara–experience/on–board/inflight–dining
- **Indigo Airline – Inflight meal on payment**

  https://www.inflightfeed.com/indigo/
- **How airplane food has changed over the decades**

  https://www.washingtonpost.com/travel/2019/10/17/golden–age–airplane–food–is–over–future–snacks–sustainability/
- **34 Things You Need To Know About In–Flight Meals**

  https://www.holidayextras.com/travel–blog/before–you–go/airline–meals.html
- **Boeing 737 GALLEY TUTORIAL! Domestic Flight (Flight Attendant Life, 2019)**

  https://www.youtube.com/watch?v=4DFl6GFf04E
- **HOW TO DO SILVER SERVICE| FULL DEMO |in Hindi**

  https://www.youtube.com/watch?v=N8ULvtu5mpA&t=104s
- **Book – Food and Beverage Service 10th Edition 2020 by John Cousins**
- **Book – Inflight Catering Management by Audrey Carol McCool**

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UNIT 03

Special Need Passengers, Terminologies, Recommended Phrases, DPNA Code, VVIP, VIP and CIP, Deportees and Prisoners

UNIT STRUCTURE

3.0 Learning Objective

3.1 Introduction

3.2 Special Need Passengers

3.2.1 Passengers Who Need Special Attention

3.2.2 Cabin Crew Training

3.3 Terminologies

3.3.1 Terminologies to Understand During Flight Booking

3.4 Recommended Phrases

3.4.1 Phrases Recommended to Address Special Need Passengers

3.4.2 Few Points to be Aware of Around Special Need Passengers

3.5 DPNA Code

3.5.1 DPNA (Disabled Passenger with Intellectual or Developmental Disability Needing Assistance)

3.6 VVIP, VIP, and CIP

3.6.1 VVIP (Very Very Important Person) and VIP (Very Important Person)

3.6.2 CIP (Commercially Important Person)

3.7 Deportees and Prisoners

3.7.1 Deportees

3.7.2 Prisoners

3.8 Let Us Sum Up

3.9 Answer for Check Your Progress

3.10 Glossary

3.11 Assignment

3.12 Activity

3.13 Case Study

3.14 Further Reading

3.0 LEARNING OBJECTIVES :

After learning this unit, you will be able to understand about :

Special Need Passengers, Terminologies, Recommended phrases, DPNA code, VVIP, VIP, and CIP, Deportees and Prisoners.

3.1 INTRODUCTION :

One of the more sensitive duties of a cabin crew is to identify and respond to the needs and expectations of passengers with special needs. This might include things as, accommodating a guide dog, taking care of unaccompanied minors travelling alone, using correct lifting techniques or providing toilet assistance, and appropriate and careful use of verbal and non–verbal communication.

3.2 SPECIAL NEED PASSENGERS :

3.2.1 Passengers Who Need Special Attention :

Passengers who identify as having special needs, will require specific attention inside the plane. They generally, board first and deplane last.

Depending on the airline, 'passengers with special needs' may include :

- Passengers with specific medical needs, such as medication or a stretcher
- Passengers with reduced mobility, including passengers with wheelchairs
- Passengers with vision or hearing impairments
- Passengers with conditions such as autism or cerebral palsy

Expectant mothers – Pregnant passengers need not notify the airlines, provided they are less than 28 weeks pregnant, and they do not have any complications. A medical certificate is required to confirm that the passenger is fit to travel between the 28th and 35th week of pregnancy. Pregnant passengers must have completed their journey by the end of the 35th week of pregnancy. Flying is not permitted from the beginning of the 36th week of pregnancy.

Disabled passengers – Disabled passengers include those who have disabilities, such as reduced mobility that is defined as any person whose mobility is permanently or temporarily reduced due to physical incapacity, intellectual deficiency, age, impaired vision or hearing, or other cause of disability. Such passengers require assistance at the airport and aircraft, when travelling.

Passengers who are mentally challenged – They may be physically fit, but are unable to look after themselves. They need an attendant to accompany them in the flight to look after them. They need individual attention during embarkation and disembarkation.

UM (Unaccompanied Minor) – A UM is a child between six and twelve years of age. They board the plane first, and deplane last. They are seated close to the cabin crew seat, as the cabin crew takes care of their safety and service, and keeps a check on them throughout the flight. Child meal, or regular meal is offered to the UM. Toys and books are offered to the UM's to keep them occupied. A girl UM is never seated next to a male passenger. UM's are brought into the aircraft and escorted out of the plane by ground staff. Documents are handled by the ground staff, and the cabin crew. On arrival at the destination, ground staff will accompany the UM through immigration and baggage collection, before handing him/her over to the appointed guardian at the arrival gate, after confirming travel documents.

Mothers carrying Infants/Lap infants – Mothers have to place their infants on their lap for take–off and landing. Mothers carrying infants on lap are not allowed to sit in emergency exit rows or the rows directly in front of or behind the exit rows. On some aircraft, there are additional rows that do not permit lap

infants. On aircrafts that has baby bassinet (baby cot) attachments, mothers are advised to book special seats with baby bassinet attachments in advance, to ensure they get a seat that has baby bassinets, on board.

Example of Baby Bassinets on an Aircraft

Due to air safety regulations, any passenger with specific needs and/ or requiring Special assistance has an injury or that needs to travel with an assistant, will not be able to occupy exit row seats.

3.2.2 Cabin Crew Training :

Cabin crew are generally trained to handle special need passengers for :

- An improved and specific level of service
- Understand the different categories of passengers with special needs and different kinds of care required
- Conduct individual pre–flight/emergency briefings on safety and general issues
- Brief other cabin crew regarding any passengers with special needs on board
- Follow and apply procedures such as Civil Aviation Regulations and Standards
- Respond appropriately to any signs of discomfort or distress.

❑ **Check Your Progress – 1 :**

1. An _____ is a special need passenger.
   (a) Unaccompanied minor
   (b) Able bodied passenger
   (c) College student
2. Cabin crew conducts individual pre–flight/emergency briefings on safety and general issues for special need passengers.
   (a) Maybe (b) False (c) True

3.3 TERMINOLOGIES :

3.3.1 Terminologies to Understand During Flight Booking :

At the time of booking, passengers will need to advise what level of assistance is required, these are :

- **MAAS (Meet and Assist) –** Requires assistance to and from the aircraft, but no wheelchair is required.
- **WCHR (Wheelchair R for ramp) –** Requires wheelchair to and from the aircraft but can walk up/down stairs and can manage in the cabin unaided.
- **WCHS (Wheelchair S for Steps) –** Wheelchair is required to and from the aircraft, would need assistance up/down stairs, but is able to make his/her own way to/from the cabin seat. A passenger aid unit (PAU) may be required to board the passenger.
- **WCHC (Wheelchair C for Cabin Seat) –** Wheelchair is required to and from aircraft and assistance would be required up/down stairs, and in the aircraft. A passenger aid unit (PAU) may be required to board the passenger. An able bodied assistant would need to accompany the passenger at all times, as the passenger is completely immobile.
- **STCR (Stretcher Passenger) –** Medical clearance is required for stretcher passengers, who have been physically or mentally compromised due to temporary or permanent disability or incapacity, have undergone surgery, hospitalisation, experienced illness or that require or depend on special services such as oxygen or use of specialised medical equipment.

Example of a Stretcher Placed Inside a Commercial Aircraft

- **OXYG (Needing Oxygen During Flight) –** They are not allowed to use their own oxygen cylinder in the aircraft. Sealed empty oxygen cylinders can be transported as checked–in luggage only and will be included within the luggage allowance. The regulator will need to be removed from the bottle and transported separately to the bottle.
- **DEAF (Deaf Passenger) –** Passengers with a hearing and or vision impediment are requested to inform about Special needs arrangements, 48 hours prior to flight departure. This will ensure that airport staff are ready for the passenger's arrival and provide everything necessary for his/her safety and convenience.
- **BLND (Blind Passenger) –** They need to specify if they are being accompanied by seeing–eye dog/service dogs. All service dogs (guide dog, assistant dog) are carried free of charge, provided the dog is travelling with the owner and the passenger is fully dependent on the animal.
- **MEDA (Medical Case) –** Medical clearance is required for medical passenger
- **LEGL (Left Leg–in Cast) –** Mobility is restricted due to leg being in plaster

- **LEGR (Right Leg–in Cast) –** Mobility is restricted due to leg being in plaster
- **LEGB (Both Legs–in Cast) –** Mobility is restricted due to leg being in plaster

❑ **Check Your Progress – 2 :**

1. LEGR stands for :

   (a) Left Leg–in cast (b) Right leg–in cast (c) Both Legs in cast

2. Passengers needing oxygen during flight are not allowed to use their own oxygen cylinder in the aircraft.

   (a) True (b) False (c) Maybe

3.4 RECOMMENDED PHRASES :

3.4.1 Phrases Recommended to Address Special Need Passengers :

While interacting with special need passengers, or anyone around them, care must be taken to use words that do not offend them, or the ones accompanying them. It is advisable to use the following affirmative phrases, and avoid the negative phrases :

Affirmative Phrases	Negative Phrases
Person with intellectual disability	Retarded, mentally defective
Person who is blind, person who is visually impaired	The blind
Person with a disability	The disabled, the handicapped
Person who is deaf, person who is hard of hearing	Suffers a hearing loss, the deaf
Person who has multiple sclerosis	Afflicted by MS
Person with cerebral palsy	CP victim
Person with epilepsy, person with seizure disorder	Epileptic
Person who uses a wheelchair	Confined or restricted to a wheelchair
Person who has muscular dystrophy	Stricken by MD
Person who is physically disabled	Crippled, lame, deformed
Person without a disability	Normal person (implies that the person with a disability isn't normal)
Unable to speak, uses synthetic speech	Dumb, mute
Seizure	Fit
Person with psychiatric disability	Crazy, Nuts

3.4.2 Few Points to be Aware of Around Special Need Passengers :

- A passenger travelling with her/his guide dog would be a passenger who is visually impaired /vision impaired, or blind.
- A passenger using sign language to communicate might be a passenger who is hard of hearing, hearing impaired, or deaf.

A passenger with epilepsy may warn you if he is about to have a seizure. (A **seizure** is a sudden, uncontrolled electrical disturbance in the brain. It can cause changes in your behaviour, movements or feelings, and in levels of consciousness).

- A passenger communicating with you via a pen and paper or speech device might be a passenger who is unable to speak, uses a synthetic speech/a speech device.
- A passenger travelling under the care of a psychiatrist might be a passenger with a psychiatric disability.

❑ **Check Your Progress – 3 :**

1. A passenger travelling with her/his guide dog would be a passenger who is hard of hearing, hearing impaired, or deaf.

   (a) Maybe (b) False (c) True

2. A person with seizure disorder is :

   (a) Epileptic (b) Unable to speak (c) Unable to see

3.5 DPNA CODE :

3.5.1 DPNA (Disabled Passenger with Intellectual or Developmental Disability Needing Assistance) :

DPNA is a Special Service Request (SSR) code. SSR codes are used in the airline industry to communicate traveller preferences or needs to airlines. They are delivered through standardised four–letter codes defined by the International Air Transport Association (IATA).

The special assistance facility offered by airlines to passengers with disability or those with reduced mobility allows passengers to book wheelchairs prior to the scheduled flight at least 24–48 hours prior to departure.

Also, children with intellectual disabilities like those on the autism spectrum, fragile X syndrome, or Down syndrome can feel overwhelmed or uncomfortable in an unfamiliar, crowded surrounding and therefore require special care. Parents of such children can make a request for any additional support like boarding first as a family, not sitting next to babies who may cry, having the passenger's meal served first, cabin crew checking in on the passenger every couple of hours, sitting at the front of the plane so you can get off quickly, priority check–in etc.

In India, Air India, Vistara, and SpiceJet are the three airlines offering DPNA code.

However, it is NOT mandatory for the airlines to take actions as per the DPNA code.

- **(How to use DPNA code for special need children with Autism and Downs syndrome)**

  https://www.facebook.com/watch/?v=309329339754941&extid=a00lS4odn4teiRC9

- **Ground staff or CSA (Customer Service Agent)** make arrangements for wheelchairs or other transport to the departure gate for mobility impaired passengers, and process, safeguard and supervise any unaccompanied

minors (UMs) from check–in to aircraft boarding and from aircraft deplaning to release to a parent or other authorised person.

It is important to note that flight crew may substitute the word 'person' with 'passenger', while airlines might also use the terms customer, guest or traveller.

3.6 VVIP, VIP AND CIP :

3.6.1 VVIP (Very Very Important Person) and VIP (Very Important Person) :

VVIP, would be an individual like the President, Vice President, Prime Minister, Supreme Court and High Court Judges, Service Chiefs of Armed Forces, Governors of State, Chief Ministers and Cabinet Ministers.

A VIP is a person who is provided special privileges due to their high social status, influence or importance.

VVIP's and VIP's board the plane last, and deplane first. They often have extra security, at times are assigned a separate cabin crew, and are often served exclusive meals on certain flights.

In India, AAI (Airport Authorities of India) have been entrusted with the responsibility of handling VVIPs & providing VIPs with reserved lounge facilities, besides extending due courtesy and attendance by responsible staff / hostess.

3.6.2 CIP (Commercially Important Person) :

A **CIP** is referred to as a high value commercial client, someone who can enhance the image of the airline, thus helping bring in more business.

Services offered to a CIP is very similar to that of a VIP.

❑ **Check Your Progress – 4 :**

1. What is the full form of CIP ?

   (a) Commercially Important Person

   (b) Commonly Important Person

   (c) Commercially Independent Person

3.7 DEPORTEES AND PRISONERS :

3.7.1 Deportees :

A person who has been expelled, or is being expelled from a country, is a deportee.

Deportees are escorted by extra security, and are boarded first and deplaned last. The senior cabin crew handles the documentation related to the deportee.

3.7.2 Prisoners :

If a prisoner is nonviolent, they are allowed to fly on a plane escorted by a police officer. They are boarded first and made to sit on the last row of seats. They deplane after all the passengers have left the aircraft.

It is mandatory to inform the airlines in advance if any prisoners are booked on the flight.

❑ **Check Your Progress – 5 :**

1. What kind of prisoners are allowed to travel on the flight ?

   (a) All kinds (b) Nonviolent (c) Women

3.8 LET US SUM UP :

In this unit we learned about :

- Passengers who need special attention
- Cabin crew training
- Terminologies to understand during flight booking
- Phrases recommended to address special need passengers
- Few points to be aware of around special need passengers
- DPNA code
- VVIP (Very Very Important Person) and VIP (Very Important Person)
- CIP (Commercially Important Person)
- Deportees
- Prisoners

3.9 ANSWER FOR CHECK YOUR PROGRESS :

❑ **Check Your Progress 1 :**

1. (A), 2. (C)

❑ **Check Your Progress 1 :**

1. (B), 2. (A)

❑ **Check Your Progress 1 :**

1. (B), 2. (A)

❑ **Check Your Progress 1 :**

1. (A)

❑ **Check Your Progress 1 :**

1. (B)

3.10 GLOSSARY :

Word	Meaning
Able Bodied Passenger	A physically fit passenger selected by cabin crew to assist in an emergency or security situation
Affirmative phrases	An affirmative word, phrase, or sentence expresses the validity or truth of a basic assertion, while a negative form expresses its falsity
Air traffic control (ATC)	ATC is a service provided by ground–based air traffic controllers who direct aircraft on the ground and through controlled airspace. The primary purpose of ATC worldwide is safety. They also direct aircraft efficiently to minimize delays. They manage the flow of aircraft into and out of the airport airspace, guide pilots during take–off and landing, and monitor aircraft as they travel through the skies.

Autism spectrum disorder (ASD)	Autism, or autism spectrum disorder (ASD), refers to a broad range of conditions characterized by challenges with social skills, repetitive behaviours, speech and nonverbal communication
Assigned	Allocated
Cerebral Palsy	A condition marked by impaired muscle coordination (spastic paralysis) and/or other disabilities, typically caused by damage to the brain before or at birth
Compromised	Come to an understanding, made concession
Discomfort	To be uncomfortable, slightly painful
Distress	Extreme anxiety, sorrow, or pain
Disembarkation	Deplane, alight, get off
Downs syndrome	A congenital disorder arising from a chromosome defect, causing intellectual impairment and physical abnormalities including short stature and a broad facial profile
Embarkation	Getting on a plane, to get on the plane
Enhance	Intensify, increase, or further improve the quality
Epilepsy	A neurological disorder marked by sudden recurrent episodes of sensory disturbance, loss of consciousness, or convulsions, associated with abnormal electrical activity in the brain
Escorted	Accompanied someone
Expelled	Force (someone) to leave a place
Fragile X syndrome	An **X**–linked inherited disorder that is characterized especially by moderate to severe intellectual and developmental disabilities
Guide Dog	A dog that has been specially trained to help a blind person travel around safely
Hearing impairment	A person who cannot hear, or cannot hear well
High value	Precious, very important
Incapacity	Physical or mental inability to do something or to manage one's affairs
Intellectual deficiency	A disorder with childhood onset that is characterized by limitations in intellectual functions, such as reasoning and learning, and difficulty carrying out the functions of daily life
Impediment	A hindrance or obstruction in doing something
Mandatory	Required by law, compulsory
Multiple Sclerosis	A chronic, typically progressive disease involving damage to the sheaths of nerve cells in the brain and spinal cord

Muscular dystrophy	A genetic disease characterized by progressive deterioration and wasting of muscle fibres, causing difficulty in walking
Overwhelmed	have a strong emotional effect on
Passenger Aid Unit (PAU)	Require assistance at the airport
Psychiatric disability	A mental impairment that substantially limits one or more of the major life activities of an individual
Reduced mobility	the ability to move physically has been reduced, movement has been restricted due to several factors
Referred to	is defined as to have directed to someone or something
Synthetic speech	Speech that is produced by an electronic synthesizer activated by a keyboard, enabling individuals who are incapable of speech to communicate
Sign Language	A system of communication using visual gestures and signs, as used by deaf people
Terminology	A general word for the group of specialized words or meanings relating to a particular field
Vision impairment	A decrease in the ability to see to a certain degree that causes problems not fixable by usual means, such as glasses.

3.11 ASSIGNMENT :

Research about special need passenger assistance in five different airlines. Write down your findings, and suggest some recommendations.

3.12 ACTIVITY :

Go through the case study finger spelling alphabet on page 5. Try to memorise it and practice with your family/friends.

3.13 CASE STUDY :

- **The challenges of regulations, policies and procedures relating to persons with disabilities**

  https://www.iata.org/contentassets/2b49b2da5064459c91bf9b599e84ddd5/day2–workshop–prms.pdf

- **The Ultimate Guide to Air Travel with a Disability**

  https://upgradedpoints.com/air–travel–with–a–disability/

- **The VIP experience : An untapped revenue opportunity within airports**

  Link for complete case study – https://www.internationalairportreview.com/article/89672/vip–experience–increasing–revenues/

The appeal of the airport lounge is waning, so airports must start looking at how to broaden the number of accessible revenue streams. David Ellis and Tom Hardiman from Egremont Group explain how the market is changing, with a case study from Dublin Airport.

The appeal of the airport lounge is clear from the passengers' point of view; it provides a quiet space to work, relax, get away from the hassle of the main airport terminal. Yet these areas are increasingly becoming overcrowded due to the proliferation of airline frequent flyer programmes.

While the concept of the airport lounge has evolved slightly in the past 20 years, the main innovations have focused on the look and feel rather than creating a new experience.

Savvy travellers are voting with their feet and starting to distribute their spending along the journey steps in different ways. This may mean buying a low–cost flight but upgrading the airport experience with premium parking, fast–track security and a pay–to–use lounge. It is this 'choose your own experience' that is opening up a number of new revenue streams for the airports.

❖ **The Opportunity for Airports :**

Across the world all airports generate income from non–aeronautical commercial revenue streams and this trend is now accelerating in the U.S. Traditionally, this revenue has been earned from retail, car–parking and property. Yet these traditional categories are facing their own pressures with the rise of online retail eating away at traditional duty–free retail goods revenue and the introduction of Uber and better transport links threatening car–park revenue.

Leading airports are tackling this by creating a differentiated passenger experience, especially those that aspire to become, or already are, international hubs. This is particularly evident in the investment and innovation in the food and beverage offering to the extent that it is starting to overtake retail in terms of concession rates and income in some smaller airports. However, this is just the tip of the iceberg.

❖ **Upgrading the Airport Experience :**

As a first move, airports have begun to create pay–to–use lounges. A great example of this is the 1903 lounge at Manchester Airport, recently voted the third best airport lounge in the world. Available to any traveller these lounges compliment overcrowded airline–owned lounges, offering passengers greater choice irrespective of the ticket the passenger has bought. From a commercial perspective, this model may be provided in house or through a lounge provider.

The VIP 1903 lounge at Manchester Airport

The 1903 lounge at Manchester Airport

An alternative solution is bundling various premium services : Car–parks, fast track security and lounges; offering these services as part of a membership scheme.

The biggest and most exciting trend is the complete overhaul of the passenger experience, which streamlines the whole customer journey from arrival at the airport right through to boarding the plane. Originally operated as a protocol service for government officials and VIPs, this new end–to–end experience is being commercialised and opened up for use by passengers willing to pay the extra : The re–imagined VIP Service.

❖ **What is a VIP Service and how can it Create Revenue ?**

A VIP service is a dedicated facilitation service that has a separate entrance to the airport, private terminal building which includes premium parking, private and discreet fast–track check–in and security screening plus luxury individual

lounges. The final part of the journey to the aircraft is carried out in a chauffeur driven limousine.

Interestingly, prices do vary; the most recent launch has been the Private Suite at LAX, very similar to the Heathrow proposition and priced around £3000.

A conservative estimate would be that the VIP services could generate between $10 million and $40 million revenue per year. In addition to charging passenger facilitation fees, the airport can also create further revenue or benefit–in–kind from sponsorship and placement deals.

❖ **But it's more than Revenue :**

It is clear that a VIP service improves the experience for passengers who are willing to pay and therefore generates revenue from this. However, this is not the whole story. VIP services can also support airport strategies in other ways, i.e. by acting as the key example of an airports desire to innovate and improve the overall customer experience.

The VIP service also plays a role in supporting the local economy. It can act as a key facilitation role for the business and government community. For example, one particular airport sees a VIP facility service as vital for supporting the growing film industry in the region. The VIP service can support the facilitation of people flying in for regional events, assist in the promotion of tourism, and facilitate high–profile groups such as sports teams.

❖ **Moving Forward :**

As airports get bigger and busier the VIP proposition will continue to evolve; developing a wider variety of specific products and price points to meet local demand. Some of the propositions could well be based more on ease and efficiency than the exclusivity of existing offers. More airports will consider whether a tailored VIP proposition can complement their range of premium products and passenger choices.

One word of caution, it doesn't matter how shiny the new private terminal, if it doesn't link seamlessly with the existing airport it won't work and if the passengers are not made to feel special they will quickly go elsewhere.

3.14 FURTHER READING :

- **Allergen sensitive passengers**

  https://www.iata.org/contentassets/ccbdc54681c24574bebf2db2b18197a5/allergen–sensitive–passenger.pdf

- **Special assistance for special need passengers – Emirates**

  https://www.emirates.com/in/english/before–you–fly/health/special–needs/

- **Flying with Disability – Aviation Guidelines in India**

  https://www.canefoundation.org/flying–with–disability–aviation–guidelines–in–india/

- **Special Need Passengers**

  https://www.latamtrade.com/en_uk/procom/inf

- **AN A–Z OF AVIATION DEFINITIONS**

  https://www.aircharterservice.com/about–us/news–features/blog/an–a–z–of–aviation–definitions

- **SPECIAL ASSISTANCE – SpiceJet**
  https://www.spicejet.com/specialassistance.aspx
- **Airport Guide – Facilities for your comfort at Delhi Airport**
  https://www.newdelhiairport.in/airport–guides/special–assistance–prm
- **Book – Practical Aviation Security 3rd Edition by Jeffrey Price and Jeffrey Forrest**

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BLOCK SUMMARY :

This block gives students details about Galleys, Working in the Galley, Cabin crew serving the flight deck, Airline meal, Catering of Inflight meals, Special meal, Pre–flight check for different class of travel, General duties after take–off, Duties during descent, Duties after landing, Meal service on an aircraft, Timings of meals served inside, Meals on India based Airlines (Full service Airlines), Pre–order meals on India based Airlines (Low cost Airlines), Importance of meal codes, Alcoholic beverages served inflight, Non–Alcoholic beverages served inflight, Crockery and cutlery used inflight, Airline Waste Management, Passengers who need special attention, Cabin crew training, Terminologies to understand during flight booking, Phrases recommended to address special need passengers, Few points to be aware of around special need passengers, DPNA code, VVIP (Very Very Important Person) and VIP (Very Important Person), CIP (Commercially Important Person), and Deportees and Prisoners.

The practical and easy to follow instructions are explained in multiple ways in this block : written, pictures, videos, articles, etc. This makes it simpler for students to understand and retain information for a longer period.

BLOCK ASSIGNMENT :

- **Short Answer Questions :**

  1. Which was the first airplane with a planned galley for food service ?
  2. What is the difference between alcoholic and non–alcoholic drinks ?
  3. Are complete meals cooked on the aircraft ?
  4. What is the full form of CIP ?
  5. What is the main difference between a full service and low cost airline ?

- **Long Answer Questions :**

  1. What are the duties of a galley operator ?
  2. What are the general duties for cabin crew in all three travel class ?
  3. What are the Cabin crew general services in Business class cabin ?
  4. What kind of training is given to the Cabin crew to handle Passengers with special needs ?
  5. What are the different cutlery, crockery, and glassware used in inflight meal services ?

AIR HOSTESS AND CABIN CREW MANAGEMENT

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ROLE OF SELF INSTRUCTIONAL MATERIAL IN DISTANCE LEARNING

The need to plan effective instruction is imperative for a successful distance teaching repertoire. This is due to the fact that the instructional designer, the tutor, the author (s) and the student are often separated by distance and may never meet in person. This is an increasingly common scenario in distance education instruction. As much as possible, teaching by distance should stimulate the student's intellectual involvement and contain all the necessary learning instructional activities that are capable of guiding the student through the course objectives. Therefore, the course / self-instructional material are completely equipped with everything that the syllabus prescribes.

To ensure effective instruction, a number of instructional design ideas are used and these help students to acquire knowledge, intellectual skills, motor skills and necessary attitudinal changes. In this respect, students' assessment and course evaluation are incorporated in the text.

The nature of instructional activities used in distance education self- instructional materials depends on the domain of learning that they reinforce in the text, that is, the cognitive, psychomotor and affective. These are further interpreted in the acquisition of knowledge, intellectual skills and motor skills. Students may be encouraged to gain, apply and communicate (orally or in writing) the knowledge acquired. Intellectual- skills objectives may be met by designing instructions that make use of students' prior knowledge and experiences in the discourse as the foundation on which newly acquired knowledge is built.

The provision of exercises in the form of assignments, projects and tutorial feedback is necessary. Instructional activities that teach motor skills need to be graphically demonstrated and the correct practices provided during tutorials. Instructional activities for inculcating change in attitude and behavior should create interest and demonstrate need and benefits gained by adopting the required change. Information on the adoption and procedures for practice of new attitudes may then be introduced.

Teaching and learning at a distance eliminates interactive communication cues, such as pauses, intonation and gestures, associated with the face-to-face method of teaching. This is

particularly so with the exclusive use of print media. Instructional activities built into the instructional repertoire provide this missing interaction between the student and the teacher. Therefore, the use of instructional activities to affect better distance teaching is not optional, but mandatory.

Our team of successful writers and authors has tried to reduce this.

Divide and to bring this Self Instructional Material as the best teaching and communication tool. Instructional activities are varied in order to assess the different facets of the domains of learning.

Distance education teaching repertoire involves extensive use of self- instructional materials, be they print or otherwise. These materials are designed to achieve certain pre-determined learning outcomes, namely goals and objectives that are contained in an instructional plan. Since the teaching process is affected over a distance, there is need to ensure that students actively participate in their learning by performing specific tasks that help them to understand the relevant concepts. Therefore, a set of exercises is built into the teaching repertoire in order to link what students and tutors do in the framework of the course outline. These could be in the form of students' assignments, a research project or a science practical exercise. Examples of instructional activities in distance education are too numerous to list. Instructional activities, when used in this context, help to motivate students, guide and measure students' performance (continuous assessment)

PREFACE

We have put in lots of hard work to make this book as user-friendly as possible, but we have not sacrificed quality. Experts were involved in preparing the materials. However, concepts are explained in easy language for you. We have included many tables and examples for easy understanding.

We sincerely hope this book will help you in every way you expect. All the best for your studies from our team!

AIR HOSTESS AND CABIN CREW MANAGEMENT

Contents

BLOCK 4 : PARTS OF AN AIRCRAFT, EMERGENCIES, FIRST AID, INFLIGHT SERVICES, PASSENGER TRAVEL

Unit 1 Parts of an Aircraft, Interior and Exterior Lights

Introduction, Parts of an Aircraft, Some of the Basic Parts of An Aircraft, Aircraft Exteriors, Aircraft Exterior Parts and its Functions – Wing Assembly, Aircraft Exterior Parts and its Functions – Empennage/Tail assembly, Aircraft Interiors, Different Parts of Interiors of an Aircraft, Communication System, Aircraft Communication, Communication System in an Aircraft, Lighting System, Exterior/External Lights, Internal Lights, Emergency Lights, Air Traffic Control (ATC)

Unit 2 Emergency Equipment and Emergencies Inflight, First Aid

Introduction, Emergency and Safety Equipment, List of Safety Equipment, Emergency and Safety Equipment Check Before a Flight, Emergency and Safety Equipment Check by Cabin Crew, Emergency Briefing, Briefing Passengers Before Take–off, Exit Row Seats General Briefing given to Passengers, Emergencies on Board an Aircraft, Emergency Evacuations, Decompression/ Depressurization, Uncontrolled Fire, Use of First Aid Kit and Physician's Kit in the Aeroplane, Procedure to Assess a Passenger in Distress, First Aid Kit, Physician's Kit, The Role of Cabin Crew in Aircraft Safety Procedures and Emergency Situations, Regular Safety and Security Check, Evacuation Slides, General Emergency Evacuation Guidelines for Crash Landing and Ditching, Crash Landing – Emergency Evacuation on Land, Ditching – Preparation for an Emergency Evacuation on

Water, When Cabin Crew takes Independent Decision, Bomb Threat/Scare, Terrorism, Dangerous Goods, and Hijacking, Bomb Threat/Ccare, Terrorism and Counter Terrorism, Dangerous Goods, Hijacking an Aircraft

Unit 3 **Cabin Crew Eligibility and Training, Cabin Crew Duties and Documentation, Passenger Information List, Inflight Announcements**

Introduction, Requirements for the job of a Cabin Crew, Eligibility Criteria for Cabin Crew, Essential Skills Required for a Successful Career as an Air Hostess/ Cabin Crew, How to Apply for Cabin Crew Job, Cabin Crew Training, Training for Different Emergency Situations, Duration of Training, Duties and Responsibilities of a Cabin Crew, Duties for Cabin Crew, Flight Crew on Board an Aircraft, Flight Deck Crew and Cabin Crew, Hierarchy of Flight Crew, Hierarchy of Flight Deck/Cockpit Crew, Hierarchy of Cabin Crew/ Flight Attendant, Chain of Command During an Emergency, Cabin Crew Requirement on an Aircraft, Minimum Cabin Crew Requirement on a Flight, Cabin Crew Documentation, Documentation for Domestic Airline, Documentation for International Airline, Documentation Handled by Cabin Crew on an Aircraft, General Declaration, Cabin Crew Breaks During a Flight, Cabin Crew Breaks in Flight on Very Long Flights, Cabin Crew Uniform, Importance of Cabin Crew Uniform, Inflight Announcements, Inflight Announcements by Cabin Crew, Tips for making Announcements, Announcements are made during, Passenger Information List (PIL), Passenger Information/ Manifest List

Unit 4 **Departure and Arrival Procedure for Passengers, Inflight Service Post Lockdown – Covid-19**

Introduction, Process of Air Travel for Passengers, Process of Boarding a Plane at an Airport, Once a Passenger is on the Plane, Arrival Procedure, Passenger Control Unit (PCU), Features of PCU, Passenger Service Unit (PSU), Features of PSU, COVID–19, Effects of COVID–19 Pandemic on Aviation Industry Worldwide, COVID–19 in India

Dr. Babasaheb Ambedkar Open University Ahmedabad

BBAATR–108

Air Hostess and Cabin Crew Management

BLOCK 4 : PARTS OF AN AIRCRAFT, EMERGENCIES, FIRST AID, INFLIGHT SERVICES, PASSENGER TRAVEL

UNIT 1 PARTS OF AN AIRCRAFT, INTERIOR AND EXTERIOR LIGHTS

UNIT 2 EMERGENCY EQUIPMENT AND EMERGENCIES INFLIGHT, FIRST AID

UNIT 3 CABIN CREW ELIGIBILITY AND TRAINING, CABIN CREW DUTIES AND DOCUMENTATION, PASSENGER INFORMATION LIST, INFLIGHT ANNOUNCEMENTS

UNIT 4 DEPARTURE AND ARRIVAL PROCEDURE FOR PASSENGERS, INFLIGHT SERVICE POST LOCKDOWN–COVID-19

PARTS OF AN AIRCRAFT, EMERGENCIES, FIRST AID, INFLIGHT SERVICES, PASSENGER TRAVEL

Block Introduction :

This block is to guide students, in gaining knowledge and information about the requirements of airline industry, to help in becoming a Cabin Crew with Domestic and International airlines.

In this block, the students will be given a background about Parts of an Aircraft, Aircraft Exteriors, Aircraft Interiors, Communication System, Lighting System, Emergency and Safety Equipment, Safety Equipment check before a flight, Emergency Briefing, Emergencies on board an Aircraft, Use of First Aid kit and Physician's kit in the Aeroplane, The Role of Cabin Crew in Aircraft Safety Procedures and Emergency situations, and Anti–Terrorism, Bomb threat/Scare, Dangerous Goods, and Hijacking, Cabin Crew duties and documentation, Passenger Information List, Inflight announcements, Departure and Arrival procedure for Passengers, and Airline services globally during COVID–19.

The block explains about the different parts of an aircraft both internal and external, duties carried out by the cabin crew in the cabin, duties before take–off, during a flight, before and after landing, general services in all three travel class, and services during COVID–19. By going through this block, students will understand the different emergencies that could take place while on board an aircraft, and how cabin crew handle these challenging situations.

Block Objectives :

After learning this block, you will be able to understand about :

Some of the basic parts of an aircraft, Aircraft exterior parts and its functions, Different parts of Interiors of an Aircraft, Aircraft Communication, Communication system in an aircraft, Exterior/External lights, Internal lights, Emergency lights, List of Safety equipment, Emergency and Safety check by Cabin crew, Briefing passengers before take–off, Exit row seats general briefing given to passengers, Emergency evacuation, Decompression/Depressurization, Uncontrolled fire, Process to assess a passenger in distress, First aid kit, Physician's kit, Regular Safety and Security check, Evacuation slides, General emergency evacuation guidelines for Crash landing and Ditching, Crash landing – Emergency evacuation on land, Ditching – Preparation for an emergency

evacuation on water, When Cabin crew takes independent decision, Bomb threat/ scare, Terrorism and Counter terrorism, Dangerous goods, Hijacking an Aircraft, Air Traffic Control, Eligibility criteria for Cabin crew, Essential skills required for a successful career as an Air Hostess/Cabin crew, How to apply for a Cabin crew job, Training for different emergency situations, Duration of training, Duties for Cabin crew, Flight deck crew, Cabin crew, Hierarchy of Flight deck, Hierarchy of Cabin crew, Chain of command during an emergency, Minimum Cabin crew requirement on a flight, Documentation for Domestic Airlines, Documentation for International Airlines, Documentation handled by Cabin crew on an aircraft, General Declaration, Cabin crew breaks inflight on very long flights, Importance of Cabin crew Uniform, Inflight announcements by Cabin crew, Tips for making announcements, Announcements are made during, Passenger Information List, Process of boarding a plane at the airport, Once the passenger is on the plane, Arrival procedure, Features of PCU, Features of PSU, Effects of COVID–19 pandemic on Aviation Industry worldwide, and COVID–19 in India.

Block Structure :

Unit 1 : Parts of an Aircraft, Interior and Exterior Lights

Unit 2 : Emergency Equipment and Emergencies Inflight, First Aid

Unit 3 : Cabin Crew Eligibility and Training, Cabin Crew Duties and Documentation, Passenger Information List, Inflight Announcements

Unit 4 : Departure and Arrival Procedure for Passengers, Inflight Service Post Lockdown – Covid-19

UNIT 01

Parts of an Aircraft, Interior and Exterior Lights

UNIT STRUCTURE

1.0 Learning Objectives

1.1 Introduction

1.2 Parts of an Aircraft

1.2.1 Some of the Basic Parts of An Aircraft

1.3 Aircraft Exteriors

1.3.1 Aircraft Exterior Parts and its Functions – Wing Assembly

1.3.2 Aircraft Exterior Parts and its Functions – Empennage/ Tail assembly

1.4 Aircraft Interiors

1.4.1 Different Parts of Interiors of an Aircraft

1.5 Communication System

1.5.1 Aircraft Communication

1.5.2 Communication System in an Aircraft

1.6 Lighting System

1.6.1 Exterior/External Lights

1.6.2 Internal Lights

1.6.3 Emergency Lights

1.6.4 Air Traffic Control (ATC)

1.7 Let Us Sum Up

1.8 Answer for Check Your Progress

1.9 Glossary

1.10 Assignment

1.11 Activity

1.12 Case Study

1.13 Further Reading

1.0 LEARNING OBJECTIVES :

After learning this unit, you will be able to understand about :

Parts of an Aircraft, Aircraft Exteriors, Aircraft Interiors, Communication System, and Lighting System.

1.1 INTRODUCTION :

When we look at a plane, we only see the exterior of the aircraft and may recognise a few parts of the plane, like the windshield, the wings, and the engines. When we think of the inside of a plane, most of us think of the cabin where the

passengers sit, and the cockpit where the pilots sit. There are several components, like the lighting system and communication system that make it safe for an airplane to fly, which we will try to understand more in depth, in this unit.

1.2 PARTS OF AN AIRCRAFT :

1.2.1 Some of the Basic Parts of an Aircraft :

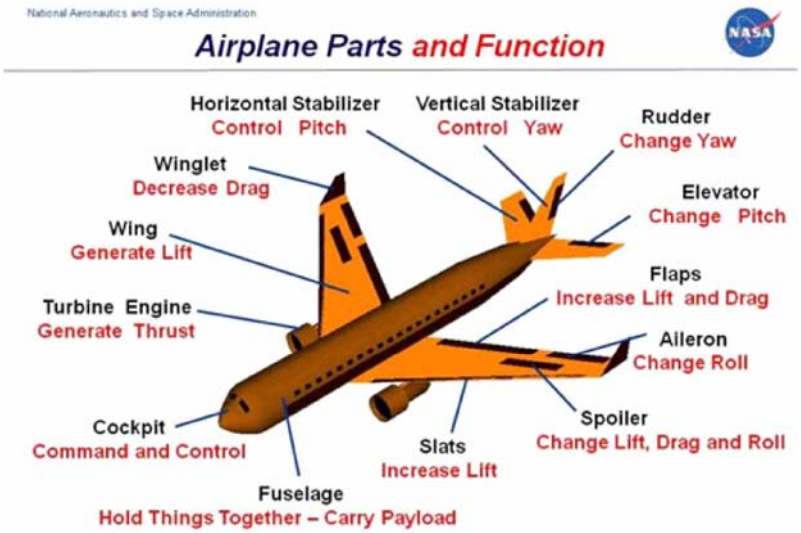
Cockpit/Flight deck : The cockpit holds the control of an airplane. Modern aircraft cockpits have a number of vital instruments for controlling the airplane, both on the ground and when flying.

Fuselage : It is a long cylindrical hollow tube, also known as the body of the airplane and is one of the major aircraft parts, which holds the passengers along with cargo. This area includes the cockpit, which is the forward part of the fuselage. Fuselage connect the major parts of an airplane together. Modern aircraft fuselage may accommodate up to 800 passengers in economy class (e.g. A380) and up to 112,700kg cargo (e.g. B747–400ER).

Power plant : The power plant of an airplane structure includes the engine and the propeller. The engine itself is a complicated system comprised of many smaller parts like cylinders, fans, and pistons. Together, these aircraft engine parts work to generate the power or thrust, to lift the aircraft off the ground.

Wings : They are also commonly known as foils, the aircraft parts that are absolutely necessary for flight. The airflow over the wings is what generates most of the lifting force necessary for flight. Along with the large wings that starts from the middle of the fuselage, the wings also include two smaller ones, at the tail. Wings generate lift, and control the airflow while flying. Wing design is a crucial factor in aviation : a wing is designed to reduce drag at the leading/forward edge, produce lift and manage airflow using the trailing/rear or aft edge. Furthermore, while gliding (i.e. without engine power), the wings allow the pilot to increase and decrease the descent rate.

Empennage : It is at the tail end of the aircraft, and is also known as the tail assembly or tail section. It helps with the stability of the plane and consists of a horizontal stabilizer, a vertical stabilizer, elevators and rudders.



Example of parts of an Aircraft and its functions (NASA)

Landing gear/Undercarriage : The undercarriage, is also known as landing gear which is retractable, provides a platform for the aircraft to stand,

as well as plays an important role in taxiing, landing and take–off. The landing gear includes shock absorbers for a smooth landing and take–off, as well. Planes commonly have three wheels in a tricycle configuration, two in the middle of the plane, and a third wheel which is at the front of the plane and is called a nose wheel.

❑ **Check Your Progress – 1 :**

1. Where would you find Rudder on an aircraft ?

   (a) Wing (b) Tail (c) Inside the aircraft

1.3 AIRCRAFT EXTERIORS :

To carry the weight of the aircraft the external parts play a very important role.

1.3.1 Aircraft exterior parts and its functions – Wing assembly :

Flaps : It is located at the back of the wing, the flaps are included to help increase the lift of the plane into the air. These flaps are fitted to trailing (aft) edge of the wing sections. These flaps extend out from the wing and increase the camber of the wings aerofoil so that it can lift at low speeds, which is vital to landing successfully. Flaps adjust the camber of the wings, increasing lift. Flaps are normally fitted at the trailing edge of the wings.

Winglets : Allows the wings to be more efficient at creating lift, thus requiring less power from the engines.

Ailerons : They are the hinged surfaces of wings that helps in controlling lateral balance. These work to move the aircraft left or right by allowing the plane to roll in the desired direction. The ailerons work asymmetrically when flying, which means when the right aileron goes up, the left one goes down. When the right goes down, the left aileron goes up. Ailerons increase or decrease lift asymmetrically, in order to change roll, thus move the aircraft left or right while flying.

Slats : They are identified as the front portion of the wing. They are adjustable so the pilot can alter the slat to the desired level during lifting off, of the entire plane. Slats are fitted at the leading edges of the wings, and deploying them increases the angle of attack of the wings, allowing the pilot to increase the lift generated by the wing.

Spoilers : They are located on the top surface of the wing and can be extended upward to reduce airflow. The whole concept of the spoiler is to intentionally spoil the air speed, reduce the lift of the plane so that it can land properly. Spoilers adjust the camber of sections of the wings, decreasing lift. Spoilers are fitted on top of the wings, and are used to reduce lift on a section of the wing in a controlled manner. Spoilers are useful for decreasing lift without increasing the airspeed of the airplane or without increasing drag significantly.

Pylons : They are placed on the wings of the aircraft between the wing and the engine. Its main job is to help stabilize the airflow behind the wing. Without pylons, the drag on the wing will reduce the aircraft's speed and overall performance.

Propeller : Most aircraft have at least one propeller to thrust the plane forward at a specific pitch, depending on the angle of the propeller blades. In

smaller aircrafts, you will see the large propeller (fan) blades on the front of the nose. For commercial crafts, these tend to be fitted into the wings of the plane.

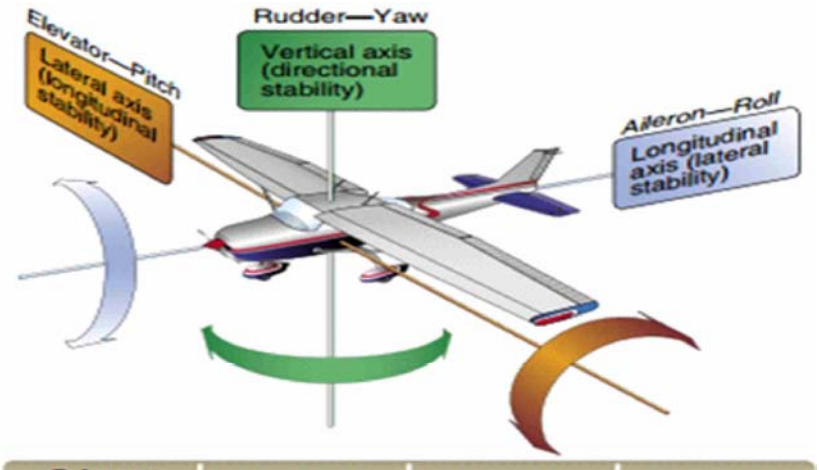
Engine/Power plant : The engines is also known as the power plant of the plane. This is the part of the plane that works to generate thrust, to lift the plane into the sky. The engine also creates hydraulic and electric power which the plane uses to operate. Engines generate thrust and provide hydraulic and electric power. Modern aircraft are employed with different types of engines, although jet engines are favoured by most commercial airliners.

Example of an Aircraft Engine and Landing gear (partial view)

1.3.2 Aircraft Exterior Parts and its Functions – Empennage/Tail assembly :

Elevator : The elevators are hinged surfaces that are fitted to the trailing edge/rear of the horizontal stabilizers, which work to control the pitch motion of the craft. These work as a symmetrical pair, when the elevators go up, the aircraft goes up. When the elevators go down, the aircraft goes down.

Rudder : It is responsible for controlling the yaw motion of the aircraft, which is the side to side movement of the nose of the craft. Rudder as a hinged section at the rear of the vertical stabilizer of the plane. When the rudder is turned to the left, the aircraft turns to the left in the horizontal plane, when the rudder is turned to the right, the aircraft turns to the right. The rudder is used to turn the aircraft left or right on the ground, as well.



Primary Control Surface	Airplane Movement	Axes of Rotation	Type of Stability
Aileron	Roll	Longitudinal	Lateral
Elevator/ Stabilator	Pitch	Lateral	Longitudinal
Rudder	Yaw	Vertical	Directional

Example of lateral, longitudinal and directional stability

Horizontal Stabilizer : There is a horizontal wing–like structure at the tail of the plane that protrudes/sticks out. These are the horizontal stabilizers which help to keep the aircraft's equilibrium and stability when flying up and down by providing a mini wing at a certain distance from the main wings (typically at the back of the aircraft). This smaller wing produces enough lift to control the pitch of the aircraft and maintain its stability. Although an aircraft without a horizontal stabiliser could fly with wings only, controlling its pitch and airspeed would be difficult, as pitch and, later on airspeed can be easily disturbed by air conditions. As soon as the aircraft pitches up, the tendency is to continue pitching up even further and decrease airspeed, and as soon as the aircraft pitches down, the tendency then is to continue pitching down even further and increase airspeed.

An aircraft with a horizontal stabiliser, however, could be flown hands free (once correctly set) without affecting its pitch and speed.

Vertical Stabilizer : On the tail section of the plane, there is a shark–like fin which is called the vertical stabilizer. This helps to prevent lateral movements of the aircraft which could easily lead to slippage, making the plane uncontrollable to handle. The vertical stabiliser prevents lateral movements of the airplane. Without a vertical stabiliser, most aircraft would lose lateral control, tend to slip, increase drag, and become uncontrollable.

❑ **Check Your Progress – 2 :**

1. What are engines also known as ?

   (a) Power plant (b) Stabiliser (c) Controls

1.4 AIRCRAFT INTERIORS :

The interior of an aircraft extends from the ceiling to the floor, as well as the walls of the cabin, and is arranged in an archway shape.

The cabin consists of several components, such as cabin, galleys, passenger seats, lavatories etc.

1.4.1 Different Parts of Interiors of an Aircraft :

Cabin : An aircraft cabin is the section of an aircraft in which passengers travel. At cruising altitudes of modern commercial aircraft, the surrounding atmosphere is too thin for passengers and crew to breathe without an oxygen mask, so cabins are pressurized at a higher pressure, to be the same as sea level.

Cockpit/Flight Deck : A cockpit or flight deck is the area, which offers visibility to the front and sides, near the front of an aircraft, from where pilots control the aircraft.

Galley : Kitchen of the aircraft is called Galley. Food and drink items are stored in the galley, to be served to the passengers. Galley usually comes with a Counter top (table), and sink with water outlets.

An aircraft Kitchen is known as the Galley, and the picture is from a Lufthansa A380

❖ **Some equipment in the picture is explained below :**

- **Food Oven :** The door with a black knob in the middle of the picture.
- **Coffee Machine :** With the pot, in the right side of the picture.
- **Large Trolleys :** Filled with food and/or drinks, on the floor. Weight about 25 kg empty.
- **Trash Bin :** The darker grey unit on the right on the floor. Wheeled off like everything else. Some have electric trash compactors, as well in trolley format.
- **Fuse Panel :** Located in the middle along the top row. There is a fair bit of power going into this area.
- **Smaller Storage Containers :** That can handle drinks or bottles, for instance.
- **General Storage Space :** The galley also provides a bit of space for anything from the children's toys and newspapers to emergency equipment. You can see some compartments for this in the upper–left corner and a symbol that a smoke hood is stored in one of them.

Lavatories : An aircraft lavatory or washroom, is a small room on an aircraft with a toilet and sink. The toilet, sink and countertop are often made of moulded plastic or stainless steel. Floor is usually of a non–slip surface.

You could also find a mirror, Waste bin, Baby nappy changing board, Smoke detector, Fire extinguisher, and Overhead compartment with oxygen mask.

- **https://www.youtube.com/watch?v=zt8ION72Myg**

(Link to Aircraft Toilet Tour (जहाज़ का टॉयलेट कैसा होता है) How to use Aircraft Toilet ?)

❖ **Cabin Doors :**

Exit Doors : The plug door (Air pressure–sealed door technology) relies on the airplane's cabin pressure to keep it shut and sealed. These doors are known as "self–sealing doors". The higher air pressure inside the cabin while the aircraft is in air, keeps the door sealed to the airplane body. This prevents accidental opening of the door.

Cabin door connecting the cabin to cockpit : Locking/unlocking mechanism is the main component of this cabin door. The locking/unlocking mechanism unlocks the cabin door in case of a pressure discrepancy between the

cockpit and the cabin. Due to security reasons, Cockpit door remains close most of the time, and requires special permission to enter, even for the cabin crew.

❖ **Cabin Windows : A cabin window consists of three panes :**

(1) An outer pane made of polycarbonate material on the outside of the fuselage.

(2) An in–between pane which has a little hole in it to remove condensation.

(3) An inner, non–structural plastic pane called a scratch pane, seen inside the cabin.

A cabin window has a shade which can be closed and opened/Pushed up and down.

Overhead bin/Storage bin : The Overhead bin or storage bin, allows passengers to store cabin baggage. The typical dimensions for a carry–on bag are 9 inches x 14 inches x 22 inches (22 cm x 35 cm x 56 cm).

Passenger seat : Airline seats have reclining mechanism for increased passenger comfort, either reclining mechanically (usually in economy class and short–haul first and business class) or electrically (usually in long–haul first class and business class). Most aircraft also feature trays for eating and reading, either in the seatback which folds down to form a small table in most economy class seats, or inside the armrest which folds out in most first class, business class, bulkhead, and exit row seats.

Passenger Control Unit (PCU) : A PCU makes it possible for passengers to manage In–flight Entertainment (IFE), delivered to them on the aircraft.

The passenger control unit generally includes a display panel, a controller, a memory, a USB interface and a user input mechanism.

Passenger Service Unit (PSU) : A PSU generally contains Reading lights, Loudspeakers, Fasten Seatbelt signs, No smoking signs, Cabin crew Call button, Air condition vents, and automatically deployable oxygen masks.

1.5 COMMUNICATION SYSTEM :

1.5.1 Aircraft Communication :

Traditional aircraft communications are based on analog voice on either a Very High Frequency (VHF) or High Frequency (HF) radio waves. Aircraft that are intended to transport passengers are equipped with radios that allows analog voice communications. Analog Communication is a data transmitting technique in a format that utilizes continuous signals to transmit data including voice, image, video, electrons etc. The standard method of communication between an air traffic controller and a pilot is voice radio, using either VHF bands for line–of–sight communication, or HF bands for long–distance communication.

1.5.2 Communication System in an Aircraft :

Service Interphone System : This system is used by the cabin crew and pilots while interacting with each other using attendant handset (phone).

Flight Interphone System : This system allows the cockpit crew to interact with each other and outside the aircraft.

Passenger Address System (PA) : The Public address or passenger address system allows cockpit and cabin crew to make announcements throughout the cabin to the passengers.

Cockpit crew can make announcements through any microphones, and it is heard through speakers located in the cabin and lavatories. Cabin crew can make announcements through PA hand held microphones located at any of the Jump seat panel. Cabin crew can also use PA system to play recorded music for passenger entertainment.

These are the PA system audio priorities :

- The cockpit crew announcements
- Cabin crew announcements
- Pre–recorded announcements
- Boarding music

Passenger Call Bell : This is a call bell situated on the PSU for Cabin crew assistance.

Lavatory Call Bell : This is a call bell in the lavatory, to be used if required, like in case you feel sick and cannot open the lavatory door. Cabin crew are trained to unlock the door from outside.

Passenger Signs : These are instructions given to the passengers, like Fasten seat Belt sign, No smoking sign.

A chime (sound) is produced when the pilot switches on the Fasten seat belt sign or the No smoking sign.

❑ **Check Your Progress – 3 :**

1. Cockpit is also known as :

   (a) Cabin deck (b) Forward deck (c) Flight deck

1.6 LIGHTING SYSTEM :

1.6.1 Exterior/External Lights :

Aircrafts are equipped with a variety of lights that are used for navigation, safety, and to improve visibility during flight or when taxiing on the ground. The external lights on aircraft fall into two general categories. The first is navigation lights or beacons that are always illuminated, while the aircraft is in operation. A second type includes, take–off and landing lights that are used to improve visibility when the plane is close to, or on the ground.

Navigation Lights : Most modern aircraft are equipped with a steady light near the leading (forward) edge of each wingtip. When facing forward from the perspective of the pilot, the light on the right (Starboard side) wingtip is green, and that on the left (Port side) wingtip is red. The different colours make it possible for an outside observer, such as the pilot of another aircraft, to determine which direction the plane is flying. These navigation lights are most useful at night when it is more difficult to tell the direction the plane is flying.

Navigation or Position Lights : In addition to the red and green lights, most planes are also fitted with other steady white navigation lights in various locations. Large aircrafts especially, will often have such lighting on the trailing (aft or rear) edge of each wingtip. These lights are also sometimes placed along the trailing edges of the horizontal tail. Another location is at the very aft end of the fuselage or at the top of the vertical tail. One of these latter lights placed along the aircraft centreline is especially common on smaller aircrafts and private

planes. Whatever the location, the purpose of these steady white lights is to improve the plane's visibility from behind the aircraft.

Anti–Collision Beacon Lights : Two beacon lights are fitted to aircraft near the center of the fuselage. One is located on top of the fuselage and the other on the bottom. These lights are coloured reddish orange and rotate to produce a flashing light effect. The beacons are turned on just before the engines are started for take–off, and they remain ON until the last engine is shut down, after landing. The beacons help to serve as a safety warning to ground personnel that the engines are still working.

Strobe Lights : These are high–intensity lights that flash a white–coloured light, and are located on each wingtip. Smaller planes mostly are only equipped with one strobe light, near the leading edge just behind the red or green navigation light. Larger aircrafts may be equipped with an additional strobe at the trailing edge as well. These flashing lights are very bright and intended to attract attention during a flight. They are sometimes also used on the runway and during taxi to make the plane more visible.

Logo Lights : These lights are not required but are common on most commercial aircraft. The lights are usually located on the surface of or at the tips of the horizontal stabilizer. The steady white lights are used to illuminate the airline's logo painted on the vertical tail. While useful for advertising, the primary purpose of these lights is safety, since the bright lights help to make the aeroplane more visible.

Wing Lights : Many airliners feature lights along the root (closer to the fuselage) of the wing leading edge that can be used to light up the wings and engine pylons in flight. These lights may be used to make the plane more visible during take–off and landing, or to inspect the wings for damage during a flight. Pilots can also use the wing lights to inspect the wings and slats for any frozen ice that might build up when flying through clouds.

Example of Exterior lights by AirlinerSpotter.com

Taxi Lights : A bright white lamp is located on the nose landing gear strut (shock absorber) of most planes. This light is turned on whenever the aircraft is in motion on the ground for greater visibility during taxi, take–off, and landing.

Landing Lights : Bright white landing lights are usually fitted to most planes for better visibility during the landing approach. These lights can also be used to illuminate the runway at poorly lit airports. They are often required for night landings but also commonly used during the day as well to make the plane more noticeable. While the usage of these lights is common, their location can vary from plane to plane. Landing lights may be located in the wing root, in the outboard wing, or somewhere along the forward fuselage. Some aircrafts are equipped with multiple sets of landing lights in more than one of these locations.

Runway Turnoff Lights : Usually located in the leading edge of the wing root (closer to the fuselage), these bright white lamps are intended to provide side and forward lighting during taxi and when turning off the runway. These lights are most useful at poorly lit airports, but are not necessary, otherwise. The lights can also be used during a flight, if greater visibility is required.

Wheel Well Lights : Some planes are equipped with additional lights in the nose and main gear wheel wells. These lights are provided primarily to assist ground personnel in making pre–flight inspections of a plane at night.

1.6.2 Internal Lights :

Commercial aircrafts have a lighting system that illuminates the main cabin, an independent reading lighting system so that passengers can read when the cabin lights are off, and an emergency lighting system on the floor of the aircraft to help passengers during an emergency.

Side Walls and Ceiling Lights : They are responsible for the illumination of the whole cabin. The LED technology used nowadays has a long lifetime and saves weight and energy.

Spot and Reading Lights : The spot and reading lights are used for individual seat preferences.

Regular Signs : These are signs like lavatory occupied, no smoking, return to seat, switch off electronic devices etc.

Cargo Compartment Light : The cargo compartment light is specially designed for challenging environmental conditions of the aircraft cargo compartment. The cargo compartment lighting is perfectly maintained and is illuminated with the required brightness levels throughout the compartment.

1.6.3 Emergency Lights :

Emergency Signs : The Emergency Signs guide the passengers in case of an emergency. Way guidance light/Floor Path Marking light, and Escape Hatch lights will illuminate the cabin in case of emergency, so that the passengers can be guided to the exits.

Example of Way guidance marking used by passengers to find their way during an emergency

Evacuation Area Light : The Evacuation Area Light illuminates the area where the escape slide will impact the ground, so the crew can see through the window of the door, if it is safe to open the door.

Emergency Power Supplies (EPSU) : The function of the EPSU is to power the emergency lights and signs, in case of emergency, in case the normal

aircraft power is lost. No aircraft power is needed in such a case, as the units are equipped with an energy storage.

1.6.4 Air Traffic Control (ATC) :

An Air Traffic Control tower (ATCT) is located at every airport that has regularly scheduled flights. Towers handle all take–off, landing, and ground traffic. On a normal day, at any given moment, Flight Radars would be tracking anywhere between 8,000 to 20,000 (or more) planes mid–flight.

Air traffic controllers are responsible for the safe, orderly, and expeditious flow of air traffic in the global air traffic control system. They are usually stationed in air traffic control centres and control towers on the ground. They monitor the position, speed, and altitude of aircraft in their assigned airspace visually and by radar, and give directions to the pilots by radio.

❑ **Check Your Progress – 4 :**

1. Logo light and Landing lights are the same.

   (a) True (b) False (c) Maybe

2. All interior and exterior lights are ON throughout the flight.

   (a) True (b) False (c) Not sure

1.7 LET US SUM UP :

In this unit we learned about :

- Some of the basic parts of an aircraft
- Aircraft exterior parts and its functions
- Different parts of Interiors of an Aircraft
- Aircraft Communication
- Communication system in an aircraft
- Exterior/External lights
- Internal lights
- Emergency lights
- Air Traffic Control (ATC)

1.8 ANSWER FOR CHECK YOUR PROGRESS :

❑ **Check Your Progress 1 :**

1. (B)

❑ **Check Your Progress 2 :**

1. (A)

❑ **Check Your Progress 3 :**

1. (C)

❑ **Check Your Progress 4 :**

1. (B), 2. (B)

1.9 GLOSSARY :

Word	Meaning
Adhesive tape	A narrow strip of glue/gum, typically used to hold or fasten something
Airspace marking	the region of the atmosphere above a plot of ground, to which the owner has rights or access
Adverse	Harmful, not favourable
Avert	Prevent, stop from happening
Alert	Quick to notice, vigilant
Airborne	Flying in the air
Camber	Camber is the asymmetry between the two acting surfaces of an aerofoil
Components	Parts
Condensation	The conversion of a vapour or gas to a liquid
Configuration	an arrangement of parts in a particular combination
Convey	Pass on (like message)
Commencement	Beginning
Course of Action	Plan of action, step by step action
Crucial	Very important
Critical	Seeing different sides before making the best possible decision
Discrepancy	Mismatch between two or more things
Fin	Is also known as the vertical tail, and is a part of an aircraft's empennage.
Features	Special qualities
Fwd	Term used in airlines for Forward/Front portion of an aircraft
Flammable	Something that can easily catch fire
Hinged	Attached or joined to something
Hydraulic power	Hydraulic systems are used on aircraft to move and operate landing gear, flaps and brakes. Hydraulics is used because they are able to transmit a very high pressure or force with a small volume of hydraulic oil.
Hazard	Danger or risk
Inflate a slide	Slides inflates with an initial boost from a canister of compressed carbon dioxide and nitrogen during an emergency evacuation
Initiate	Take lead, to be the first to start something

Jump seat	Seat used by Cabin crew in an aircraft while on duty
Jurisdiction	The extent of the power to make legal decisions and judgements.
Liaison	Communication or cooperation which facilitates a close working relationship between people or organizations.
Lateral balance	The lateral center of gravity may become important if the fuel is not loaded evenly into tanks on both sides of the aircraft wings
Lanyard	Is a piece of rope
Military installations	Army or defence base or unit
Multiple sets	More than one set
Malfunction	Fail to function normally
Pitch	Aircraft nose up or nose down
Piston	An aircraft piston engine, also commonly referred to as a reciprocating engine or "recip", is an internal combustion engine that uses one or more reciprocating pistons to convert pressure into a rotational motion.
Protrude	Sticks out, extends beyond or above a surface
Route	A way or course taken in getting from a starting point to a destination
Smoke detector	A smoke alarm or a smoke detector is a device fixed to the ceiling of a room which makes a loud noise if there is smoke in the air, to warn people.
Trap door	Is fitted in front of cockpit entrance with a sliding sheet hidden on the floor. If the pilot suspects of imminent danger, they can open the door and trap the suspect, who will fall into the security cell below
Yaw	Twist or oscillate about a vertical axis

1.10 ASSIGNMENT :

Research different aircraft types and their lighting system, both external and internal. List down for quick reference.

1.11 ACTIVITY :

Read about different parts of an aircraft, and list down the ones you can remember without looking. Then check to see how many you have got correct. Do the exercise again, till you get more and more, right.

1.12 CASE STUDY :

- **Case Study about Air India Express crash in August 2020 || क्या हुआ था Air India के साथ)**

  https://www.youtube.com/watch?v=jop2V8FJcHQ

1.13 FURTHER READING :

- **How Air Traffic Control Works**

  https://science.howstuffworks.com/transport/flight/modern/air–traffic–control.htm

- **Book – Introduction to Aircraft Design South Asia Edition (English, Paperback, Fielding John P)**

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UNIT 02

Emergency Equipment and Emergencies Inflight, First Aid

UNIT STRUCTURE

2.0 Learning Objectives

2.1 Introduction

2.2 Emergency and Safety Equipment

2.2.1 List of Safety Equipment

2.3 Emergency and Safety Equipment Check Before a Flight

2.3.1 Emergency and Safety Equipment Check by Cabin Crew

2.4 Emergency Briefing

2.4.1 Briefing Passengers Before Take–off

2.4.2 Exit Row Seats General Briefing given to Passengers

2.5 Emergencies on Board an Aircraft

2.5.1 Emergency Evacuations

2.5.2 Decompression/Depressurization

2.5.3 Uncontrolled Fire

2.6 Use of First Aid Kit and Physician's Kit in the Aeroplane

2.6.1 Procedure to Assess a Passenger in Distress

2.6.2 First Aid Kit

2.6.3 Physician's Kit

2.7 The Role of Cabin Crew in Aircraft Safety Procedures and Emergency Situations

2.7.1 Regular Safety and Security Check

2.7.2 Evacuation Slides

2.7.3 General Emergency Evacuation Guidelines for Crash Landing and Ditching

2.7.4 Crash Landing – Emergency Evacuation on Land

2.7.5 Ditching – Preparation for an Emergency Evacuation on Water

2.7.6 When Cabin Crew takes Independent Decision

2.8 Bomb Threat/Scare, Terrorism, Dangerous Goods, and Hijacking

2.8.1 Bomb Threat/Ccare

2.8.2 Terrorism and Counter Terrorism

2.8.3 Dangerous Goods

2.8.4 Hijacking an Aircraft

2.9 Let Us Sum Up

2.10 Answer for Check Your Progress

2.11 Glossary

2.12 Assignment

2.13 Activity

2.14 Case Study

2.15 Further Reading

2.0 LEARNING OBJECTIVES :

After learning this unit, you will be able to understand about :

Emergency and Safety Equipment, Emergency and Safety Equipment check before a flight, Emergency Briefing, Emergencies on board an Aircraft, Use of First Aid kit and Physician's kit in the Aeroplane, The Role of Cabin Crew in Aircraft Safety Procedures and Emergency situations, and Anti–Terrorism, Bomb threat/Scare, Dangerous Goods, and Hijacking.

2.1 INTRODUCTION :

Aviation safety is of utmost importance to the people on board, and the airlines. Cabin crew is trained in handling all kinds of emergencies that could occur on board an aircraft, as this is one of their most important responsibilities. An emergency situation that needs to be handled by a Cabin crew ranges from providing medical attention to a sick passenger, to emergency landing on land or water, to a bomb threat and hijacking.

Cabin crew have to understand how to respond to aircraft emergencies, identify flight crew instructions for planned emergency landing/ditching, explain procedures for preparing and evacuating the cabin for a planned emergency including Crash landing and Ditching, and explain to Able Bodied Passengers how to deal with an unplanned emergency. This is why the Cabin crew is trained to be always alert and vigilant.

2.2 EMERGENCY AND SAFETY EQUIPMENT :

2.2.1 List of Safety Equipment :

Asbestos Gloves : These gloves are used to protect hands from heat burns especially during firefighting. Asbestos gloves are found in the cockpit and cabin.

Crash Axe/Fire Axe : This axe is used for firefighting, and is located in the cockpit. It has an insulated handle to protect against electric shocks, especially while cutting live wires to prevent short circuits. It could also be used to break down exit doors that are blocked, especially in case of a fire related emergency.

Smoke Goggles : These are thick goggles that are located in the cockpit, to protect eyes from smoke, and help fight fire in the cockpit.

Example of Firefighting Equipment

Megaphone : It is a hand held loudspeaker that is used by cabin crew to direct passengers during emergencies. There are usually two megaphones in an aircraft, which are located at the forward/fwd (front portion of an aircraft) and aft (rear portion of an aircraft) main door stations.

Fire Extinguisher : There are three types of Fire extinguishers :

Halon Fire Extinguisher : Halon extinguishers contain liquefied gas under pressure, and are used on electrical, fuel, and grease fires and basically stops the fire. Halon can be used to put out all kinds of fire. These fire extinguishers are found throughout the aircraft, both in the cockpit and cabin.

Water Fire Extinguisher : This kind of extinguisher is used on fires which are best controlled with water by cooling the material below its ignition temperature, and soaking the material to prevent re–ignition. This can only be used in non–electrical material such as wood, coal, paper, straw, and textile.

CO2 Fire Extinguisher : They are high pressure cylinders that are primarily used to put out electrical fires.

Emergency Oxygen system : Continuous Flow System (Automatic) – During decompression, when the aircraft altitude reaches 14,000 feet, the pressure sensitive control unit senses it and allows the mask to drop down automatically from the PSU in a pressurized aircraft. Depressurization automatically triggers the deployment of oxygen ready continuous–flow masks at each passenger seat. A lanyard attached to the mask turns on the flow of oxygen to each mask when it is pulled sharply by the passenger towards them, for use. The oxygen lasts for a maximum of 12 to 15 minutes. The masks are normally stowed overhead in the passenger service unit.

❖ **Three types of Oxygen Control System :**

Manually Activated and Electrically Controlled : In case the oxygen mask fails to fall down automatically and for the oxygen to flow freely, the cockpit crew can turn it on by turning on a switch in the cockpit panel.

Manual : Alternatively, oxygen can also be provided using a manual control handle at the floor of the cabin. This operates the control units, causing the masks to drop.

Oxygen Bottles : Oxygen is given as First–Aid to passengers who suffer from severe breathlessness and need oxygen. Oxygen bottles and masks are only used under the proper supervision of the Cabin crew, or on recommendations of any doctors on board the plane. These are normally stored in the overhead compartments in certain locations, to be used only by trained personnel, and should not be used by any passengers, without permission. Typically, a 120 litre therapeutic oxygen bottle (Scott) when selected to "Hi" flow will last about 30 minutes, or "Lo" will last for 60 minutes in flight.

Personal Breathing Equipment (PBE) : The PBE is a portable, self–contained, personal smoke hood designed to safeguard cabin crew members from the effects of smoke, carbon dioxide, harmful gases and oxygen deficiency, while trying to put out a fire on board, smoke or fume emergencies. This will give up to15 minutes of oxygen flow.

Emergency Locator Transmitter (ELT) : ICAO defines an ELT as an equipment which broadcasts distinctive signals on designated frequencies. Depending on application, it may be automatically activated on impact, or it may be manually activated.

Seat Belt for Passengers : Passengers are required by federal law to wear a seat belt on some phases of all flights, like taxi, take–off and landing, or whenever necessary in the interest of safety, like during turbulence.

Extension Seat Belt : It is used with a regular seat belt for passengers who do not fit into a normal size seat belt.

Seat Belt with Harness for Cabin Crew : Safety belts with shoulder harness have a single point release. Cabin crew members must be secured by safety belts and harnesses during take–off and landing, whenever instructed by the Captain/Commander in the interest of safety, and whenever they are at their station.

Safety Barrier Strap : Is designed to prevent people from falling through the gap of the open doorway. Whenever a cabin door is open with no stairs or gateway in position, the safety strap should be installed and the door should not be left unattended.

Life Jacket : Life jacket/vest is worn when the aircraft has made an emergency landing on water, it is designed to help a wearer to keep afloat in water. They can be found underneath the seat, so that they can be taken out immediately put it over your head to wear. Life vests should be used only in an emergency.

❑ **Check Your Progress – 1 :**

1. How many types of Fire extinguishers are there ?

   (a) One (b) Two (c) Three

2.3 EMERGENCY AND SAFETY EQUIPMENT CHECK BEFORE A FLIGHT :

2.3.1 Emergency and Safety Equipment Check by Cabin Crew :

Intercommunication System Check : By making a short announcement in the cabin and responding to the call coming from the cabin manager, you know that the communication system is active.

Safety and Security Check : Besides checking the doors and the cabin equipment, galleys (kitchen of the aircraft) and lavatories/toilets (expiration date, pressure, number of these on board, intact seal, for emergency equipment), the cabin crew also checks the alarm system in case of fire or smoke, and the jump–seat. Equipment includes the megaphone, oxygen tubes, extinguisher, demo kit, smoke mask, life vest, seatbelts for children, survival kits, etc.

The Cabin Check : If seatbelts are there for all the passengers' seats, life vests and the safety instruction card, and also the closing system of the masks, and the baggage compartment.

General Check : After safety and cabin check, cabin crew starts the security process, namely checking all the spaces in the airplane where any person can have access (seat pockets, storage space port, wardrobe, toilets, storage compartments of consumables and the trash, all the galley spaces and the compartments of emergency equipment and the areas assigned for the cabin crew rest).

Any object that shouldn't be in the airplane, if found by the Cabin crew on the ground, before boarding the passengers, should be handed over to the security team of the airport.

The cabin crew who are responsible for the galley (kitchen), will check the functionality of the catering equipment (refrigerators, food carts, boilers, electric oven, heating bread, microwave), and electric switches.

- **https://www.youtube.com/watch?v=rGEGD_GYguM**

  (Link for Flight Attendant Pre–Flight Emergency equipment Checks)

2.4 EMERGENCY BRIEFING :

2.4.1 Briefing Passengers Before Take–off :

As part of their pre–flight duties, the Cabin Crew provides Safety Briefing to passengers, which include how to use oxygen masks during decompression, life jackets during ditching, and the emergency evacuation of the aircraft. This briefing not only refer passengers to their individual Safety Briefing Cards, but always include pointing out exit locations and floor path lighting, for use in poor visibility. The briefing includes the availability of evacuation slides at exits, and sometimes give instructions on how to open exits.

2.4.2 Exit Row Seats General Briefing given to Passengers :

Passengers willing to help during an emergency must be loud and clear in their speech, and are able to give instructions to other passengers, which are understood. Able bodied passengers (ABP), sit on the exit row next to over wing exits which are typically not attended to by cabin crew, and require passengers to operate them in the event of an emergency for quick evacuation. The passengers may be individually briefed on how to open these exits in the event of an emergency. If an airborne emergency occurs which may lead to an evacuation on landing, then the Cabin Crew will provide more detailed instructions.

Example of Exit row seats next to an Emergency Exit

❖ **Some of the points of briefing :**

- Follow cabin crew's instruction
- At emergency exits fitted with an Escape Slide, Keep other passengers clear of the emergency exit door until crew members or ABP's, safely open it.
- Open the emergency exit door with the directions of crew member only.
- After the Escape Slide is deployed, quickly evacuate the passengers.
- Help other passengers coming down the emergency evacuation slide and direct them to move away from the aircraft immediately.
- To move away from the aircraft after assisting others.

❑ **Check Your Progress – 2 :**

1. Who is allowed to sit on the over wing exit ?

(a) ABP (b) ABB (c) ABC

2.5 EMERGENCIES ON BOARD AN AIRCRAFT :

2.5.1 Emergency Evacuations :

❖ **Emergency evacuation can be categorized into two types :**

Planned/Anticipated Emergency : In this kind of emergency the Flight deck have prior warning and can coordinate a plan of action with the Cabin crew before landing. Sufficient time exists to brief the passengers and crew, and prepare the cabin. A planned emergency refers to a situation where the flight crew becomes aware of an issue that may threaten the rest of the flight, such as engine failure or a fire, and moves to land.

Unplanned/Unanticipated Emergency : For this kind of emergency, there is insufficient time for the Flight deck to brief the Cabin crew and passengers before landing.

❖ **Emergency Landing/Planned Landing :**

Generally, during a Planned emergency 'TEST' method is used. Flight deck gives Cabin crew the following instruction :

T – Type of emergency – On ground or water

E – Exits to be used if an evacuation is required

S – Signal to be given by flight deck – and continued by Cabin crew to passengers for BRACE (command given : heads down, hold your ankles, stay down till the aircraft stops completely or alternate brace position is : passenger's head is bowed down, with both hands over their head or placed on the front of the seat, to protect the head.) This command is given one minute before landing, to passengers to minimize physical injury due to impact, during emergency landings. Different Brace positions are advised for passengers sitting on certain seats in the aircraft.

T – Time required to prepare the cabin – This is a prioritised landing made by an aircraft due to an emergency situation which could lead to an imminent or ongoing threat to the safety and operation of the aircraft, or it could also involve a sudden and extremely important need for a passenger or crew member on board to be on land, such as a medical emergency. It is usually a forced diversion to the nearest or most suitable airport, in which priority and permission is given immediately by ATC as soon as emergency is declared.

Once the emergency is declared, and the Cabin crew has been briefed by the Captain, the Cabin crew starts to secure the cabin, brief the passengers over PA, and detailed briefing is given to ABP's. Once the aircraft has come to a complete stop, Cabin crew will lead the evacuation procedure after assessing the external conditions.

Precautionary landing (Planned landing) – This may result from a planned landing at a location about which information is limited, from changes that comes up all of a sudden during the flight, or from an emergency situation which is unavoidable. This may be as a result of problems with the aircraft, or a medical or police emergency. It is important that a pilot look for the safest place for a

safe emergency landing, to averted worsening aircraft conditions, deteriorating weather, or other factors.

Crash Landing/ Unplanned landing (on Land) – Most of the emergencies happen during take–off and landing, with no prior warning. During such situations, there is no time to check with the flight deck and plan a course of action. Cabin crew must follow emergency techniques taught to them, and use their sound judgement in such situations.

In this type of landing, the aircraft is forced to make a landing due to technical problems. Landing as soon as possible is a priority, no matter where, since a major system failure has occurred, or is about to happen. It is caused by the failure of, or damage to vital systems of the aircraft such as engines, hydraulics, or landing gear, and so a landing must be attempted where a runway is needed, but it may not be available. The pilot is essentially trying to get the aircraft on the ground in a way which reduces the possibility of injury or death to the people aboard the plane. This means that the forced landing may even occur when the aircraft is still able to fly, in order to prevent a crash or ditching situation. Normally a hard landing could take place, with some possibilities of the plane breaking up.

Example of Emergency Evacuation on land using a slide

- **Link for Pdf on Unplanned Ground Evacuation**

  https://www.cockpitseeker.com/wp–content/uploads/goodies/ac/a320/pdf/data/FLT_OPS–CAB_OPS–SEQ12.pdf

Ditching (Forced landing on water) – It is the same as a forced landing on land, except in this case, it is on water. Ditching is when you are over a body of water, and the aircraft belly lands on water. After the disabled aircraft makes contact with the surface of the water, the aircraft will most likely sink if it is not designed to float, or flip over depending on the impact, although it may float for hours, depending on the intensity of damage to the aircraft.

Once the aircraft has landed on water, and the engine has completely stopped, Cabin crew checks to see if the door is safe to open. If safe, then they will lead the evacuation with the help of ABP's, on the rafts (slide when turned over becomes a raft for evacuation on water) of the aircraft.

Example of emergency evacuation on water (Ditching)

2.5.2 Decompression/Depressurization

According to FAA (Federal Aviation Administration 2010), decompression failures happen when modern aircraft fly at altitudes which are too high to support human life. Failure of pressurization in the airplane shows various disasters according to loss of speed. The loss of pressurization may lead to physiological effects of passengers in aircrafts, from the very cold temperatures and not enough oxygen.

Example of Oxygen mask falling automatically during decompression from the PSU

❖ **Decompression is mainly of two types :**

Slow decompression – In this, a very gradual decrease in cabin pressure takes place. Slow decompression may be the result of a fault in the door seal, a malfunction in the pressurization system, or a damaged window. Slow decompression may not always be obvious and will become known only when hypoxia (lack of oxygen) is experienced.

Rapid/Explosive decompression – Signs of sudden decompression include sound of a loud bang, and fogging in the cabin as air inside and outside the plane become the same, small pieces of loose items flying around the cabin, and unsecured items in the immediate area near the point source of decompression is sucked out from the aircraft. Rapid decompression, while still fast, is slow enough to allow proper airflow in the lungs, this could quickly turn to Explosive decompression is when the descent of the aircraft due to loss of air pressure is too fast for air to safely escape from the lungs. All this could happen in less than five seconds.

Cabin crew once having worn their own oxygen mask, will direct the passengers to wear the oxygen mask which would have fallen down from the PSU, and breathe normally.

2.5.3 Uncontrolled Fire :

Of all accident threat categories in the aircraft, uncontrolled fire is one of the most significant safety threats. It can threaten the aircraft, safety of the passengers and crew during the flight operations, or after a crash. The threat is relevant to the fire and the related heat and smoke caused by the fire, mainly due to short circuit. An uncontrolled fire is normally caused by a source of ignition (for example, electrical fire), and a considerable source of fuel (for instance, airplane fuel). Galley fire, smoking on board, air–conditioning system, Engine/ Cargo/APU fire, and crash landing are some of the reasons for fire on board an aircraft. The accidents caused by uncontrolled fire prompted the legislative authorities to set up the standard of the safety requirement and policies relevant to the fire threats by FAA, in 2010.

As Cabin crew are trained in various firefighting techniques including putting out fire in total darkness, they will be able to do the needful, depending on the situation.

❑ **Check Your Progress – 3 :**

1. Decompression and Depressurization is the same.

   (a) Agree (b) Disagree (c) Not sure

2.6 USE OF FIRST AID KIT AND PHYSICIAN'S KIT IN THE AEROPLANE :

2.6.1 Procedure to Assess a Passenger in Distress :

When an in–flight medical emergency occurs, it is very difficult to find appropriate medical help. Cabin crew are trained to provide first aid and limited medical assistance, but are not qualified to deal with all potential situations. The attending Cabin crew will immediately do a preliminary assessment of the patient. If the patient is conscious, the cabin crew will use a question and answer procedure to determine why the passenger is in distress. If the passenger is not conscious, the preliminary assessment will include the **A,B,C of first aid :**

- Airway (does the patient have an open airway)
- Breathing (is the patient breathing)
- Circulation (is there a detectable heartbeat)

If the answer to any of these questions is NO, appropriate first aid techniques including artificial respiration or cardiopulmonary resuscitation (CPR), will be initiated.

For anything other than a very minor medical complaint, the Purser or In–Charge Cabin crew will normally make a PA announcement, checking if there is a doctor or any qualified medical professional (nurse, paramedic etc.) on board. If such a professional is there on board, then the medical professional will be requested to assess the passenger, and to advise the crew on the best course of action. Based on the information provided by the cabin crews, and on–board medical professional, the Captain will make the decision to either continue the flight to the planned destination, or to divert to a closer or otherwise more suitable airport for a medical emergency landing.

2.6.2 First Aid Kit :

First aid is administered by a cabin crew in case of minor injury, or an emergency. The kit generally includes, bandages, adhesive tapes, scissors, antiseptic cream, and some commonly used medicines. It is kept at a location easily accessible by cabin crew.

Most aircraft can have an Enhanced Emergency Medical Kit (EEMK), Reserve Emergency Medical Kit (REMK), and a Universal Precautions Kit (UPK). All of these kits contain basic medicines and equipment that licensed medical providers (doctors, nurses, and paramedics) could use in case of a medical emergency.

2.6.3 Physician's Kit :

A full medical kit will include adrenaline and an antihistamine (usually in injectable form), and may include parenteral corticosteroids, Defibrillator (if the heart stops beating suddenly, administering a controlled electric shock, allows to restore the normal beating of the heart), as well. Passengers with known allergies may carry an EpiPen. Some airlines now include EpiPen in their kits.

Example of some items in a First Aid Kit

- **Link for What's inside an airplane's emergency medical kit ?**

  https://thepointsguy.com/news/whats–inside–an–airplanes–emergency–medical–kit/

❑ **Check Your Progress – 4 :**

1. Cabin crew are not trained in First aid.

   (a) True (b) False (c) Maybe

2.7 THE ROLE OF CABIN CREW IN AIRCRAFT SAFETY PROCEDURES AND EMERGENCY SITUATIONS :

2.7.1 Regular Safety and Security Check :

Cabin crew must remain calm, confident, and wear an attitude of assertiveness to ensure smooth operation during any and every kind of emergencies. In case a Cabin crew is incapacitated, or not fit to perform their duties due to any physical, or medical or other conditions, the other crew members have to perform additional duties for them.

Cabin crew's standard duties are to check safety equipment, check security, making sure passengers are seated correctly (with the seat belt fastened properly), giving flight safety demonstration, indicating emergency exits, stowing hand–baggage safely, securing galleys and work positions, observing passengers reactions, on all sides of the airplane. Especially in larger aircraft with many more passengers and longer travel distances, the cabin crews' role in passenger welfare and safety is significantly crucial.

Now–a–days, air travel is accessible to all, including all age groups and all social levels. In this case, in terms of medical aspects, it is necessary for the crew members to have first aid skills, which is required for cabin crew flying both, short haul, and long haul flights.

With regards to the area of airplane emergencies, such as crash landings, ditching, aborted take–offs, decompressions and fire, and many other emergencies, the cabin crew members' training, experience and ability, plays a very crucial role for the survival of themselves and the passengers.

2.7.2 Evacuation Slides :

An evacuation slide is an inflatable device which facilitates the rapid evacuation of an aircraft. Slides are required on all passenger carrying aircraft where the door sill height (measured as the normal height above ground level) is such that able bodied passengers would be unable to jump or "step down" from the exit without a significant risk of injury. This has been interpreted in Regulatory requirements as meaning slides must be installed at all aircraft doors where the floor is 1.8 metres (6 feet) or more above the ground. Slides are also required on over wing exits when the height of the wing above the ground, with the flaps fully extended, exceeds the maximum certified distance or where an evacuation route ahead of the wing is intended. Some slides are also designed to serve as rafts when detached from the aircraft in the event of ditching (landing on water).

Cabin crew who is supervising the exits, must also secure the exit until the slide inflates, and block the exit from use in the event of a slide malfunction. They are also expected to encourage passengers using appropriate shouted commands and if need be, physical action, to facilitate exit, quickly. They have to convince passengers to leave behind personal possessions, especially items in overhead bins or under the seats. Normally, the Cabin Crew will be the last to leave their exit. However, in practice they are trained to remain on board only to the point when they believe that by staying any longer they are putting their own lives at risk. Once they are out of the aircraft, they are trained to assist in moving passengers away from the aircraft to a position where they can be safely brought together in groups.

In the case of over–wing exits, no slide is required, if the escape route utilises the flap surface, and the height from the trailing edge to the ground of the flap, is less than six feet.

90 seconds is the certified time given to evacuate full passenger capacity flight successfully, using only half the number of emergency exit slides on an aircraft, during an emergency situation.

2.7.3 General Emergency Evacuation Guidelines for Crash Landing and Ditching :

The following general emergency evacuation guidelines for passenger and crew during an emergency are valid for both evacuations on land and on water :

In a ditching situation, more than one impact should be expected.

Two kinds of exits are used during an emergency evacuation :

- **Primary exit – Floor level/Main exits**
- **Secondary – Over wing exits**

Evacuation should not be initiated until the aircraft has come to a complete stop.

The engines must be shut down completely before opening doors directly forward or aft of an engine.

Cabin crew should begin evacuation upon signal from the flight deck crew, after checking the outside conditions.

Some of the equipment that could be used during emergency evacuation are :

Megaphone is helpful to instruct passengers

Night flares are used to get attention from other ships and aircrafts

Flash light is used to show the evacuation path in the cabin, especially during heavy smoke situation

Fire Axe is used to break down any aircraft doors, if they are jammed.

Cabin crew should follow any additional instructions the flight deck crew may give.

If there is an emergency that the flight crew may not be aware of, and if time permits, the cabin crew should notify the flight deck prior to initiating an evacuation, or if there is lack of time then, information of the emergency should be conveyed simultaneously upon commencement of evacuation, whichever is most effective.

2.7.4 Crash Landing – Emergency evacuation on land :

Emergency evacuation should not be initiated until the aircraft has come to a complete stop. Cabin crew begins evacuation immediately upon signal from the flight deck crew. During an emergency situation, the cabin crew needs to react quickly, combined with in–depth information of the tools, equipment and procedures, and a capability to analyse the situation response, accordingly. They must not open the exits where the structural damage exists, or where the fire hazard might threaten the passengers. Especially in a disastrous situation, cabin crew should be able to shift themselves, when they are told by the flight deck or senior cabin crew member. Cabin crew should make sure passengers get out of the airplane as soon as possible, and assist and direct them to stay away from the airplane, and to collect as groups in safe areas.

2.7.5 Ditching – Preparation for an Emergency Evacuation on Water :

Slides are also designed to serve as rafts in the event of an aircraft landing on water.

In a planned ditching situation, the cabin, passengers and cabin crew preparation involve the same procedures as with an emergency landing, except for the following :

Passengers should be informed about the ditching procedure.

Cabin crew should demonstrate the donning of life vests, the brace positions, point out the exits, and explain the safety instruction cards.

Cabin crew should make sure that passengers have correctly worn their life vests (including infant's life vests), and they should be reminded to inflate life vests only as they leave the aircraft.

Crew member life vests are of a different colour than the passengers' life vest (e.g., bright orange). Life vests should have lights (e.g., water activated).

Example of Adult and Infant Life jacket/vest

Following are some suggested items for the crew when preparing to evacuate the aircraft following a water ditching :

Determine the water level outside, and inside the aircraft, and the rate of change in it.

Some exits may be anticipated to be unusable due to how low the aircraft position is in the water, like the rear exits.

Ensure the rafts are deployed correctly, before assisting the passengers onto the raft.

Cabin Crew should ensure that there are no extra passengers in the raft than the recommended raft capacity.

Passengers should board the raft and sit on alternate sides, to maintain balance.

Family members should be seated together in the same life raft, if possible.

Slide/Life rafts are detached by cutting the lifeline or pulling the disengage handle (follow instructions from the raft manual).

At least one crew member should be on each raft to ensure smooth operation.

Wherever possible, group the rafts together.

Keep groups together and away from the aircraft, spilled fuel and debris.

Factors Affecting Survivors after Evacuation on Water :

It is essential that in order to survive a water ditching and be rescued successfully, some basic factors must be taken into consideration. These factors are :

Protection : The most pressing action should be protection from the adverse effects of the environment (water, the chilling effect of wind on wet clothing, extreme temperature, etc.).

Location : Have all signalling equipment ready to be used for rescue purposes, and make a shelter.

Water : Take as much water as possible and plan on rationing it.

Food : Check on supplies available, if the quantity of the water supply is in question, decrease the food ration. The ratio between food and water must be equal.

Reptiles and Insects : Use techniques to protect against reptiles and insects.

Duration of Exposure : When a person suddenly comes into contact with extremely cold water, they will experience a cold shock response. Immediately, the person will hyperventilate (very fast breathing rate) and take uncontrollable, deep and fast breaths for the next one to three minutes. If a person goes underwater in this state, they could swallow water and drown. However, the cold shock response is short–lived, and the risk reduces quickly.

Water Temperature : Survivors of a ditching will not only be unprepared for the sudden exposure to low water temperatures, they are also likely to experience increased body–cooling rates due to the evaporating fuel from the aircraft wreckage. Survivors are vulnerable to hypothermia (very low body temperature) which may set in when the core body temperature drops below the minimum temperature required for normal metabolism and bodily functions at approximately 35°C.

Other Conditions : Ditching is often a high–impact event, which is likely to result in the breakage of the fuselage. Spilt fuel could possibly be ignited, leading to a post–impact fire. Even if the fire is put out by the water, the inhalation and ingestion of fuel vapours can pose severe health risks to the survivors.

- **Link for Basic Survival skills for Aviation by FAA**

  https://www.faa.gov/pilots/training/airman_education/media/CAMISurvivalManual.pdf

2.7.6 When Cabin Crew takes Independent Decision :

Evacuation is normally ordered by the Captain. However, if communication with the flight crew is not possible and the situation in the cabin is judged by the senior cabin crew member as cannot be delayed anymore, then they are trained to make the evacuation order themselves. In these circumstances, they are responsible for assessing immediate danger such as external fire or engines still running before any exit is opened.

Cabin crew should make an independent decision to initiate an evacuation when there is severe structural damage, a life–threatening situation in the cabin, or any other aircraft emergency, and there is no response from the flight deck crew. If one cabin crew initiates an evacuation, all other cabin crew should follow the procedures immediately.

When a crewmember's life is directly and imminently in danger, the cabin crewmember's personal safety should always take priority.

❑ **Check Your Progress – 5 :**

1. How long does a full aircraft evacuation take ?

   (a) 70 seconds (b) 80 seconds (c) 90 seconds

2.8 BOMB THREAT/SCARE, TERRORISM, DANGEROUS GOODS, AND HIJACKING :

2.8.1 Bomb Threat/Scare :

A bomb threat on an aircraft is one of the contingencies air traffic controllers should be prepared to manage. Although evidence shows the majority of the bomb threats are false, all received bomb warnings must be considered real and ATCs must be ready to manage such situations for the protection of human life and property.

Least Risk Bomb Location : If a specific suspect package is identified on board while airborne, the aircraft captain/commander may decide that it should be moved to the designated least risk bomb location, usually next to an external door in the Aft/rear galley area, as close to the fuselage skin as possible. Luggage and soft material may be used to cushion the suspected object, for most of the impact of the explosion to be taken by them, and to reduce the risk of passengers being harmed.

In the case of airborne bomb threats, an airline pilot, cabin crew, or passenger will report the bomb threat or scare, to the airline operating authorities. The first and best protocol would then be to divert the flight to the nearest suitable airport for an emergency landing.

Effects of explosion could include : Structural losses, ingestion of debris into the engine, large volume of debris hitting the tail of the plane, smoke or fire, or hazards to passengers, which crew would have to be prepared for.

Example of Bomb squad expert moving a suspected bomb away from the aircraft

- **Link for GUIDANCE ON HANDLING BOMB THREATS**

  https://ots.gov.ph/images/advisory/2018/NCASP–2013–OTS–AnnexP.pdf

2.8.2 Terrorism and Counter Terrorism :

Terrorism : Terrorism is the use of fear and acts of violence in order to intimidate societies, governments or against an ideology, and not so much for

monetary gains. Common definitions of terrorism refer to violent acts which are intended to create fear (terror).

Counter Terrorism : Special measures are taken by relevant international and regional organizations on the terrorist threat to international civil aviation, as well as to identify ways to strengthen and promote the implementation of international aviation–security standards and international cooperation.

Some measures (steps) to counter terrorism in the airline industry are :

- Special doors have been installed in the cockpit.
- Airports have increased vigilance, and have increased the security check points.
- Special military forces are deployed in high–risk areas at the airport.
- Immigration checks are tightened.
- Visa procedures are more stringent.

Sensitive areas/locations have been identified within the country, and aircrafts flying over these areas have to identify themselves within the airspace of that particular country, failing which the aircraft stands the risk of being shot down. Captains have to switch ON the Fasten seat belt sign when flying over these sensitive zones, so that passengers do not move around at such times. Most countries have adopted this policy of airspace marking, to counter terrorism.

2.8.3 Dangerous Goods :

Dangerous goods are items or substances that when transported by aircraft are a risk to health, safety, property and/or the environment.

These include things such as explosives, radioactive materials, flammable liquids, dangerous or volatile chemicals, strong acids, compressed gases, poisons and aerosols.

Special permission are given for the carriage of certain dangerous goods after precautions have been taken, regarding the physical handling and proper marking and labelling of the item. For example provisions exist for batteries that could leak, which have been removed from a wheelchair or mobility aid accompanying a special need passenger, to be carried as checked–in baggage.

Example of Dangerous goods NOT permitted in the aircraft

2.8.4 Hijacking an Aircraft :

Hijacking, is the unlawful takeover of an aircraft by an individual, or a group of individuals. From the earliest of hijackings, most cases involve the pilot being forced to fly according to the hijacker's demands. In some cases, hijackers have flown the aircraft themselves. Some hijacking situations use passengers or crew as hostages, for monetary ransom, or for some political or administrative concession by the government.

To prevent a hijack, Cabin crew must be alert and vigilant at all time. Passengers must report any suspicious activities to the crew immediately, who in turn will inform the airport security.

In the event of a hijack, the Cabin crew's job is to be the liaison between the hijackers and the passengers. It may include making the hijackers feel comfortable, to lower the tension, so they do not feel forced into panic decisions and actions.

It is advisable to avoid eye contact with the hijackers. Don't draw attention to yourself with sudden body movements, verbal remarks, or hostile looks. If the hijackers do single out a passenger, it is important to reply in a calm tone of voice, keep answers short and to the point, but not give unnecessary information.

❑ **Check Your Progress – 6 :**

1. Where is the least risk area to move a suspected bomb on board an aircraft ?

   (a) Near front door (b) Near aft door (c) No specific location

2.9 LET US SUM UP :

In this unit we learned about :

- List of Safety equipment
- Emergency and Safety check by Cabin crew
- Briefing passengers before take–off
- Exit row seats general briefing given to passengers
- Emergency evacuation
- Decompression/Depressurization
- Uncontrolled fire
- Process to assess a passenger in distress
- First aid kit
- Physician's kit
- Regular Safety and Security check
- Evacuation slides
- General emergency evacuation guidelines for Crash landing and Ditching
- Crash landing – Emergency evacuation on land
- Ditching – Preparation for an emergency evacuation on water
- Uncontrolled fire
- Decompression
- When Cabin crew takes independent decision
- Bomb threat/scare

- Terrorism and Counter terrorism
- Dangerous goods
- Hijacking an Aircraft

2.10 ANSWER FOR CHECK YOUR PROGRESS :

❑ **Check Your Progress 1 :**

1. (C)

❑ **Check Your Progress 2 :**

1. (A)

❑ **Check Your Progress 3 :**

1. (A)

❑ **Check Your Progress 4 :**

1. (B)

❑ **Check Your Progress 5 :**

1. (C)

❑ **Check Your Progress 6 :**

1. (B)

2.11 GLOSSARY :

Word	Meaning
Able Bodied Passenger	Physically strong and healthy
Adhesive tape	A narrow strip of glue/gum, typically used to hold or fasten something
Adrenaline	a hormone secreted a adrenal glands that increases rates of blood circulation, breathing
Airspace marking	the region of the atmosphere above a plot of ground, to which the owner has rights or access
Assessing	Analysing, interpreting
Appropriate	Suitable, proper
Adverse	Harmful, not favourable
Avert	Prevent, stop from happening
Alert	Quick to notice, vigilant
Aid	Help
Afloat	Floating in water, not sinking
Aft	The back/rear portion of an aircraft
Airborne	Flying in the air
Antihistamine	Anti–Allergy medicine

Camber	Camber is the asymmetry between the two acting surfaces of an aerofoil
Components	Parts
Condensation	The conversion of a vapour or gas to a liquid
Configuration	an arrangement of parts in a particular combination
Convey	Pass on (like message)
Commencement	Beginning
Contingencies	A possible future event that cannot be predicted with certainty whether it will happen or not
Corticosteroids	Medicines used to provide relief for inflamed areas of the body
Consumable	To be used then replaced
Course of Action	Plan of action, step by step action
Crucial	Very important
Critical	Seeing different sides before making the best possible decision
Capital crime	Crime that betrays a country
Defibrillator	Machine that gives your heart an electric shock to re–establish a normal heart rhythm. It's used in cardiac arrest.
Deploy the slide	To inflate a slide, to move into position
Discrepancy	Mismatch between two or more things
Distinctive	Unique quality
Designated	Allocated, a position given, appointed
Diversion	Moving away from the original course
Deteriorate	Become worse
Disabled	Having a physical or mental condition that restricts movement
Distress	To be in extreme pain, anxiety, or sorrow
Disrupt	Interrupt by causing disturbance
Debris	Loose scattered pieces of broken pieces of hard material.
Detectable	Able to identify/ to figure out
Disaster	A sudden event that causes a lot of damage
Divert	To turn from one direction to another
Embassy	Office of an Ambassador of another country
Epipen	A device with a needle that injects medicine for the emergency treatment of an acute allergic reaction.
Equilibrium	Balanced state of mind and body

Electric trash compactor	A machine that reduces large amount of trash to smaller size of trash/rubbish
Equipped	Have the necessary items for a particular purpose
Escape hatch	Escape door or opening used during an emergency
Essential	Necessary
Evacuate	Remove from a place of danger to a safer place
Expeditious	With speed and efficiency
Fin	Is also known as the vertical tail, and is a part of an aircraft's empennage.
Features	Special qualities
Fwd	Term used in airlines for Forward/Front portion of an aircraft
Frontline	Person working in a leading (front) position
Flip over	Overturn
Facilitate	To make things easier and smoother
Flammable	Something that can easily catch fire
Fogging	Poor quality of visibility due to dust or other material or particles floating in the air
Greasy	Oily
Gateway	An opening at the gate to allow passengers to board the plane
Genuine	Real, authentic
Hostile	Dislike or unfriendly
Hinged	Attached or joined to something
Hydraulic power	Hydraulic systems are used on aircraft to move and operate landing gear, flaps and brakes. Hydraulics is used because they are able to transmit a very high pressure or force with a small volume of hydraulic oil.
Hazard	Danger or risk
Hostage	A person seized or held as security for the fulfilment of something in return
ICAO	International Civil Aviation Organization
Inflate a slide	Slides inflates with an initial boost from a canister of compressed carbon dioxide and nitrogen during an emergency evacuation
Initiate	Take lead, to be the first to start something
Ingestion	Eating food or drinking water and swallowing it
Ideology	A system of ideas and ideals, especially one which forms the basis of economic or political theory and policy

Imperative	Extremely importance, crucial
Impact	When an object comes forcibly in contact with some other object
Imminent	About to happen, to happen very soon
Intensity	Severity, condition of being felt deeply, intense
Intimidate	Frighten someone to do things in a certain way
In–depth	To do something with great attention and detail, go into something deeply, research
Incapacitate	To be in a state of being incapable, or unfit to do something
Infrastructure	The basic physical and organizational structures and facilities (e.g. buildings, roads, power supplies) needed for the operation of a society or company
Implementation	Putting a plan into action
Jump seat	Seat used by Cabin crew in an aircraft while on duty
Jurisdiction	The extent of the power to make legal decisions and judgements.
Liaison	Communication or cooperation which facilitates a close working relationship between people or organizations.
Lateral balance	The lateral center of gravity may become important if the fuel is not loaded evenly into tanks on both sides of the aircraft wings
Lanyard	Is a piece of rope
Military installations	Army or defence base or unit
Multiple sets	More than one set
Malfunction	Fail to function normally
Monetary	Related to money
Mobility	Ability to move around freely without support or obstruction
Notify	Inform
Prior	Before time
Paramedic	A person trained to give emergency medical care to people who are seriously ill with the aim of stabilizing them before they are taken to hospital
Pitch	Aircraft nose up or nose down
Possession	Owning or controlling something
Provision	The action of providing or supplying something
Protocol	The official procedure or system of rules governing affairs of state or diplomatic occasions

Primarily	Mainly
Priority	One thing that is more important than the other
Physiological	Relating to the way in which a living organism or bodily part functions
Piston	An aircraft piston engine, also commonly referred to as a reciprocating engine or "recip", is an internal combustion engine that uses one or more reciprocating pistons to convert pressure into a rotational motion.
Protrude	Sticks out, extends beyond or above a surface
Perspective	View point
Potential	Having or showing the capacity to develop into something in the future
Route	A way or course taken in getting from a starting point to a destination
Reptile	A vertebrate animal of a class that includes snakes, lizards, crocodiles, turtles, and tortoises.
Retractable	Able to draw back or draw in
Refer	In connection to, to look at or in (something) for information
Relevant	Closely connected to, appropriate
Restricts	Put a limit to, in control
Resuscitation	To bring someone back to breathing from an unconscious state
Stability	To remain in one continuous position, firmness in position
Spillage	Liquid being spilled
Smoke detector	A smoke alarm or a smoke detector is a device fixed to the ceiling of a room which makes a loud noise if there is smoke in the air, to warn people.
Significant	Noteworthy, of great importance
Symmetrical	made up of exactly similar parts facing each other
Simultaneously	At the same time
Serene	Calm, peaceful, untroubled
Smouldering	The process of burning slowly with smoke but no flame
Stringent	Strict about following rules and regulations
Trash bin	Rubbish bin
Trap door	Is fitted in front of cockpit entrance with a sliding sheet hidden on the floor. If the pilot suspects of imminent danger, they can open the door and trap the suspect, who will fall into the security cell below

Trolley	A table on four small wheels with one or more shelves under it, used for serving food or drinks
Tray table	A tray mounted on or in a piece of furniture, designed to fold or swing out of the way for storage.
Technique	A particular, specialised way of doing something
Transport	Take or carry (people or goods) from one place to another by means of a vehicle, aircraft, or ship
Utilise	Make use of
Unique	Unlike any other, one of its kind
Unsecured	not protected or free from danger or risk of loss
Vigilant	Alert, keeping careful watch for some possible danger
Vital	Absolutely necessary, essential
Vice versa	In reverse order from the way something has been stated to the other way around
Vulnerable	A person in need of special care, support, or protection because of age, disability, or risk of abuse or neglect
Wheel well	A component of an aircraft that has a wheel as an element of the landing gear. A recessed compartment on the underside of an airplane where the wheel stays before it is used in a retractable landing gear
Yaw	Twist or oscillate about a vertical axis

2.12 ASSIGNMENT :

Research differences in door exits and emergency over wing exits. What emergency equipment are carried on different types of aircrafts. List down the differences for quick reference.

2.13 ACTIVITY :

- **Cabin Crew training shorts : First Aid – BAA Training**

  https://www.youtube.com/watch?v=ca80rct5tpY

- **A quick guide to the Heimlich manoeuvre**

  https://www.youtube.com/watch?v=2dn13zneEjo

  Watch the videos, and practice how to save someone from choking (Heimlich manoeuvre), as shown in the videos.

2.14 CASE STUDY :

- **Case study : Indian Airlines Christmas Eve hijacking**

  Link for complete case study – https://www.policeone.com/terrorism/articles/case–study–indian–airlines–christmas–eve–hijacking–VgOa5EfGfnOfjZQL/ by Ryan Holliway

On Christmas Eve 1999, Indian Airlines Flight 814 departed Kathmandu, Nepal, for Delhi carrying 178 passengers. Approximately 40 minutes after take–

off, five Pakistani militants armed with pistols, grenades, and knives hijacked the aircraft and ordered the pilot to fly to Lahore, Pakistan.

The five hijackers were members of Harkat–ul–Mujahideen (HUM), a Pakistan–based Islamic militant group that is active in Indian–controlled Kashmir. The men addressed each other using code names : Chief, Doctor, Burger, Bhola, and Shankar. To smuggle arms onboard the plane, the team exploited lax security at Kathmandu's Tribhuvan International Airport, which did not employ strict inspections of carryon luggage passing through security checkpoints.[1] Workers at the airport also failed to notice the hijackers' fraudulent Indian passports.

The flight departed Kathmandu at 1625 local time, approximately two hours behind schedule. Most of the passengers were Indian nationals returning home from holiday in Nepal. The hijackers, seated in business class, seized the cockpit after the flight passed into Indian airspace. The pilot used an emergency transponder code to signal Delhi air traffic control that the flight had been hijacked.

The hijacker using the name Chief demanded that the pilot fly west toward Pakistan. However, Lahore air traffic control denied the flight permission to land and closed Lahore airspace. The aircraft was running low on fuel and the pilot suggested that they divert to the Indian city of Amritsar in Punjab, located along the Indo–Pakistani border. The hijackers were reluctant to land in Indian territory, but they relented after the pilot assured them that the aircraft would be refuelled. The flight arrived in Amritsar at 1900 local time and landed without incident.

Shortly after the Indian government learned of the hijacking, Cabinet Secretary Prabhat Kumar activated the Crisis Management Group (CMG) to handle the situation. The CMG instructed the National Security Guards (NSG), the country's counter terrorist special operations unit, to deploy to Amritsar from their base in Delhi. The CMG told the state and local authorities at Amritsar airport to delay refuelling the aircraft for as long as possible in order to give the NSG time to reach the city.

A half hour after landing, the hijackers became increasingly agitated by the delays and suspected that the government was stalling. Chief demanded that the pilot take off immediately. The pilot pleaded with him that the aircraft did not have enough fuel. Doctor then repeatedly stabbed Rupin Katyal, a 25–year–old Indian man returning home from his honeymoon with his wife. Chief then threatened to harm more passengers and the pilot felt that he had no other choice but to try to reach Lahore.

Local authorities in Amritsar had not anticipated that the aircraft would take off without refuelling. There are differing accounts of the instructions given to Punjab state police at the airport by the CMG. The CMG claims it asked the police to immobilize the aircraft by shooting the tires, though no such attempt was made. Due to delays in loading equipment on an NSG aircraft and the late arrival of a negotiating team, the counter terrorist unit did not depart Delhi until 1955 local time; nearly six minutes after the aircraft had already left the Amritsar airport. This prevented the government from handling the crisis while the plane was still in Indian territory.

As the flight crossed into Pakistani airspace, Lahore air traffic control continued to deny it permission to land. Lahore's Allama Iqbal International Airport deactivated all navigation aids and turned off the runway lights. With little fuel remaining, the pilot attempted to land on what he thought was a runway but

was actually a highway. The pilot discontinued his approach when he realized his error, narrowly averting catastrophe.

Following the incident, Lahore air traffic control agreed to reopen the airport on the condition that no passengers would be allowed to disembark after the plane landed. The Pakistani government refused the Indian government's request to prevent the plane from taking off and to allow the Indian High Commissioner access to the airport. The aircraft, surrounded by Pakistani special operations personnel, remained on the ground in Lahore for three hours before refuelling and departing.

After leaving Lahore, the hijackers demanded that they be taken to the city of Kabul in Taliban–controlled Afghanistan. A lack of night landing equipment at the Kabul airport forced the flight to divert to the Persian Gulf. Several countries, including Oman, refused to grant permission for the aircraft to land. The United Arab Emirates (UAE) also initially denied the plane landing rights, going so far as to position buses along the runways at Dubai International Airport to block a potential landing attempt. The UAE then reversed its policy on humanitarian grounds as the aircraft came closer to the Gulf and the Indian Foreign Ministry and U.S. State Department made appeals to high–ranking members of the Saudi and Emirati royal families.

The aircraft landed at Al–Minhad Air Base outside of Dubai shortly after 0000 local time on December 25. UAE authorities demanded that women and children be released before fuel or food were provided to the hijackers. Twenty five passengers were allowed to leave the plane along with the body of Katyal, who had succumbed to his injuries. The UAE denied India's request to allow an NSG unit to travel to Dubai to storm the aircraft, which left the city approximately five hours later.

The flight finally landed in Kandahar, Afghanistan, a Taliban stronghold, at 0830 on December 25. India did not maintain diplomatic relations with the Taliban regime, forcing the Indian government to coordinate with the Afghan Embassy in Islamabad, Pakistan. Due to these delays, an Indian negotiating team did not arrive in Kandahar until December 27. The Taliban rejected India's request to send NSG forces to Kandahar. It also stated that it did not have the capability to storm the aircraft itself. The Taliban positioned tanks and rocket launchers around the aircraft to prevent a possible Entebbe–style rescue attempt by the Indians. A small NSG unit was hidden on the aircraft that carried the Indian negotiating team to Kandahar, but officials ruled out any use of force after seeing that the hijacked aircraft was surrounded by Taliban forces.

The hijackers threatened to execute passengers and blow up the aircraft. Their initial demands included US$200 million in cash, the release of 36 militants from Indian jails, and the body of Sajjad Afghani, a Kashmiri militant leader killed by Indian security forces in Jammu in June 1999. The Taliban, which repeatedly threatened to force the aircraft to leave the country, convinced the hijackers to drop their monetary demand, stating that such a request was "un–Islamic."

Conditions for the passengers on board the aircraft deteriorated as the negotiations dragged on for four more days after the Indian delegation arrived. The lavatories overflowed, food was in short supply, and the temperature in the cabin was frigid. Meanwhile, relatives of the passengers put pressure on the Indian government to resolve the crisis. Family members disrupted the telecast

of a live press conference given by External Affairs Minister Jaswant Singh and pleaded for the government to meet the hijackers' demands.

The two sides finally had a breakthrough on December 31. The Indian government agreed to release three high–value prisoners who had been involved in militant activities in Kandahar : Maulana Masood Azhar (the leader of HUM), Ahmed Omar Saeed Sheikh, and Mushtaq Ahmed Zargar. Jaswant Singh accompanied the militants on a fl ight to Kandahar. The passengers and crew of the hijacked aircraft were transferred to the minister's aircraft while the hijackers and the freed militants escaped to Pakistan, where some of them openly live today. Azhar went on to found Jaish–e–Mohammed, a terrorist organization that staged the December 2001 attack on the Indian Parliament. Saaed Sheikh is believed to have orchestrated the kidnapping and beheading of Wall Street Journal reporter Daniel Pearl in January 2002 and is suspected of financial involvement in the 9/11 attacks on the United States.

The Christmas Eve 1999 incident exposed major flaws in India's national security apparatus, some of which remain unresolved. As a result of the NSG's slow response and a lack of coordination among local, state, and national agencies, the government missed its only chance to resolve the crisis on Indian territory in Amritsar. The issue of India's emergency response capabilities resurfaced during the November 2008 attacks in Mumbai, when the NSG took more than 11 hours to reach the city after the attacks began. The slow reaction forced undertrained and ill–equipped state and local police officers to handle the critical first hours of the attack, when 10 militants took hundreds of people hostage at several locations around the city. Even after the NSG arrived, it lacked sufficient resources, such as helicopters, which prolonged the crisis and allowed the militants to paralyze a city of more than 13 million people for three days.

Five of the 10 largest cities in India – including Mumbai, Delhi, Bangalore, Hyderabad, and Ahmedabad – have been targeted in large–scale terrorist attacks since 2006. The Indian government has made some progress toward improving its readiness for future attacks. For instance, in July 2009 the NSG opened four regional bases in Mumbai, Chennai, Hyderabad, and Kolkata to pre–position resources and improve reaction time. In addition, the Home Ministry announced plans in December 2009 to create a new counter terrorism center to better coordinate information sharing among India's intelligence agencies. However, the capabilities of local and state police forces still have much room for improvement.

The terrorist threat in India has the potential to escalate tensions on the subcontinent to the brink of war. The United States was quick to increase counter terrorist cooperation with India following the Mumbai attacks in order to avert deployment of troops along both sides of the Indo–Pakistan border, which would have strained Pakistan's military resources at a time when it faced mounting insurgency in the northwest. Despite such efforts by the United States, India has remained critical of U.S. officials for their failure to consistently pressure Pakistan to crack down on militant factions.

The Indian government's decision to release the three prisoners in exchange for the passengers on Indian Airlines Flight 814 remains a controversial decision, especially in the aftermath of the Mumbai attacks. During the campaign for the April/May 2009 Lok Sahba elections, the Indian National Congress staunchly criticized the Hindu nationalist Bharatiya Janata Party (BJP) – which led the ruling coalition at the time of the hijacking–for meeting the hijackers' demands.

The Congress has vowed to pass an antihijacking law prohibiting the government from negotiating with hijackers during future incidents.

The global aviation sector remains a prime target for terrorists, as recently demonstrated by Umar Farouk Abdul Mutallab's attempted bombing of Northwest Airlines Flight 253 in December 2009. Even at Western facilities that have incurred far greater security expenses than the Kathmandu airport had in 1999, it is difficult to completely prevent terrorists from exploiting security loopholes and smuggling the chemical components for explosive devices onto aircraft. It is doubtful that India is currently capable of preventing another hijacking scenario in which terrorists use hostages to extract concessions from the government – much less prevent a bombing.

As a whole, the aviation industry has seen a decrease in terrorist hijackings with intent to ransom aircraft and passengers since 9/11. This is due, in part, to the increase in security and screening measures put into place following the 9/11 attacks. Additionally, the 2001 attacks have led passengers to demonstrate a willingness to take direct action to subdue attackers on several occasions rather than acquiesce to their demands, including on Flight 253 and during the Richard Reid "shoe bomber" attempt in 2001. This may have encouraged a shift in terrorist tactics.

Terrorists consistently search for potential attack venues that are easier to penetrate and offer the greatest likelihood for success. Mutalab and his handlers correctly assessed that screening measures along the route from Ghana to Nigeria to Amsterdam would prove insufficient to detect the components of his explosive device. The bombing attempt exposed vulnerabilities at airports in both developing and more wealthy nations. In addition, the failure of U.S. government agencies to piece together information that could have put Mutalab on a no–fly list highlights unresolved inadequacies in governmental performance that continue to challenge the United States following the 9/11 attacks.

2.15 FURTHER READING :

- **Provisions for Dangerous Goods Carried by Passengers or Crew**

  https://www.labeline.com/wp–content/uploads/2018/09/DGR–60–EN–2.3a.pdf

- **Emergency Equipment in an aircraft**

  https://xplanecrj.files.wordpress.com/2012/06/ch08.pdf

- **Flight Attendant Manual Standard**

  https://www.icao.int/safety/airnavigation/OPS/CabinSafety/Cabin%20Safety%20Library/TCCA%20TP%2012295e%20–%20Flight%20Attendant%20Manual%20Standard.pdf

- **Aircraft Oxygen Systems and Components**

  https://www.aircraftsystemstech.com/2017/05/aircraft–oxygen–systems–and–components.html

- **Flight Safety Handbook**

  https://www.flightsafety.org/files/cabin_safety_compendium.pdf

- **"Aircraft Emergency and Unusual Situations"**

  https://www.skybrary.aero/index.php/Category :Aircraft_Emergency_and_Unusual_Situations

- **EMERGENCY EVACUATION OF COMMERCIAL PASSENGER AEROPLANES**

  https://www.aerosociety.com/media/8534/emergency–evacuation–of–commercial–passenger–aeroplanes–paper.pdf

- **AVIATION TERRORISM AND ITS IMPACT ON THE AVIATION INDUSTRY**

  https://www.polsl.pl/Wydzialy/ROZ/ZN/Documents/zeszyt%20134/Wolniak%201.pdf

- **In–Flight Safety Demonstration**

  https://www.youtube.com/watch?v=YarPc3bIuZY

- **Cabin Crew training shorts : Real Fire Fighting and Smoke**

  https://www.youtube.com/watch?v=drH8–NBgfu0

- **Door Drills – Unplanned and planned Ditching and Land Evacuation – Training video**

  https://www.youtube.com/watch?v=Q9Vt1J5c5–E

- **Book – The World's Greatest Civil Aircraft : An Illustrated History by Paul E Eden**

■

UNIT 03

Cabin Crew Eligibility and Training, Cabin Crew Duties and Documentation, Passenger Information List, Inflight Announcements

UNIT STRUCTURE

3.0 Learning Objectives

3.1 Introduction

3.2 Requirements for the job of a Cabin Crew

- **3.2.1 Eligibility Criteria for Cabin Crew**
- **3.2.2 Essential Skills Required for a Successful Career as an Air Hostess/Cabin Crew**
- **3.2.3 How to Apply for Cabin Crew Job**

3.3 Cabin Crew Training

- **3.3.1 Training for Different Emergency Situations**
- **3.3.2 Duration of Training**

3.4 Duties and Responsibilities of a Cabin Crew

- **3.4.1 Duties for Cabin Crew**

3.5 Flight Crew on Board an Aircraft

- **3.5.1 Flight Deck Crew and Cabin Crew**

3.6 Hierarchy of Flight Crew

- **3.6.1 Hierarchy of Flight Deck/Cockpit Crew**
- **3.6.2 Hierarchy of Cabin Crew/Flight Attendant**
- **3.6.3 Chain of Command During an Emergency**

3.7 Cabin Crew Requirement on an Aircraft

- **3.7.1 Minimum Cabin Crew Requirement on a Flight**

3.8 Cabin Crew Documentation

- **3.8.1 Documentation for Domestic Airline**
- **3.8.2 Documentation for International Airline**
- **3.8.3 Documentation Handled by Cabin Crew on an Aircraft**
- **3.8.4 General Declaration**

3.9 Cabin Crew Breaks During a Flight

- **3.9.1 Cabin Crew Breaks in Flight on Very Long Flights**

3.10 Cabin Crew Uniform

- **3.10.1 Importance of Cabin Crew Uniform**

3.11 Inflight Announcements

3.11.1 Inflight Announcements by Cabin Crew

3.11.2 Tips for making Announcements

3.11.3 Announcements are made during

3.12 Passenger Information List (PIL)

3.12.1 Passenger Information/Manifest List

3.13 Let Us Sum Up

3.14 Answer for Check Your Progress

3.15 Glossary

3.16 Assignment

3.17 Activity

3.18 Case Study

3.19 Further Reading

3.0 LEARNING OBJECTIVES :

After learning this unit, you will be able to understand about :

Requirements for the job of a Cabin crew, Cabin crew training, Duties and Responsibilities for Cabin Crew, Flight crew on board an aircraft, Hierarchy of Flight crew, Cabin crew requirement on an aircraft, Cabin crew Documentation, Cabin crew breaks during a flight, Cabin crew uniform, Inflight Announcements, and Passenger Information List.

3.1 INTRODUCTION :

From the moment a Cabin Crew signs in for duty, until after the plane lands at the destination, there are several duties and responsibilities that they have to follow. Being alert, and always wearing a smile no matter what the situation may be, is what puts the passengers at ease, even during emergency situations, paying special attention to the passengers during boarding a flight, while the flight is in progress, and on landing. Cabin crew have to handle documentation and inflight announcements as well, besides their other regular duties.

3.2 REQUIREMENTS FOR THE JOB OF A CABIN CREW :

3.2.1 Eligibility Criteria for Cabin Crew :

❖ **Cabin Crew Requirements for Domestic (within India) Airline :**

- The applicant should have good spoken and written communication skills in English, and Hindi
- Minimum age of 18 years, and maximum age of 26 years, for both boys and girls
- Educational Qualification – most of the domestic airline hire candidates who have completed their 10+2 (H.S) examination, from any recognized Board or University
- Height of around 157 centimetres (requirement varies in different airlines), Weight proportionate to the height, as per BMI (for girls)

- Height of around 170 centimetres (requirement varies in different airlines), Weight proportionate to the height, as per BMI (for boys)
- Should be eligible for an Indian Passport
- Should be unmarried
- Acceptable Eyesight 6/6, Acceptable limit – +/– 1.5
- Clear skin
- Even teeth

❖ **Cabin Crew Requirements for International Airline :**

- At least 21 years of age at the time of joining for both girls and boys
- The height requirement is minimum arm–reach of 212 cms. (on tiptoes for female)
- Should hold a valid Passport
- Minimum height of 160 cm (girls)
- Minimum height of 170 cm (boys)
- High school graduate (Grade 12)
- Fluency in English (written and spoken), fluency in Hindi, and preference of at least one regional and/or foreign language

3.2.2 Essential skills required for a successful career as an Air Hostess/Cabin Crew :

- Sense of responsibility and Patience to work long hours
- Step by step approach towards work
- Alert mind and ready to take initiative
- Pleasing personality with a pleasant voice, and good body language
- No visible tattoos in airline uniform
- Should be comfortable with handling cash, including foreign currency
- Can adapt to new people, places, and new situations
- Physically fit for this demanding role
- Ability to work within a multi–cultural team
- Outgoing personality with excellent interpersonal skills
- Positive attitude with a good sense of humour
- Passionate about customer service
- Empathy, humility, and people skills
- Should be willing to relocate anywhere in the World
- It is an advantage to know swimming (some airlines insist on it)

3.2.3 How to Apply for Cabin Crew job :

To apply for any domestic airline there are two options :

- Walk–in Interview
- Online application

To apply for a cabin crew post, you need to visit the airline official page for vacancy details or apply online.

3.3 CABIN CREW TRAINING :

3.3.1 Training for Different Emergency Situations :

Even though some aircraft flights do not offer refreshments, the aircraft will still carry cabin crew staff, simply for the purposes of safety. They are fully trained on what to do in the event of an emergency.

Aircraft Evacuation : Cabin crew are required to initiate a controlled evacuation of the aircraft if the pilot determines that evacuation is required. How they do this will be dependent on whether the evacuation takes place on land or sea (Crash landing or Ditching).

Decompression : After aircraft cabin pressure is lost, it is vital that passengers wear oxygen mask. A thorough understanding and knowledge of working procedures of oxygen is known by every single cabin crew member.

Firefighting : There can be many different causes of fire on board an aircraft, including a fire in the ovens used by the cabin crew team. If there is a fire, the cabin crew would usually be left to deal with it, while the pilot controls the aircraft.

Passenger management : This involves the requirement to keep all passengers safe, deal with boarding and disembarking procedures, deal with passenger complaints and also deal with unruly or drunken passengers. Safety of everyone is of utmost importance at all time, especially when the aircraft is in the air.

Security related issues : This can involve a hijacking situation. If this type of situation occurs then cabin crew are expected to know how to deal with the occurrence. Full training is provided for these kinds of situations.

Extraordinary situations : There can be many different types of situations where cabin crew are required to act using common sense, and safety initiative.

First Aid : Whilst flying at 40,000 ft over the Atlantic Ocean there is no hospital or doctor to call on, unless if there is one present among the passengers. Therefore, cabin crew are trained in basic first aid skills, and they will usually be required to conduct initial first aid procedures. There is also the chance that a passenger may die whilst Inflight, or even have a lady go into labour for child birth. If these extreme situation occur then it will be the responsibility of the cabin crew to take action accordingly.

3.3.2 Duration of Training :

In order to handle emergencies in the aircraft successfully, cabin crew need to be clam, self–controlled, professional, committed, and fearless and knowledgeable about the aircraft. To achieve this, training is crucial, and after the training, the cabin crew members should perform intuitively.

In order to achieve successful result, training, instruction, the correct equipment and detailed information of the equipment are important to the crew cabin. Duration of training is generally anywhere between six to twelve weeks, depending on the airline.

Training would be on the following areas :

- First aid and Survival
- Grooming

- Safety related issues
- Security related issues
- Dangerous goods
- Fire–fighting drill
- Smoke drill
- Ditching (on water) wet drill
- Aircraft evacuation (on land) dry drill
- Emergency situations
- Survival procedures
- Decompression
- Passenger Management
- Different inflight Services
- Food and Beverage service

Test after every module – multiple choice questions and viva (practical and theory)

- **Link for CABIN CREW SAFETY TRAINING MANUAL**

  http://www.aviationchief.com/uploads/9/2/0/9/92098238/icao_doc_10002_–_cabin_crew_safety_training_manual_1.pdf

- **Link for United Airlines Airbus A320 flight attendant familiarization video**

  https://www.youtube.com/watch?v=Tk7x9XrTZZ0

Example of Cabin crew training in Ditching (emergency landing on water) (DELTA Airline)

3.4 DUTIES AND RESPONSIBILITIES OF A CABIN CREW :

3.4.1 Duties for Cabin Crew :

Cabin crew have to be professional, punctual and courteous at all times.

Alcohol test is conducted before every flight, to check if the alcohol content in your body is more than the permissible level. The test result have to be negative. This test is compulsory in India. The test may not be compulsory before every flight, in International airlines.

Attend a pre–flight briefing, during which you'll be assigned your work position for the upcoming flight. Crew are informed of flight details, the schedule, the number of infants on board, and if there are passengers with any special requirements, such as diabetic passengers or passengers in wheelchairs. Flight deck crew may also be present during these briefing.

Carry out pre–flight duties, including checking the safety equipment and doing security checks, ensuring the aircraft is clean and tidy and that information in the seat pockets is up to date and all meals, drinks and stock are on board.

Welcome passengers on board, and direct them to their seats.

Inform passengers in the aircraft about safety procedures and ensure that all hand luggage is securely stowed away.

Check all seat belts are fastened, and galleys are secure, prior to take–off.

Make announcements, and answer questions during the flight.

Serve meals and refreshments.

Sell duty–free goods (tax–free items like alcohol, perfumes, cigarettes etc.) and advise passengers of any restrictions (certain countries do not allow alcohol) at their destination.

Reassure passengers, and ensure they follow safety procedures in case of any emergency situations.

Deal with any difficult passengers (who may be acting in a rude or anti–social way) politely but firmly, to ensure the safety and comfort of everyone on the flight.

Give first aid, if and where necessary.

Ensure passengers disembark safely at the end of a flight, and check that there is no luggage left in the overhead bins/lockers and no stowaways or suspicious items are on board.

Complete paperwork, including writing a flight report.

❑ **Check Your Progress – 1 :**

1. Cabin crew duty–free goods on board a flight.

   (a) Distributes (b) Showcases (c) Sells

3.5 FLIGHT CREW ON BOARD AN AIRCRAFT :

3.5.1 Flight Deck Crew and Cabin Crew :

The total number of crew on board a flight includes the Flight deck crew and the Cabin Crew.

Flight deck or Cockpit crew consists of Captain, First Officer, and Flight Engineer (not on all flights).

Captain is the head of the aircraft.

The In–flight Supervisor, or the Cabin senior/Manager (different airlines have different designation for the senior most Cabin Crew on–board a flight), is in charge of the cabins. Supervisor reports directly to the Captain. The other Cabin Crew reports to the supervisor.

❑ **Check Your Progress – 2 :**

1. Flight crew consists of :

   (a) Flight deck crew (b) Flight deck crew and Cabin crew

   (c) Cabin crew

3.6 HIERARCHY OF FLIGHT CREW :

3.6.1 Hierarchy of Flight Deck/Cockpit Crew :

- Captain/ Commander pilot
- For bigger aircrafts, possibly another Captain
- Senior First Officer (SFO)/ Co– Pilot or First Officer
- For bigger aircrafts, possibly another SFO
- Observers/ Engineer

Example of Cockpit Flight Crew

3.6.2 Hierarchy of Cabin Crew/Flight Attendant :

- Cabin Service Director (on bigger Aircrafts/very long Haul flights)
- Purser/ Inflight Manager/ Inflight Supervisor
- Grade One crew
- Grade Two crew
- Air Hostess/ Stewards (if there is no grading)
- Trainees

(Different airlines have different designations for their cockpit crew and cabin crew. What crew are called is not uniformly followed by all the airlines. However, the general term used for crew working in the cabin of an aircraft is Cabin crew.)

3.6.3 Chain of Command During an Emergency :

Captain/Commander

Senior First Officer or First Officer/ Co pilot

Cabin Service Director/ Inflight Manager or Supervisor

Rest of the Cabin crew

❑ **Check Your Progress – 3 :**

1. Purser/ Inflight Manager/ Inflight Supervisor, are different designation for the same position, i.e. Senior most position in the cabin.

   (a) Yes (b) No (c) Not sure

3.7 CABIN CREW REQUIREMENT ON AN AIRCRAFT :

3.7.1 Minimum Cabin Crew Requirement on a Flight :

Cabin crew members play a key role with regard to passenger and operational safety. The number of cabin crew on board, and their performance, are significant factors in the successful evacuation of aircraft. Therefore, a minimum number of cabin crew members are required to effectively conduct a timely evacuation and increase the survivability of passengers during an accident, according to ICAO requirement.

Up to 50 Passenger seats – One Cabin crew

51 to 150 seats – Two Cabin crew

151 to 200 seats – Four Cabin crew

Above 200 seats – Five Cabin crew and more

(Practically, the number of Cabin Crew in a flight depends on factors like, number of Passenger seats and emergency exits on an aircraft, type of Food and Beverage service, and length of the Flight and Duty time (sometimes on very long haul flights, more than one set of crew are present). On commercial planes the practice is : one cabin crew per door of the aircraft. The smallest of commercial aircrafts have four doors, so minimum of four cabin crew would be present on any commercial plane.)

All Cabin Crew reports to their Base Manager, headed by the Head Inflight, at the base station.

❑ **Check Your Progress – 4 :**

1. Who is the head of the Aircraft ?

   (a) Cabin Supervisor (b) Captain (c) First Officer

3.8 CABIN CREW DOCUMENTATION :

3.8.1 Documentation for Domestic Airline :

- Airline Identity card
- Airport Entry pass (AEP)
- Flight Safety certificate
- Health certificate
- SEP card (Safety and Emergency Procedure)
- Passport (if required)

3.8.2 Documentation for International Airline :

- Airline Identity card
- Airport Entry pass (AEP)
- SEP card (Safety and Emergency Procedure)

- Health certificate
- Meal service booklet
- Public Address (PA) Announcement booklet
- Passport
- Crew Member certificate (valid visa)

3.8.3 Documentation Handled by Cabin Crew on an Aircraft :

- Flight report
- Galley report (food and dry store)
- Duty free item report (on international flights)
- Bar report (on international flights)
- Reports on : Unaccompanied minor, Deportee
- Report on use of First Aid kit and Physician's kit
- Report on usage of Oxygen cylinder, Fire extinguisher, and any other safety equipment

3.8.4 General Declaration :

On all international flights there will be a GD (General Declaration) which lists :

Crew names, their inbound flight and outbound flight.

This is a "guarantee" to the immigration authority that the crew members listed will leave the country on the nominated flight/date.

Example of Cabin Crew Identity Card

❑ **Check Your Progress – 5 :**

1. Documentation for Domestic and International travel are the same.

(a) True (b) False (c) Not sure

3.9 CABIN CREW BREAKS DURING A FLIGHT :

3.9.1 Cabin Crew Breaks in Flight on Very Long Flights :

On very long flights, for e.g. New York to Beijing, which is around 14 hours, cabin crew gets a four–hour break. Cabin crew does their regular service like, the beverage service, the meal service, clearing of trays, do the dessert service, clear the cabin again, and then they start taking breaks. Half of the crew go to the crew rest bunks for four hours, while the other half stay up and manage the cabin and galleys.

The bunks, which are up a very small spiral staircase in the tail of the plane, are small. You can't sit up in them, you have to lie down. The opening is on the

side and there's a curtain to separate the bunks. You have a chance to sleep or listen to music or just relax, whatever you want to do.

Example of a Cabin crew bunk bed on an aircraft

3.10 CABIN CREW UNIFORM :

3.10.1 Importance of Cabin crew Uniform :

Airline uniforms are worn on duty, mainly to be recognisable. It is important that the flight crew can be easily identified by passengers and staff, whether this be in the terminal or on–board the aircraft.

Uniforms are tailored to allow crew to move freely in the cabin, serve drinks and meals and perform multiple tasks. Uniforms is usually made from fire retardant fabric since fighting fires while wearing a full face mask is part of emergency handling on board the aircraft. The uniform must also be non–absorbent, not just for liquid spills, but also for seawater. Ditching procedure involves being in water/raft wearing a full uniform.

Example of Cabin Crew Uniform

❑ **Check Your Progress – 6 :**

1. Is it compulsory for cabin crew to wear uniform on duty ?

   (a) Yes (b) No (c) Sometimes

3.11 INFLIGHT ANNOUNCEMENTS :

Inflight announcements are made over Public Address system (PA) by both, Cockpit crew and Cabin crew.

3.11.1 Inflight Announcements by Cabin Crew :

Cabin crew makes announcements on all sectors using PA hand microphones.

Some of the reasons for announcements are to greet passengers, give them information like, time and distance covered during flight, weather conditions, and to give information regarding laws, rules and regulations at the destination, and meal services.

Announcements are also made during any emergency situation.

3.11.2 Tips for Making Announcements :

While making an announcement, you must stand upright and speak in a clear natural voice. Stress on important words to convey precise meaning.

Modulate your voice for better grasping of announcements.

Speak slowly, clearly, and politely for everyone to follow what you are saying.

Do not hold the PA too close to your mouth.

Do not use technical terms or Jargons while making announcements, keep the language simple and easy to understand.

Example of Inflight announcement using PA hand microphone

3.11.3 Announcements are Made During :

- **Boarding**
- **Door closure**
- **Safety demonstration**
- **Take–off/Ascent**
- **Turbulence**
- **Descent/Final approach to landing**
- **Landing**
- **Any emergencies**

Links for Announcements :

- **Inflight passenger announcements in English – written**

https://airodyssey.net/reference/inflight/

- **Airline Announcements – Audio and written in English**

  https://www.englishclub.com/english–for–work/airline–announcements.htm

- **Hindi announcement on bus to the aircraft for boarding of flight – Indigo**

  https://www.youtube.com/watch?v=eDh0bQVu_JY

- **Inflight announcement in Hindi and English during descent before landing – Indigo**

  https://www.youtube.com/watch?v=5dZ7UQJX3L0

❑ **Check Your Progress – 7 :**

1. Are announcements made in both English and Hindi in Domestic Airlines ?

   (a) Yes (b) No (c) Don't know

3.12 PASSENGER INFORMATION LIST (PIL) :

3.12.1 Passenger Information/Manifest List :

Passenger list provides essential information on various aspects of a flight. A flight manifest is a list of cargo, passengers, and crew of an aircraft compiled before departure based on flight check–in information. It is a confidential document, for the use of customs and other officials.

PIL used by Cabin Crew : Once all the passengers have boarded the flight, the senior cabin crew member is given a list of the names of every passenger on board, their seat number, and if they have checked in any baggage. PIL also gives information about special need passengers, VIP's, any special meal request, etc.

3.13 LET US SUM UP :

In this unit we learned about :

- Eligibility criteria for Cabin crew
- Essential skills required for a successful career as an Air Hostess/Cabin crew
- How to apply for a Cabin crew job
- Training for different emergency situations
- Duration of training
- Duties for Cabin crew
- Flight deck crew
- Cabin crew
- Hierarchy of Flight deck
- Hierarchy of Cabin crew
- Chain of command during an emergency
- Minimum Cabin crew requirement on a flight
- Documentation for Domestic Airlines
- Documentation for International Airlines

- Documentation handled by Cabin crew on an aircraft
- General Declaration
- Cabin crew breaks inflight on very long flights
- Importance of Cabin crew Uniform
- Inflight announcements by Cabin crew
- Tips for making announcements
- Announcements are made during
- Passenger Information List

3.14 ANSWER FOR CHECK YOUR PROGRESS :

❑ **Check Your Progress 1 :**

1. (C)

❑ **Check Your Progress 2 :**

1. (B)

❑ **Check Your Progress 3 :**

1. (A)

❑ **Check Your Progress 4 :**

1. (B)

❑ **Check Your Progress 5 :**

1. (B)

❑ **Check Your Progress 6 :**

1. (A)

❑ **Check Your Progress 7 :**

1. (A)

3.15 GLOSSARY :

Word	Meaning
Aerobridge/ Jet bridge	An enclosed, movable connector which extends from an airport terminal gate to an airplane, allowing passengers to board and disembark without having to go outside the terminal building
Alert	To be watchful, quick to notice
Armrest	A padded arm of a chair, to rest the arm
Armed position (Exit door)	Setting the doors to automatic mode so that emergency evacuation slides will deploy when the door is opened in case of an emergency
Ascent	To rise up into the sky, climb
Automatically deployable oxygen mask	Drop–down oxygen mask from the PSU

Baggage allowance	Permissible weight to be carried per passenger
Baggage/ Luggage tag	A piece of paper stuck on the baggage, and the other on the flight ticket, for identification and ownership
Boarding pass	A document that gives passengers permission to fly
Boiler	Used to boil water in the galley
Catering	Is the food provided for passengers in the plane
Call bell	Is situated on the PSU is used for calling the cabin crew for assistance
Check–in/ Checked baggage	A bag which is carried in the hold of an aircraft
Cleaning team	A team of people who clean the aircraft at every stop
Collage	A piece of art made by sticking various different materials such as photographs and pieces of paper or fabric on to a backing/chart paper
Compiled	To put together information gathered
Confidential	Information to be kept private, secret
Courteous	Polite, respectful
Conveyor belt	A moving belt which delivers baggage at the baggage claim area
Dangerous intention	Not with clean thoughts
Detect	Identify, discover
Descent	Decreases speed to lower down to the ground
Designated	Assigned, given
Disarm door (Exit door)	disarming of the emergency escape slides attached to the doors, so that the slides do not automatically inflate on opening the door at the airport
Disembark/ Deplane	To leave, to get off the aircraft
Display board	It shows time of arrival and departure of flights and other additional information, like gate number etc.
Duty–free goods	Tax free goods for sale in international flights
E–ticket	Electronic ticket, paperless
Emergency Exit seat	Able bodied Passengers are seated at these seats to help cabin crew in case of emergencies
Emergency equipment	Items used during an emergency

First–Aid kit	A small box containing items such as bandages, plasters, and antiseptic wipes for use in giving help to a sick or injured person until full medical treatment is available
Food cart	A movable enclosed container, with trays of food stored to be used during meal service
Flight report	A report containing all the important details during a flight, such as any emergencies, technical issues, etc.
Flotation device	If life vest is not available, some seats of the aircraft can be used as it designed to float
Galley	Kitchen of an aircraft
Galley power	The power supply in the galley area
Ground staff	Ground Crew or Ground Staff work in various roles at the airport. They ensure the safety and comfort of passengers, including checking in baggage, providing information, assisting disabled passengers, and confirming reservations
Handover	One set of cabin crew handing over the aircraft duties to another set of cabin crew, who will be going to the next destination in the same aircraft
Hold	Is situated in the lower deck of an aircraft where checked baggage are stored
Infant	A child below two years of age
Inflight Bar	An aircraft serving alcoholic drinks (only on international sectors)
Jargon	Technical terms used and understood by people from the same profession or group
Lavatory	Toilet/washroom in an aircraft
Liaison	Working closely with similar people
Locate	Find an exact place or position
Life vest/jacket	A sleeveless inflatable jacket, for supporting the wearer in deep water and preventing drowning
Modulate	Vary the way you say different words in a sentence, for better impact
Monitor	Checking continuously
Nominate	Propose formally
Overhead bin	The compartment above passenger seat
Parking Bay	Parking for a single aircraft
Paper work	Written document
Pre–flight briefing	To assess your knowledge and fitness to operate a flight
Refreshment	A light snack or drink

Safety equipment	Gadgets for protection
Scan	To look carefully to detect
Sector	A portion of the journey, one take–off and landing
Security check	A thorough check for concealed dangerous items, to maintain safety and security
Smoke detector	A device that automatically detects and gives signal (alarm)of smoke presence
Stock list	List of Goods/items used in the aircraft
Stow	Store neatly in a particular place
Safety procedure	A step by step written down plan of safety to be followed
Safety demonstration	A detailed explanation given before take–off to airline passengers about the safety features of the aircraft
Tamper	Purposely interfere to cause damage
Terminal	Where passengers go to depart on a flight, or the building at which they arrive upon landing
Travel documents	Is an identity document issued by a government for travel out of the country
Tray–table	A table designed to fold or swing out of the way for storage on an airplane seatback or armrest
Touchdown	When the plane wheels make the first contact with the ground on landing
Turbulence inflight	Discomfort felt inside the cabin when the aircraft hits rough irregular patches of air
Unaccompanied minor	A child, generally aged between 5 and 15 who is travelling without an accompanying adult
Upright position	With back straight
USB interface	Universal Serial Bus interface allows a computer, or smartphone, as well as other devices, to connect with other devices (printers, plotters, mouse, keyboard, scanners.
User Input Mechanism	A device such as keyboard connected to the USB interface.
Verify	To check for accuracy, authenticity
Visa	An endorsement/stamp on a passport indicating that the holder is allowed to enter, leave, or stay for a specified period of time in a country
Wheelchair passenger	A Passenger who finds it difficult to move freely due to a medical condition or other valid reasons, are given the option of using the airline/airport wheelchair, all the way to the aircraft

Window shade to be kept open/up	The crew asks you to open your window shade because it helps them see outside better, if they have to evacuate the airplane in case of an emergency, and since most accidents happen during take–off and landing, that's the time it makes the most sense to have the shades up

3.16 ASSIGNMENT :

(1) Research different airlines for the duties and responsibilities of a Cabin crew, and compare different duties, and find similarities. Write down your observations. Based on your observation, what kind of an airline would you like to work with ? What are the qualities you already have, and what do you need to work on ? Make a note, and work on it.

(2) Check the hierarchy of Flight deck crew and Cabin crew of different airlines. What are the different designations used by different airlines for both Cockpit crew and Cabin crew. Write down your observations.

3.17 ACTIVITY :

Make a collage of Cabin crew uniforms of different airlines.

3.18 CASE STUDY :

- **Case Study : Flight Attendant – Janice**

  file:///C:/Users/Parosh/Desktop/Case–Study–Flight–Attendant–Janice%20(1).pdf

- **Emirates cabin crew Uniform case study**

  Link to complete case study – https://www.simonjersey.com/emirates–case–study–i46

Simon Jersey is perhaps best known for the design of Emirates Airlines' iconic uniforms, which its staff have been wearing since 2009. We first became involved with Emirates in the early 2000's when we took over manufacture and supply of the airline's previous uniform design. However, in an industry where image is critical we were then asked to develop a fresh look for 23,000 cabin crew and ground staff. Our brief was to create a sharper and more business like look that would stand out in airports around the world. It needed to clearly demonstrate the vales of luxury and sophistication that Emirates is known for. We worked closely with the Emirates team to identify the key colours, logos and icons the uniform should include.

Comfort, stain and crease resistance are priorities for long–haul uniforms to ensure they stay immaculate, even at the end of the longest flights. Our designers accompanied a crew flying to New Zealand, observing them throughout the flight including their tasks and working spaces. To further understand perceptions of airline uniforms, we conducted research at airports to see how travellers reacted to the various uniforms on display. With this huge bank of information, we created the uniform that Emirates is known for today. The project took two years and involved everyone from cabin crew to the most senior officials. The new uniform was rolled out to coincide with the launch of Emirates' A380 fleet and created headlines around the world commenting on its elegance and design.

3.19 FURTHER READING :

- **English for Cabin Crew**

  http://englishonlineclub.com/pdf/Oxford%20English%20for%20Industries%20–%20English%20for%20Cabin%20Crew%20–%20Teaching%20Notes%20(Fluency)%20[EnglishOnlineClub.com].pdf

- **Airline vocabulary**

  https://www.englishclub.com/english–for–work/airline–vocabulary.htm

- **Indigo Cabin Crew Interview – How To Crack ?**

  https://www.youtube.com/watch?v=xZMJc7RzIfo&ab_channel=SimplyFLY

- **Cabin Crew Career, Interview & Eligibility Criteria related common Doubts for Fresher Boys & Girls.**

  https://www.youtube.com/watch?v=YX01J695M20&ab_channel=SugandhaSharma

- **50 Most Common Frequently Asked Interview Questions (Cabin Crew) Part 1**

  https://www.youtube.com/watch?v=iqnRaRGFKcg&ab_channel=SugandhaSharma

- **Cabin Crew Interview Questions and Answers – Flight Attendant Interview Questions and Answers.**

  https://www.youtube.com/watch?v=a_OYz1eElPw&ab_channel=CareerRide

- **Book – Air India Cabin Crew Recruitment Exam Guide (R.Gupta's Popular Master Guide) Paperback – 1 January 2020**
- **Book – 101 Questions and Answers for the Cabin Crew Interview by Kara Grand**
- **Book – Becoming Cabin Crew : Everything You Need to Know about the Application Process, Cabin Crew Training and Life in the Skies by Dr Hayley Stainton (Author)**
- **Book – CABIN CREW : BASIC INFORMATIONS by FLORENTINA MERCEDES STOICA (Author)**
- **Book – Ask A Flight Attendant : Everything you didn't know you needed to know about the Flight Attendant position. Kindle Edition by Bil Rivera (Author)**
- **Book – A Flight Attendant's Essential Guide : From Passenger Relations to Challenging Situations, by Colin C. Law**
- **Book – General English For Aviation : Pilots, Cabin Crew, Ground Staff, And Air Traffic Controller Paperback – January 1, 2014 by Cintia Naomi Uemura (Author)**

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UNIT 04

Departure and Arrival Procedure for Passengers, Inflight Service Post Lockdown – Covid-19

UNIT STRUCTURE

4.0 Learning Objectives

4.1 Introduction

4.2 Process of Air Travel for Passengers

- **4.2.1 Process of Boarding a Plane at an Airport**
- **4.2.2 Once a Passenger is on the Plane**
- **4.2.3 Arrival Procedure**

4.3 Passenger Control Unit (PCU)

- **4.3.1 Features of PCU**

4.4 Passenger Service Unit (PSU)

- **4.4.1 Features of PSU**

4.5 COVID–19

- **4.5.1 Effects of COVID–19 Pandemic on Aviation Industry Worldwide**
- **4.5.2 COVID–19 in India**

4.6 Let Us Sum Up

4.7 Answer for Check Your Progress

4.8 Glossary

4.9 Assignment

4.10 Activity

4.11 Case Study

4.12 Further Reading

4.0 LEARNING OBJECTIVES :

After learning this unit, you will be able to understand about :

Process of Air travel for Passengers, Passenger Control Unit (PCU), Passenger Service Unit (PSU), and COVID–19.

4.1 INTRODUCTION :

The services carried out on board an aircraft, is performed by senior cabin crew in First class, senior cabin crew in Business class, and senior cabin crew in Economy class, along with their team of cabin crew members. They ensure the safety and security of the Cabin, Galleys, and Lavatories, along with other regular services.

The spreading of the Coronavirus disease (COVID–19) worldwide, has important implications for airlines and Passengers. Guidelines are issued for air

travel in India and globally, which could change depending on the spread or containment, of the pandemic.

4.2 PROCESS OF AIR TRAVEL FOR PASSENGERS :

4.2.1 Process of Boarding a Plane at an Airport :

Before you pack for a flight, make sure you're aware of the airline's baggage weight and size allowances, to avoid excess baggage charges.

Once your ticket is confirmed, you can print your boarding pass, or save it to your mobile device. Also, you can check–in and get a paper boarding pass at the airport ticket counter, or self–service kiosk. If you have an e–ticket, you can choose your meal type (only for Full service Airline), and book your seat of choice in advance, that you wish to travel in. It is advisable to reach the airport at least one hour before a domestic flight, and three hours before an international flight.

Airport entry : You need to show your ticket and ID proof to the Airport Security before you enter the airport terminal building. Get your check–in baggage scanned by Airport security.

Check–in process : You can now go to your airline's check–in counter and collect your boarding pass, that is if you haven't already e–checked in.

Weigh your checked–in baggage at the counter, get it tagged, one part of the tag will be pasted on your ticket, for baggage claim and identification. Get your hand baggage weighed, and proceed to the terminal mentioned on your boarding pass.

Example of Check–in counter

Immigration Check for International flights : At the Immigration counter, the immigration officer will verify your passport and visa, after which the passport is stamped with the departure date.

Proceeding to the aircraft : To get to your terminal, you have to cross security, for which you will have to place everything except your boarding pass in the X–ray tray and pass through a metal detector. Boarding pass and cabin baggage tags are stamped by security personnel. Once you walk through, collect your items from the tray. Head to your departure gate and be alert for announcements related to your flight. You could also check the display board for flight information.

Boarding the aircraft : Once the boarding starts, airline staff will scan boarding pass and check security stamp at the Gate, before allowing passengers to board the flight.

Example of Passengers boarding an aircraft using a Jet bridge

4.2.2 Once a Passenger is on the Plane :

- After boarding the plane, you will be assisted to your seat by the Cabin Crew.
- Stow your hand luggage/cabin bag in the overhead bin close to your seat.
- Put on your seat belt, and switch off your mobile devise.
- Listen carefully to the instruction given by the cabin crew before the flight.
- If you need anything, press the call bell on the Passenger Service Unit (PSU) to get help from the cabin crew.

4.2.3 Arrival Procedure :

Pay attention to the pre–landing announcement in which you will be updated on the weather at your destination, and the conveyor belt number, where your checked–in baggage will arrive. Once the plane has come to a complete stop, and once the captain switches off the fasten seat belt sign, you can unbuckle the seat belt, collect your hand baggage from the overhead bin, and proceed to disembark from the plane.

Immigration Check for Destination Airport, for International flights : At the Immigration counter, the immigration officer will verify your details, travel documents, and issued visa. The filled out Immigration form by the passenger is also checked. Once the officer has all the details he requires, the passport is stamped with the date of arrival in the country, by this you will know how long you can stay in that country.

Leaving the airport : You can proceed to the designated baggage claim area, to collect your checked–in baggage. Once you have your baggage, and you clear the customs check (for items to be declared), you can leave the airport.

Example of Arrival area of an International Airport

❑ **Check Your Progress – 1 :**

1. Immigration checking is for both, Domestic and International travel :
   (a) Yes (b) No (c) Maybe
2. Is embarkation, and boarding a plane the same thing ?
   (a) Yes (b) No (c) Maybe

4.3 PASSENGER CONTROL UNIT (PCU) :

4.3.1 Features of PCU :

Passenger control units makes it possible for passengers to manage In–flight Entertainment (IFE), delivered to them on the aircraft. The passenger control unit generally includes a display panel, a controller, a memory, a USB interface and a user input mechanism.

Personal on–demand videos are stored in an aircraft's main in–flight entertainment system, and the passengers can view whatever they want, over the aircraft's built in media server and wireless broadcast system.

Example of Passenger Control Unit

❑ **Check Your Progress – 2 :**

1. What is the full form of IFE
   (a) In–flight Entertainment (b) In–flight Engineering
   (c) In–flight Engagement

4.4 PASSENGER SERVICE UNIT (PSU) :

4.4.1 Features of PSU :

A passenger service unit (PSU) is a necessary part, situated above each row of seats in the overhead panel, in the cabin of an aircraft.

A PSU generally contains Reading lights, Loudspeakers, Fasten Seatbelt signs, No smoking signs, Call button for Cabin crew assistance, Air condition vents, and automatically deployable oxygen masks.

Example of Passenger Service Unit

❑ **Check Your Progress – 3 :**

1. Where is PSU located ?

(a) In the overhead panel (b) On the Armrest

(c) On the back of the seat in front of you

4.5 COVID–19 :

4.5.1 Effects of COVID–19 Pandemic on Aviation Industry Worldwide :

By mid–2020, IATA had forecasted the worst financial performance in the history of commercial aviation due to COVID–19 pandemic, predicting a global loss of US$84 billion.

The outbreak of COVID–19 was first identified in Wuhan, China, in December 2019. The coronavirus pandemic has affected most parts of the world, and has not only changed the way we live in the present, but is also going to change the future in many ways. One of the major sectors to have been affected by the pandemic is the aviation industry. As the industry struggles to get back to the new normal, many challenges lay ahead.

As of June 2020, many airlines have made major changes in their inflight services, to make flying a safe experience (Rules are not permanent, it could change, depending on the varying conditions of COVID–19) :

American carriers like Delta Airlines, American Airlines, have decided not to serve alcoholic drinks to passengers, to reduce food and drink options aboard.

Delta Airlines will only be serving alcohol in its international flights.

British budget airline EasyJet, will only be serving bottled water inflight.

The Netherlands flag–carrier KLM, has suspended sales of hot food and alcoholic drinks, but would be serving water and soft drinks.

The UK's flag carrier, British Airways, has suspended its alcoholic beverages in its short–haul economy class flights.

Some links for Guidelines during COVID–19 Pandemic from WHO and IATA :

- **WHO – Operational considerations for managing COVID–19 cases or outbreak in aviation**

  https://apps.who.int/iris/bitstream/handle/10665/331488/WHO–2019–nCoV–Aviation–2020.1–eng.pdf

- **IATA – Restoring Aviation during COVID–19**

  https://www.iata.org/contentassets/f1163430bba94512a583eb6d6b24aa56/covid–medical–evidence–for–strategies–200806.pdf

- **IATA – Aircraft cleaning and disinfection during pandemic**

  https://www.iata.org/contentassets/5d42ffd2b6ee43a8963ee7876584de5a/aircraft–cleaning–guidance–covid.pdf

Example of a Cabin crew in PPE suite on board an aircraft during coronavirus pandemic

4.5.2 COVID–19 in India :

Some of the rules for Domestic airline services – June 2020 (Rules are not permanent, it could change, depending on the varying conditions of COVID–19) :

Since March 2020, people have been experiencing one of the biggest worldwide lockdowns in recent history, and the impact of this has been severe on the economy as a whole, especially the airline industry, which had almost come to an absolute standstill. However, as of June 1, India has moved into the fifth phase of the lockdown – Unlock 1, from 1st June 2020. The Ministry of Home Affairs (MHA) has gradually allowed all sectors outside of containment zones to resume activities under strict rules.

Following the MHA guidelines, the Union Civil Aviation Ministry (UCAM) has given a go–ahead on domestic flights. However, International air travel for passengers is still prohibited, except in special cases where the government has arranged special flights to ferry passengers in and out of India. Many airports have placed a limit on daily arrival and departures, which in turn restrict airlines from flying across more cities. Different States have different rules for air travel into their cities. You must be aware of the rules (self–quarantine of 14 days/quarantine stamp on your hand) of the city/state you are flying into, or else if you are unaware and unprepared for the rules which could be different from your state, you may not be allowed to travel within the city.

For International travel, before boarding, all travellers shall give an undertaking that they would undergo mandatory quarantine for 14 days – 7 days paid institutional quarantine at their own cost, followed by 7 days isolation at home with self–monitoring of health.

❖ **Some suggested Safety Precautions :**

Wash hands with soap and water for 20 seconds especially after being in a public place. If water and soap are not available, use hand sanitizer with at least 60% alcohol content.

Maintain a distance of 6 feet or more from others.

Cover sneezes and coughs with a tissue, use proper disposal for the same.

Avoid touching your face without washing your hands.

Wear a mask or any other form of covering for the face, and wear gloves.

Safety kits will be issued to passengers at the airport with masks, face shields and sanitizers.

Ensure all belongings are properly sanitised before leaving the house.

❖ **Some links related to domestic COVID–19 travel :**

- **COVID–19 : Vistara temporarily modifies in–flight services for post–lockdown operations**

  https://www.dnaindia.com/business/report–covid–19–vistara–temporarily–modifies–in–flight–services–for–post–lockdown–operations–2823146

- **Indigo – Know the state–wise regulations during COVID–19 travel**

  https://www.goindigo.in/information/state–regulations.html

❑ **Check Your Progress – 4 :**

1. Which business sector was one of the worst hit during the Coronavirus pandemic ?

   (a) Information Technology (b) Essential services

   (c) Aviation

2. COVID–19 is considered to be a,

   (a) Pandemic (b) Epidemic (c) Endemic

4.6 LET US SUM UP :

In this unit we learned about :

- Process of boarding a plane at the airport
- Once the passenger is on the plane
- Arrival procedure
- Features of PCU
- Features of PSU
- Effects of COVID–19 pandemic on Aviation Industry worldwide
- COVID–19 in India

4.7 ANSWER FOR CHECK YOUR PROGRESS :

❑ **Check Your Progress 1 :**

1. (B), 2. (A)

❑ **Check Your Progress 2 :**

1. (A)

❑ **Check Your Progress 3 :**

1. (A)

❑ **Check Your Progress 4 :**

1. (C), 2. (A)

4.8 GLOSSARY :

Word	Meaning
Air vent	An opening that allows air to pass out of or into a closed space
Asymptomatic	A person infected with an infection but does not develop outward symptoms
Baggage scan	The procedure whereby baggage is electronically screened at an airport before it is allowed on the plane
Cruising altitude	The height in the sky at which an airplane stays for most of a flight
Connecting flight	When a flight itinerary requires a traveller to change planes, taking two or more flights to get from the departure city to the destination, the flights are called connecting flights
Containment zone	Containment zones are where the restrictions on movement and interaction are the most severe
Disastrous	Causing great damage
Duty free shop	Where you can purchase an item without paying import, sales, value–added, or other taxes
Gate area	Gates generally have seats, a gate to enter the runway, jet bridge (for passengers to get directly into the aircraft) and the boarding desk
Golf cart	Golf carts for airports allow you to move cargo and people with ease from terminal parking
Headrest cover	The removable cover of a seat headrest
Handover	The process when one set of cabin crew is leaving the plane and another set of crew takes over from them, to continue the journey on the same aircraft with or without the existing passengers on board
Health declaration form	A form to be filled about your health condition and submitted before entering the airport
IATA	The International Air Transport Association (IATA) supports aviation with global standards for airline safety, security, efficiency and sustainability
Immigration clearance	At the counter, an officer will be verifying the passenger's passport and visa and might ask a few questions about the end destination. After verification, the passport is stamped with the departure date from India for the ongoing trip.

Lavatory	Toilet/washroom
Linen	Articles such as sheets or clothes made, or originally made, of linen material.
Lodging	Temporary accommodation
Lockdown	A state of isolation or restricted access enforced as a security measure
Mouthwash	A liquid used for rinsing the mouth or gargling with
Mandatory	Required by law, as compulsory
Overhead bin	Space above the cabin seat to store cabin baggage
PNR number	A Passenger Name Record (PNR) is a record in the database of a computer reservation system (CRS) that contains the travel plan for a passenger, or a group of passengers travelling together
PSU	A passenger service unit (PSU) is an aircraft component situated above each row in the overhead panel above the passenger seats in the cabin of the aircraft
Periodically	Occasionally, from time to time
Prohibited	Banned, not allowed
PPE kit	Personal Protective Equipment (PPE) are protective gears designed to safeguard the health of the wearer by minimizing the exposure to infection
Protocol	A protocol is a standard set of rules to be followed
Sanitising	Disinfect, make clean and hygienic
Severity	The condition of being very bad, serious, unpleasant, or harsh
Short–haul flight	Short–haul is a flight lasting anywhere from 30 minutes to 3 hours
Self–monitor	Keeping a check on your own health and progress
Security screening	It is intended to prevent prohibited items and other threats to transportation security from entering the sterile area of the airport
Tray–table	Is a pull out table to be used to place your food/beverage tray during meal service, or to place some item on it
Transit area	The transit areas are established by local authorities for the convenience of passengers whose flights have made in–between stops, or who are connecting with outbound international flights, so that such passengers can disembark from an aircraft without going through more travel procedures for the other flight
Travel documents	Documents required to be carried for air travel
Thermal scanning	Temperature screening without direct contact

Undertaking	A formal pledge or promise to do something
Verifying	To make sure that (something) is true, accurate, or justified
Window shades	Also called window blinds are used to block light out by closing it, when you want to sleep
Wheelchair passenger	A passenger with a walking disability requires a wheelchair or similar aid before embarkation or after disembarkation
Web check–in	Online check–in is the process in which passengers confirm their presence on a flight via the Internet and typically print their own boarding passes. Depending on the carrier and the specific flight, passengers may also enter details such as meal options and baggage quantities and select their preferred seating

4.9 ASSIGNMENT :

Check five different airlines to see what were their checklist for air travel during the pandemic in 2020. Write an essay about how different the air travel industry was, during the time of pandemic in 2020.

4.10 ACTIVITY :

Talk to at least five different people or families, about how they were physically and mentally affected by the coronavirus pandemic in 2020. How has their life changed ever since, and what advice do they have for you, to be prepared for any such occurrences in future.

4.11 CASE STUDY :

- **Mini Case Study : Airport Check–Ins**

  https://blog.prototypr.io/mini–case–study–airport–check–ins–aaf674b954e3

- **Covid–19 cases surge : Top 10 cities in India worst hit by the pandemic**

  Link to complete report – https://www.hindustantimes.com/india–news/covid–19–cases–surge–top–10–cities–in–india–worst–hit–by–the–pandemic/story–LKwTBNm1skXADUzapHQLLJ.html

  Updated report : Sep 10, 2020, 09 :46 IST

India has, over the past few weeks, seen a constant spike in the number of coronavirus disease (Covid–19) cases recorded in a single day. From around 75,000 in late August, the country is now recording more cases in 24 hours than the infection count of some of the worst–hit countries.

On Wednesday, India recorded nearly 90,000 new cases and 1,115 deaths due to Covid–19, taking the tally and death toll to 4,370,129 and 73,890 respectively.

Though authorities attribute this sudden rise in cases to aggressive Covid–19 testing across the country, experts fear India can witness a second wave of the Covid–19 outbreak.

Here is a look at the top 10 cities which are severely affected by Covid–19 :

Delhi : The national capital, which had set an example in containing the spread of Covid–19 in India, has failed to limit the surge in daily cases. The city–state broke its own record on Wednesday after 4,039 cases were registered in the last 24 hours, which pushed the tally to over 2,00,000. Delhi had last seen the highest single–day spike on June 23 when 3,947 Covid–19 cases were recorded in a single day.

Mumbai : The financial capital of the country had a moment of relief as the case curve had flattened in August. But the sudden spike in daily Covid–19 cases has again made Mumbai one of the worst–hit cities in India. 2,227 to be fresh cases were logged on Wednesday which pushed the city's Covid–19 count to 1,60,744. Mumbai reported 15,227 cases in just the first nine days of September as against 30,474 in the entire August.

Also read : Close to 1 lakh daily cases push India's Covid–19 tally to above 4.4 million

Chennai : Tamil Nadu's Covid–19 tally is over 4,80,000 of which Chennai has been the biggest contributor. Chennai continued to report less than 1,000 cases for the seventh consecutive day.

Bengaluru : Karnataka's capital for the past few days has logged over 2,800 cases of the coronavirus disease in a single day. The state's caseload, meanwhile, has crossed the 400,000–mark now. Bengaluru on Monday recorded its first case of a recovered patient getting infected again with Covid–19.

Bhubaneswar : The city has been among the worst performers when it comes to Covid–19. In fact, Odisha is among the states which are areas of concern for the Centre. The state's Covid–19 count crossed 135,000 on Wednesday after 3,748 new cases and 11 more deaths were reported in the last 24 hours. Bhubaneswar recently turned into a Covid–19 hotspot and has been adding around 400 cases daily. The capital city is also facing a severe shortage of ICU beds.

Jaipur : The capital city of Rajasthan is worst affected from the outbreak. The total Covid–19 cases Jaipur are over 13,000 while the death toll stands at 292 .

Hyderabad : Hyderabad is adding over 300 cases of Covid–19 on a daily basis, pushing Telangana's daily case count to nearly 3,000.

Mohali : Punjab on Wednesday recorded its highest single–day spike of 2,137 Covid–19 cases after which the state's infection tally reached nearly 70,000. Mohali added 319 cases to the overall caseload.

Faridabad : The worst hit city in Haryana, Faridabad recorded 287 new Covid–19 cases on Wednesday. Faridabad has the highest positivity rate which is over 31 per cent in urban areas and 22.2 per cent in rural areas.

Indore : Indore on Wednesday reported 287 fresh cases of Covid–19 and five deaths, which took the city's tally and death toll to 15,452 and 432 respectively.

4.12 FURTHER READING :

- **https://newseu.cgtn.com/news/2020–06–24/What–your–inflight–experience–could–look–like–post–COVID–19–RyHtcQsYUw/index.html**

  (What your inflight experience could look like post COVID–19)

- **https://www.cntraveler.com/story/flying–during–coronavirus–how–airlines–are–changing–their–in–flight–rules**

  (Flying During Coronavirus : How Airlines are changing their In–flight rules)

- **https://www.youtube.com/watch?v=qnxq0L8tckk&t=590s**

  (Video – The new normal of Airline Travel – What's changed ? – Flying during Coronavirus)

- **https://www.iata.org/contentassets/df216feeb8bb4d52a3e16befe9671033/iata–guidance–cabin–operations–during–post–pandemic.pdf**

  (Guidance for Cabin Operations During and Post Pandemic Edition 3 – 05 Jun 2020)

- **https://www.youtube.com/watch?v=hBUyWSTgnzo**

  (Video – Can we travel again ? (Inside Dubai International Airport))

- **https://samchui.com/2020/07/04/5–ways–commercial–air–travel–has–changed/#.Xy1IEYgzbIU**

  (5 WAYS COMMERCIAL AIR TRAVEL HAS CHANGED SINCE PANDEMIC)

- **https://www.youtube.com/watch?v=Mt9zk_oSp_w&ab_channel=ExclusivelyUs**

  (Airport check in procedure)

- **Book – Aviation vs. Coronavirus : How and when will the flight industry recover from the Covid–19 crisis ? by Julian Hillenmeyer (Author)**

BLOCK SUMMARY :

This block gives students details about Some of the basic parts of an aircraft, Aircraft exterior parts and its functions, Different parts of Interiors of an Aircraft, Aircraft Communication, Communication system in an aircraft, Exterior/External lights, Internal lights, Emergency lights, List of Safety equipment, Emergency and Safety check by Cabin crew, Briefing passengers before take–off, Exit row seats general briefing given to passengers, Emergency evacuation, Decompression/Depressurization, Uncontrolled fire, Process to assess a passenger in distress, First aid kit, Physician's kit, Regular Safety and Security check, Evacuation slides, General emergency evacuation guidelines for Crash landing and Ditching, Crash landing – Emergency evacuation on land, Ditching – Preparation for an emergency evacuation on water, Uncontrolled fire, Decompression, When Cabin crew takes independent decision, Bomb threat/ scare, Terrorism and Counter terrorism, Dangerous goods and Hijacking an Aircraft, Air traffic Control, Eligibility criteria for Cabin crew, Essential skills required for a successful career as an Air Hostess/Cabin crew, How to apply for a Cabin crew job, Training for different emergency situations, Duration of training, Duties for Cabin crew, Flight deck crew, Cabin crew, Hierarchy of Flight deck, Hierarchy of Cabin crew, Chain of command during an emergency, Minimum Cabin crew requirement on a flight, Documentation for Domestic Airlines, Documentation for International Airlines, Documentation handled by Cabin crew on an aircraft, General Declaration, Cabin crew breaks inflight on very long flights, Importance of Cabin crew Uniform, Inflight announcements by Cabin crew, Tips for making announcements, Announcements are made during, Passenger Information List, Process of boarding a plane at the airport, Once the passenger is on the plane, Arrival procedure, Features of PCU, Features of PSU, Effects of COVID–19 pandemic on Aviation Industry worldwide, and COVID–19 in India.

The practical and easy to follow instructions are explained in multiple ways in this block : written, pictures, videos, articles, etc. This makes it simpler for students to understand and retain information for a longer period.

BLOCK ASSIGNMENT :

- **Short Answer Questions :**

  1. How many types of decompression are there ?
  2. What is the difference between a Flight Purser and an Inflight Supervisor ?
  3. What is the full form of COVID–19 ?
  4. What is the full form of PCU ?
  5. What is an empennage ?

- **Long Answer Questions :**

  1. What are the effects of COVID–19 pandemic on Aviation Industry worldwide ?
  2. What are the emergency equipment on the aircraft ?
  3. What is the procedure to assess a passenger in distress, relating to first aid ?
  4. What are the exterior lights on an aircraft ?
  5. What is the difference between Crash landing and Ditching ?