

## Dr. Babasaheb Ambedkar Open University

Term End Examination January-2015

Course	: BCA	Numerical Code: 0065
Subject Code	: BCA - 601	Numerical Code: 0582
Subject	: Object Oriented Analysis & Design	Total Marks : 70
Date	: 30/01/2015	Time : 11.00 to 02.00

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### Section A (30)

Answer the following (any three)

1. List nine types of modeling diagram in UML. Explain class diagram with symbols and notations.
2. Explain need for component based development approach.
3. Explain principles of modeling
4. Explain Object Process Methodology
5. Explain collaboration and sequence diagram in details

### Section B (20)

Answer the following (any four)

1. Explain object oriented conceptualization
2. Explain features of a domain model.
3. Explain importance of modelling
4. Explain key features of object oriented methods
5. Draw and explain use case diagram for patient appointment
6. Explain state transition diagram

### Section C

(A) Choose correct answer. (10)

- 1 A class inherits its parent's....  
(a) Attribute and links (b) Operations  
(c) Attributes, operations, relationships (d) Operations, relationships, link
- 2 If you wanted to organize elements into reusable groups with full information hiding you would use which one of the following UML constructs?  
(a) Package (b) Class (c) Class and interface (d) Sub-system or component
- 3 Which of the following is not characteristic of an object?  
(a) identity (b) Behavior (c) Action (d) State
- 4 Which of the following is not characteristic of an abstract class?  
(a) At least one abstract method  
(b) All the methods have implementation  
(c) Subclass must implement abstract method of super class  
(d) None of the above
- 5 Polymorphism can be described as  
(a) Hiding many implementations behind one interface (b) inheritance  
(c) Aggregation and association (d) Generalization
- 6 What phrase best represents a generalization relationship?  
(a) is a part of (b) is a kind of (c) is a replica of (d) is composed of

- 7 All update operations in inheritance are updated  
 (a) Across all extensions (b) Across only some of extensions  
 (c) Only first extension (d) None of the above
- 8 interaction diagrams are  
 (a) Static (b) Dynamic (c) Static or Dynamic (d) None of the above
- 9 CORBA is an acronym for  
 (a) Common Object Request Broker Architecture  
 (b) Common Object Request Broker Application  
 (c) Component Object Request Broker Architecture  
 (d) Component Object Request Broker Application
- 10 Which of the following is an ingredients of Java Beans  
 (a ) Events (b) Properties (c) Persistence (d) All of the above

**(B) Fill in the blanks.**

**(10)**

1. \_\_\_\_\_ is a physical or conceptual connection between objects.
2. \_\_\_\_\_ is a group of links with a common structure and common meanings.
3. \_\_\_\_\_ in an association specifies how many objects participate in a relationship.
4. \_\_\_\_\_ is a special form of association, which models the "part-whole" or "a-part-of" relationship as an aggregate (the whole) and parts.
5. \_\_\_\_\_ is the relationship between a class, and it defines a hierarchy of abstraction in which subclasses inherit from one or more super classes.
6. UML stands for\_\_\_\_\_.
7. A \_\_\_\_\_ diagrams are interaction diagrams that emphasize the time ordering of messages.
8. \_\_\_\_\_ is a collection of logically related UML elements.
9. \_\_\_\_\_ is an independent, application software level unit that is developed for specific purpose and not for a specific application.
10. In use case diagram, users of system are known as\_\_\_\_\_.

\_\_\_\_\_

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<b>Subject Code</b>	: BCA – 601	<b>Numerical Code: 0582</b>
<b>Subject</b>	: Advanced Multimedia Application	<b>Total Marks : 70</b>
<b>Date</b>	: 30/01/2015	<b>Time : 11.00 to 02.00</b>

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### **Section A (30)**

**Answer the following (any three)**

1. What is MMS? Explain its components.
2. Discuss the features of integrated design software.
3. Explain different types of multimedia authoring tools.
4. Explain testing of multimedia application.
5. List and explain the hardware and software components of a multimedia system.

### **Section B (20)**

**Answer the following (any four)**

1. Principles of animation.
2. FireWire and USB.
3. MIDI audio file.
4. Quick Time software.
5. Working of text editor, audio specialist and computer programmer in multimedia development.
6. Media synchronisation and compression schemes.

### **Section C**

**(A) Choose correct answer. (20)**

1. JPEG stands for \_\_\_\_\_.  
a) Joint Photographic Experts Group.      B) Joint Picture Experts Group  
c) Joint Photographic External Group.      D) None of these
2. The term hypertext is usually non-linear. [True/False]
3. In multimedia, for body text font is preferred which creates a line at the top and bottom of a text line and guide eye across the page.  
a) Sans serif      b) Serif      c) Both a & b      d) None of these.
4. The quality of the vector graphic is higher than the quality of bitmap image. [True/False]
5. \_\_\_\_\_ is an animation technique where one image is changed, pixel by pixel into a completely different image.  
a) Path-based      b) Cel-based      c) Morphing      d) None of these
6. The size of the color palette depends on the image bit Depth. [True/False]
7. NIC stands for \_\_\_\_\_.  
a) Network Interface Card      b) Network Information Card  
c) Network installation Card      d) None of these
8. The process of converting analog sounds into numbers is called\_\_\_\_\_.

- 9 In multimedia, \_\_\_\_\_ composition describes actions to be performed on media elements & how media elements react to events.  
a) Spatial      b) Temporal      c) Procedural      d) Semantic
- 10 Simultaneous playback of audio and video material is an example of media synchronization. [True/False]
- 11 AIFF is the \_\_\_\_\_ waveform format. [Macintosh/Windows]
- 12 \_\_\_\_\_ is the process of intelligently mapping out a cohesive strategy for the entire multimedia project, including content, technical execution and marketing.  
a) Production      b) Reproduction      c) Conceptualization      d) Preproduction
- 13 Throwing a ball which hits another object and causes the second object to move is an example of \_\_\_\_\_ animation.  
a) Representation      b) Stochastic      c) Procedural      d) All of the above
- 14 The series of frames in between the key frames are drawn in a process called \_\_\_\_\_.  
a) Tweening      b) Morphing      c) Key framing      d) None of these
- 15 \_\_\_\_\_ is the electronic text format where, content is interconnected using hyperlinks.
- 16 In \_\_\_\_\_ based authoring tool, the elements are or organized as pages of a book or a stack of cards.
- 17 \_\_\_\_\_ are real images that can be captured from devices such as camera or scanner.  
a) Vector graphics      b) Draw-type graphics      c) Bitmap images      d) Both a & b
- 18 In \_\_\_\_\_ animation the graphic artist describes the path or every movement of every object.
- 19 The \_\_\_\_\_ is the team member who is responsible for integration all the multimedia building block by using an authoring programme.  
a) Computer Graphic artist      b) Computer Programmer  
c) Content Specialist      d) Multimedia architect
- 20 GIF uses an image palette of up to \_\_\_\_\_ different colours.
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<b>Subject</b>	: Computer Graphics	<b>Total Marks : 70</b>
<b>Date</b>	: 30/01/2015	<b>Time : 11.00 to 02.00</b>

**Section A (30)****Answer the following (any three)**

1. Explain the Process of Universal Design in detail
2. What Computer Graphics? Explain in detail.
3. Explain different techniques for Producing colour displays with a CRT.
4. Explain different types of Animation Systems.
5. Discuss Transformation in detail.

**Section B (20)****Answer the following (any four)**

1. Give Examples of Creative Thinking.
2. Explain Types of Interaction in detail.
3. Give difference between interactive and Non interactive computer graphics.
4. List applications of Computer Graphics and explain.
5. Write short notes on Flat-Panel Displays.
6. Discuss different Creative Methods.

**Section C****(A) Choose correct answer. (10)**

- 1 The major components of CRT are?
  - a) Electronic Gun
  - b) Phosphorous Coated Screen
  - c) Control Electrodes
  - d) Deflection Yoke
  - e) All of the above
- 2 Each screen point is referred to as \_\_\_\_\_.
  - a) Resolution
  - b) Pixel
  - c) Persistence
  - d) Dot Pitch
- 3 On a color monitor, the refresh buffer is also called \_\_\_\_\_.
  - a) Frame buffer
  - b) Pixmap
  - c) Bitmap
  - d) Display file
- 4 Pick out the odd one out \_\_\_\_\_.
  - a) LED
  - b) Plasma Panel
  - c) Gas Discharge tube
  - d) LCD
- 5 Shadow mask method is usually used in \_\_\_\_\_.
  - a) LCD
  - b) Raster Scan display
  - c) Random scan display
  - d) DVST

**(B) Give Answer in One/Two Sentence. (10)**

1. Define Creativity. (2)
2. What is Practical Ability? (1)
3. Give full form: UDI, LED, LCD, DVST (2)
4. Interactive Computer Graphics involves a two-way communication between computer and user. (True, False) (1)
5. \_\_\_\_\_ can be used to grasp a "virtual" Object. (1)
6. The Set Device Origin ( ) method moves the origin to a new point on the client area This is called \_\_\_\_\_. (1)
7. Which two techniques are used for producing colour displays with a CRT? (2)