B.TECH. DEGREE EXAMINATION, DECEMBER 2012

Seventh Semester

Branch : Computer Science and Engineering / Information Technology

OBJECT ORIENTED MODELLING AND DESIGN (RT)

(Regular/Supplementary/Mercy Chance)

Time : Three Hours   Maximum : 100 Marks

Part A

Answer all questions briefly.
Each question carries 4 marks.

1. Explain the concept of abstract class using suitable example.

2. Explain how to define role names and qualification for associations.

3. Outline the concept of functional modelling?

4. Explain the significance of various components in Data Flow Diagrams.

5. Describe how the global resources are handled.

6. What is concurrency? How it is seen in the applications?

7. Illustrate the importance of documentation in designing?

8. What are layers and partitions of a system? Give examples.

9. Explain reusability and robustness?

10. What are the various notations used in Booch's methodology? Give their meanings.

(10 × 4 = 40 marks)

Part B

*Answer any **one** full question from each module.*
Each full question carries 12 marks.

Module I

11.   Explain (i) aggregation ; (ii) candidate key ; (iii) metadata ; (iv) grouping construct.

(4 × 3 =12 marks)

Or

Turn over

12. With graphical representations, describe the concept of generalisation as extension and restriction.

MODULE II

13. With appropriate examples, explain the relation of Functional to Dynamic model?

Or

14. Discuss the use of Data Flow Diagram with suitable examples. Explain how it helps in functional modeling?

MODULE III

15. What are the various architectural frameworks common in system? Explain with an example.

Or

16. Describe various steps involved in the object analysis of a railway reservation application?

MODULE IV

17. Prepare an object diagram for printing and processing pre-registration forms for the scoring system. Include entering changes in address in two of the returned forms and two children unable to attend. Assign a number to each contestant.

Or

18. Explain : (i) physical packaging, (ii) design optimization, (iii) design of association.

(3 × 4 = 12 marks)

MODULE V

19. Explain Booch's methodology concepts with appropriate examples.

Or

20. Describe how the unified modeling language is used with the help of example.

(5 × 12 = 60 marks)

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B.TECH. DEGREE EXAMINATION, DECEMBER 2012

Seventh Semester

Branch : Computer Science and Engineering / Information Technology

COMPUTER GRAPHICS (R, T)

(Regular/Supplementary/Mercy Chance)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions briefly.
Each question carries 4 marks.

1. Explain with a neat diagram, the architecture of a Raster display.

2. What are the uses of computer graphics?

3. Compare window and viewport transformations.

4. Mention the new co-ordinates of triangle with vertices A (0,0), B (1, 1) and C (5, 2) with respect to origin with scale factors $S_x = \frac{1}{2}$ and $S_y = 1$.

5. What are the data structures used in scan line polygon filling? Explain.

6. Explain the conceptual model of 3D viewing process.

7. Explain perspective and parallel projections.

8. Write translation and shearing transformation matrices for 3D Graphics.

9. Define fractal? What are its applications?

10. Explain various methods of controlling animation.

$(10 \times 4 = 40 \text{ marks})$

Part B

Answer any one full question from each module.
Each full question carries 12 marks.

MODULE I

11. (a) Distinguish between graphics mode and graphics drivers. Give examples. (6 marks)

    (b) What is a Frame Buffer? Define aspect ratio and resolution of a monitor. (6 marks)

Or

Turn over

12. (a) Explain the conceptual framework model for interactive graphics. (6 marks)

 (b) Describe the position interaction task along with issues related to that. (6 marks)

MODULE II

13. (a) Explain mid-point line generating algorithm in detail. Illustrate the algorithm to draw line between end points (5, 8) and (10, 12). (6 marks)

 (b) Describe Bresenham's algorithm to draw a circle. (6 marks)

Or

14. (a) Magnify a triangle with vertices A (0, 0), B (1, 1) and C (5, 2) to twice of its size with C as a fixed point in 2D. (6 marks)

 (b) Obtain all the raster pixel positions to draw a circle with radius 6 and centre (20, 20) using mid-point circle drawing algorithm. (6 marks)

MODULE III

15. (a) Explain the different types of sweep representation. (6 marks)

 (b) Explain the properties of B-spline. How it differs from Bezier? (6 marks)

Or

16. (a) Describe the procedure for drawing Bezier curves. (6 marks)

 (b) Explain the Z-buffer algorithm for hidden surface removal. (6 marks)

MODULE IV

17. Describe the classification of visible surface detection algorithms. Discuss any *one* of them in detail.

Or

18. (a) Explain any *one* basic illumination model. (6 marks)

 (b) Explain the ray-tracing method. (6 marks)

MODULE V

19. What is segmentation? How segmentation can be used to produce animation? Explain.

Or

20. With the help of an example, illustrate how fractal is used in animation?

[5 × 12 = 60 marks]

B.TECH. DEGREE EXAMINATION, DECEMBER 2012

Seventh Semester

Branch : Information Technology

MODERN COMMUNICATION SYSTEMS (T)

(Regular / Supplementary / Mercy Chance)

Maximum : 100 Marks

Time : Three Hours

Part A

Answer all questions.
Each question carries 4 marks.

1. Explain the structure of a fibre.
2. What are the advantages of optical fibre communication?
3. Explain frequency modulated microwave radio system with block diagram.
4. Write notes on fading.
5. Why specifically 6 GHz used for uplink and 4 Ghz for downlink in Satellite Communication?
6. Explain the basic principle of GPS.
7. What are the advantages of cellular communication?
8. Explain PCSS mobile telephone system.
9. Explain ATM cell format.
10. Explain bluetooth technology in brief.

(10 × 4 = 40 marks)

Part B

Answer all questions.
Each question carries 12 marks.

11. Explain the block diagram of an optional communication system.

Or

12. Explain different types of detectors used in optical communication system.

13. Explain the block diagram of a microwave terminal station.

Or

14. Explain the block diagram of a microwave repeater.

Turn ove

15. (a) Explain various types of multiple access technologies.

(b) What are the advantages of Satellite Communication system?

Or

16. (a) Explain the block diagram of satellite earth station.

(b) Write notes on GPS.

17. Explain : (a) Call processing.

(b) Cell Segmentation.

(c) Dualisation.

Or

18. Write notes on:

(a) Frequency sense.

(b) Cell splitting.

(c) Call system layout.

19. What do you mean by ISDN? Explain.

Or

20. Explain traffic and congestion control used in ATM.

(5 × 12 = 60 marks)

B.TECH. DEGREE EXAMINATION, DECEMBER 2012

Seventh Semester

Branch : Information Technology

MULTIMEDIA TECHNIQUES (T)

(Regular / Supplementary / Mercy Chance)

Time : Three Hours   Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 4 marks.

1. Define the term 'multimedia'.

2. Differentiate between analog and digital video.

3. Give the different file format by which image files can be stored.

4. What is MPEG?

5. How is data stored in a CD?

6. List out the characteristics of a multimedia PC?

7. What is a transform class?

8. What are the different types of database required in multimedia programming?

9. Define virtual reality.

10. Write a note on future multimedia.

(10 × 4 = 40 marks)

Part B

Answer all questions.

Each question carries 12 marks.

11. Briefly describe the different types of multimedia files that have to be handled.

Or

12. Write a note on the different authoring tools that you are familiar with.

13. Briefly describe the characteristics of different types of sound cards.

Or

14. Write a note on image compression techniques.

Turn over

B.TECH. DEGREE EXAMINATION, DECEMBER 2012

Seventh Semester

Branch : Information Technology

MULTIMEDIA TECHNIQUES (T)

Time : Three Hours   Maximum : 100 Marks

Part A

Answer all questions.

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1. Define the term 'multimedia'.
2. Differentiate between analog and digital video.
3. Give the different file format by which image files can be stored.
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5. How is data stored in a CD?
6. List out the characteristics of a multimedia PC?
7. What is a transform class?
8. What are the different types of database required in multimedia programming?
9. Define virtual reality.
10. Write a note on future multimedia.

(10 × 4 = 40 marks)

Part B

Answer all questions.

Each question carries 12 marks.

11. Briefly describe the different types of multimedia files that have to be handled.

Or

12. Write a note on the different authoring tools that you are familiar with.

13. Briefly describe the characteristics of different types of sound cards.

Or

14. Write a note on image compression techniques.

15. Describe the different techniques by which the files in a CD can be made interactive.

Or

16. Write a note on Microsoft multimedia file handling environments.

17. Explain in detail multimedia programming.

18. Prepare a note on the problems related to programming multimedia files.

19. Describe the characteristics and significance of full motion digital video.

Or

20. Describe in detail the concept of multimedia networks.

(5 × 12 = 60 marks)

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B.TECH. DEGREE EXAMINATION, DECEMBER 2012

Seventh Semester

Branch : Computer Science and Engineering / Information Technology

WEB TECHNOLOGIES (RT)

(Regular/Supplementary/Mercy Chance)

Time : Three Hours   Maximum : 100 Marks

Part A

Answer all questions.
Each question carries 4 marks.

1. Explain the difference between XML and HTML?

2. Write a note on C DATA?

3. What are the need of element type declarations?

4. Write a note on DTDs?

5. What are the bean properties?

6. Explain the features of java beans?

7. Explain response objects in JSP?

8. Discuss about serialized beans?

9. What is entity beans?

10. What is EJB?

(10 × 4 = 40 marks)

Part B

Answer all questions.
Each question carries 12 marks.

11. (a) List out the features of XML.   (4 marks)

    (b) Compare XML and HTML.   (8 marks)

Or

Turn over

12. Explain about XML documents and attributes of tags.   (12 marks)

13. How an XML data can be displayed in HTML browser as HTML tables.   (12 marks)

Or

14. How an XML data can be stored is HTML document? List out some XML applications?

(12 marks)

15. What are java beans components? Explain different type of bean properties?   (12 marks)

Or

16. How to create a BeanInfo class? How can we use it? How to create events in java beans?

(12 marks)

17. Define JSP? How to create a JSP page?   (12 marks)

Or

18. How execution handling in JSP with scriptlets can be done?   (12 marks)

19. What are features of entity beans? Write the development of session beans?   (12 marks)

Or

20. What are the steps involved in creating and implementing interfaces?   (12 marks)

(5 × 12 = 60 marks)

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B.TECH. DEGREE EXAMINATION, DECEMBER 2012

Seventh Semester

Branch : Computer Science and Engineering / Information Technology

MOBILE COMPUTING (Elective I) (R T)

(Regular / Supplementary / Mercy Chance)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

Each question carries 4 marks.

1. Explain the advantages of cellular systems.

2. Sketch an example for network and reference model.

3. Write notes on : (a) BCCH ; (b) DCCA.

4. Explain the different types of orbits.

5. Write short note on Infrared *vs.* Radio transmission.

6. Explain MAC.

7. Explain IP packet delivery.

8. List the advantages and disadvantages of Cellular IP.

9. Write note on WAP.

10. Write notes on :

     (a) Connection re-use.

     (b) Bandwidth optimization.

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

11. Explain Mobile Telephone System with neat diagram.

Or

12. Explain the short history of wireless communication.

(12 marks)

Turn over

13. Explain the following with advantages and disadvantages :

    (a) GEO ; (b) LEO ; (c) MEO.

                                                      (4 + 4 + 4 = 12 marks)

Or

14. Explain DVB.

                                                      (12 marks)

15. Explain the physical layer of IEEE 802.11

Or

16. Explain the advantages, disadvantages and design goals of WLANs.

                                                      (12 marks)

17. Write short notes on :

    (a) Optimizations.

    (b) Reverse tunnelling.

                                                    (6 + 6 = 12 marks)

Or

18. Write short notes on :

    (a) Snooping TCP.

    (b) Mobile TCP.

                                                    (6 + 6 = 12 marks)

19. Write short notes on :

    (a) WAE.

    (b) WTP-Class 2.

                                                    (6 + 6 = 12 marks)

Or

20. Explain WAP architecture.

                                                      (12 marks)

                                                  [5 × 12 = 60 marks]