

**F 6775**

(Pages : 2)

Reg. No.....

Name.....

**B.TECH. DEGREE EXAMINATION, NOVEMBER 2017**

**Seventh Semester**

Branch : Information Technology

IT 010 702—OBJECT ORIENTED MODELING AND DESIGN (IT)

(New Scheme—2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer all questions.*

*Each question carries 3 marks.*

1. What is inheritance ? Give example.
2. Define state of an object.
3. Highlight the advantages of dynamic modeling.
4. Appraise the need for design optimization.
5. Outline the key reason for modeling an activity diagram.

(5 × 3 = 15 marks)

**Part B**

*Answer all questions.*

*Each question carries 5 marks.*

6. Explain aggregation with an example.
7. Outline with an example the need for modeling a state transition diagram.
8. Outline with an example a class, an attribute and an operation.
9. Explain with an example an association class.
10. "A deployment diagram shows how instances of components and processes are configured for run-time execution on instances of processing nodes". Elucidate with an example.

(5 × 5 = 25 marks)

**Turn over**

**Part C***Answer all questions.**Each full question carries 12 marks.*

11. Model a class diagram for a "Banking System". State the functional requirements you are considering.

*Or*

12. (a) Outline with an example overriding for extension and overriding for restriction. (6 marks)  
 (b) What is multiple inheritance? Explain with an example multiple inheritance using delegation. (6 marks)
13. How to model the dynamic aspects of object oriented systems? Discuss with an example.

*Or*

14. Consider the following business logic for an order system :  
 Deepthi tools sell a line of high-quality wood working tools. When customers place orders on the company's Web site, the system checks to see if the items are in stock, issues a status message to the customer, and generates a shipping order to the warehouse, which fills the order. When the order is shipped, the customer is billed. The system also produces various reports. Draw a data flow diagram for the order system.
15. Explain with an example how a software design may be represented as a set of interacting objects that manage their own state and operations.

*Or*

16. What is a concurrent subsystem? Explain with an example the process of allocating subsystems to processors and tasks.
17. What is design optimization? Appraise with an example the design optimization process.

*Or*

18. (a) Outline the need for documenting the object design. (4 marks)  
 (b) Appraise with an example the contents of an object design document. (8 marks)
19. Model a UML state chart diagram for an Automated Teller Machine (ATM). State the functional requirements you are considering.

*Or*

20. (a) How to specify a use case? Explain with an example. (6 marks)  
 (b) Illustrate with an example the use of swimlane, fork and join (merge) in an activity diagram. (6 marks)

[5 × 12 = 60 marks]

**F 6790**

(Pages : 2)

Reg. No.....

Name.....

**B.TECH. DEGREE EXAMINATION, NOVEMBER 2017**

**Seventh Semester**

Branch : Information Technology

IT 010 703—COMPUTER GRAPHICS AND MULTIMEDIA SYSTEMS (IT)

(New Scheme—2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer all questions.*

*Each question carries 3 marks.*

1. Present an outline of raster display.
2. What is point clipping ? Give example.
3. Write a note on rendering.
4. Present an outline of interactive multimedia.
5. Outline the difference between lossless and lossy compression.

(5 × 3 = 15 marks)

**Part B**

*Answer all questions.*

*Each question carries 5 marks.*

6. Write a note on cathode ray tubes.
7. Explain with an example transformation of points.
8. Outline how polygon surfaces can be shaded efficiently by Gouraud shading.
9. What is MIDI? Discuss.
10. Write a note on multimedia operating systems.

(5 × 5 = 25 marks)

**Turn over**

**Part C**

*Answer all questions.*

*Each full question carries 12 marks.*

11. Illustrate with an example the steps in the Bresenham's line drawing algorithm,

*Or*

12. What is a polygon? Illustrate with an example a polygon filling algorithm of your choice.

13. Explain with an example the following two dimensional transformations: rotation and reflection of a straight line.

*Or*

14. What is line clipping? Outline with an example the Cohen-Sutherland line clipping algorithm.

15. Explain with an example hidden surface elimination using the Z - buffer algorithm.

*Or*

16. Discuss the Cyan-Magenta-Yellow-Black (CMYK) color model and Hue, Saturation, Value (HSV) color model.

17. Write a detailed note on data stream characteristics for continuous media.

*Or*

18. Write a short note on speech generation, speech analysis and speech transmission.

19. Discuss the MPEG compression standard.

*Or*

20. Explain with an example earliest deadline first algorithm.

(5 × 12 = 60 marks)

**F 6817**

(Pages : 2)

Reg. No.....

Name.....

**B.TECH. DEGREE EXAMINATION, NOVEMBER 2017**

**Seventh Semester**

Branch : Information Technology

IT 010 705—WEB APPLICATION DEVELOPMENT [IT]

(New Scheme—2010 Admission onwards)

[Regular/Supplemenatary]

Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer all questions.*

*Each question carries 3 marks.*

1. Outline the motivation for J2EE.
2. What is a servlet ?
3. Outline the basic types of JSP tags.
4. What is a session bean ?
5. Write a short note on remote method invocation.

(5 × 3 = 15 marks)

**Part B**

*Answer all questions.*

*Each quesiton carries 5 marks.*

6. What are data access objects ? Give example.
7. Write a note on model-view-controller design pattern.
8. Explain the following JSP implicit objects : request object and response object.
9. Appraise the lifecycle of EJB.
10. Write a note on message-driven beans.

(5 × 5 = 25 marks)

**Turn over**

**Part C**

*Answer all questions.  
Each question carries 12 marks.*

11. Explain with a diagram the architecture of J2EE.

*Or*

12. Appraise with an example the J2EE development lifecycle.

13. Explain with an example how a Java application can access a relational database using Java database connectivity.

*Or*

14. Explain with a diagram the lifecycle of a servlet.

15. Illustrate with an example the use of JavaBean components in JSP pages.

*Or*

16. Develop a JSP application for a "Library Management System". State the functional requirements you are considering.

17. What is an EJB container ? Appraise the services provided by an EJB container.

*Or*

18. What is an entity bean ? Explain with an example bean-managed persistent entity bean.

19. What is JMS ? Explain with a diagram JMS API programming model.

*Or*

20. What is CORBA ? Explain the components of CORBA RMI.

(5 × 12 = 60 marks)

**F 6859**

(Pages : 2)

Reg. No.....

Name.....

**B.TECH. DEGREE EXAMINATION, NOVEMBER 2017**

**Seventh Semester**

Branch : Information Technology

IT 010 706 L06—DATAMINING AND DATA WAREHOUSING (Elective II) [IT]

(New Scheme—2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer all questions.  
Each question carries 3 marks.*

1. What is data warehousing ? List its functions.
2. What are the different types of OLAP servers ?
3. List the applications of data mining.
4. What are the advantages of density based clustering method ?
5. Mention about the mining of web related database.

(5 × 3 = 15 marks)

**Part B**

*Answer all questions.  
Each question carries 5 marks.*

6. Explain Fact constellations and its applications.
7. What is data warehouse visualization ? What are its applications ?
8. Explain a data mining query language.
9. Write the K-means method for classical partitioning.
10. Discuss the mining of web related database.

(5 × 5 = 25 marks)

**Part C**

*Answer all questions.  
Each question carries 12 marks.*

11. (a) Explain spatial data cube construction and spatial OLAP. (5 marks)
- (b) Explain the need for a data warehouse. Explain the characteristics of a typical data warehouse. (7 marks)

Or

Turn over

12. Draw star and snowflakes schemas for a multidimensional database "SALES". This database has four dimensions namely, time, item, branch and location.
13. Explain OLAP operations in the multidimensional data model with suitable example.

*Or*

14. Explain the three tier data warehouse architecture in detail.
15. Explain the following data pre-processing techniques clearly :
  - (i) Data cleaning.
  - (ii) Dimensionality reduction.
  - (iii) Discretization.

(3 × 4 = 12 marks)

*Or*

16. Describe how the discovery and analysis of pattern trends and deviations done.
17. Describe how the Bayesian classifier can be used for medical diagnosis.

*Or*

18. Explain the concept of back propagation with the help of a back propagation algorithm.
19. Describe the text mining with the help of suitable examples.

*Or*

20. Explain the mining of multimedia databases with the help of examples.

[5 × 12 = 60 marks]