D–1170

Sub. Code
41211

DISTANCE EDUCATION

P.G.D.C.A. EXAMINATION, MAY 2019.

First Semester

DIGITAL COMPUTER ORGANIZATION

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Find the 1's and 2's complement of the binary number 11011.

2. Mention the use of Karnaugh map.

3. What is a flipflop?

4. Define a decoder.

5. What is an instruction cycle?

6. Define interrupt.

7. What is immediate addressing mode?

8. Define DMA.

9. What is main memory?

10. State the significance of cache memory.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Write notes on sum of products and product of sums.

Or

(b) Explain AND and OR gates.

12. (a) Write notes on full adder.

Or

(b) Explain shift registers.

13. (a) Illustrate the use of instruction codes.

Or

(b) Write short notes on accumulator logic.

14. (a) Explain any three addressing modes.

Or

(b) Explain the different modes of data transfer.

15. (a) Write notes on main memory.

Or

(b) Bring out the importance of virtual memory.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Illustrate the implementation of combinational circuits.

17. Explain different types of flipflops.

18. Discuss in detail about memory reference instructions.

19. Write notes on stack organization.

20. Explain in detail about associative memory.

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D–1171

Sub. Code
41212

DISTANCE EDUCATION

P.G.D.C.A. EXAMINATION, MAY 2019.

First Semester

OBJECT ORIENTED PROGRAMMING WITH C++

(CBCS 2018-19 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

All questions carry equal marks.

1. What is Object Oriented Programming?

2. Define : Polymorphism.

3. What is the use of inline Function?

4. Define the term Member Function.

5. What is Operator Overloading?

6. What is a Virtual Base Class?

7. What are Input and Output Streams?

8. What is File Mode?

9. What do you mean by Exception Handling?

10. When do we use Multiple Catch Handlers?

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Discuss the following :

(i) Formatted I/O Operations

(ii) Unformatted I/O Operations.

Or

(b) Describe the features of Object Oriented Programming.

12. (a) What types of functions are available in C++? Explain.

Or

(b) What is Function? How will you define a Function in C++? Explain with example.

13. (a) What do you mean by operator overloading? Explain with example.

Or

(b) Define Two Classes Celsius and Fahrenheit to represent the values. Use Conversion functions to convert it from one system to other.

14. (a) Write a note on File processing.

Or

(b) Distinguish between Overloaded Functions and Function Templates.

15. (a) Write a note on exception handling.

Or

(b) Write a Program that illustrates the application of Multiple Catch Statements.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

All questions carry equal marks.

16. Distinguish between the following terms :

    (a) Objects and Classes

    (b) Data Abstraction and Data Encapsulation

    (c) Inheritance and Polymorphism

    (d) Dynamic Binding and Message Passing.

17. How to initialize the objects using Constructors? Explain different types of Constructors with Example.

18. What are the different forms of Inheritance? Give an example for each.

19. How many file objects would you need to create to manage the following situations :

    (a) To create a text file

    (b) Read and display the contents.

20. Explain in detail about the mechanism of Exception Handling. Give example.

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D–1172	Sub. Code
	41213

DISTANCE EDUCATION

P.G.D.C.A. EXAMINATION, MAY 2019.

First Semester

Computer Applications

DATA STRUCTURES AND ALGORITHMS

(CBCS 2018-19 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define Algorithm.

2. What is an Array?

3. What do you mean by Linked List?

4. Define Queue.

5. Define Binary Tree.

6. Define Binary Search Tree.

7. Convert a Tree T, ABDEFGHJLK from preorder to Inorder traversal.

8. What do you mean by searching?

9. Define Sorting.

10. What is the complexity of Quick Sort?

PART B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain about complexity of an Algorithms.

Or

(b) Explain about representation of Linear Array in Memory.

12. (a) Discuss about Arithmetic Expression and polish notation with example.

Or

(b) Describe about single linked list.

13. (a) Briefly explain about types of Binary trees with examples.

Or

(b) Discuss briefly about applications of binary search trees.

14. (a) Explain about Hosting Technique.

Or

(b) Explain about Binary search algorithm with example.

15. (a) Explain about Insertion sort with example.

Or

(b) Explain about Quick sort with example.

PART C — (3 × 10 = 30 marks)

Answer any THREE of the following.

16. Explain in detail about Multidimensional Array.

17. Discuss in detail about Insertion and Deletion operations of Linked List.

18. Describe about Insertion and Deletion process of Binary Search Tree.

19. Explain in detail about merging lists.

20. Explain in detail about selection sort with example.

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D–1173

Sub. Code
41221

DISTANCE EDUCATION

P.G.D.C.A. EXAMINATION, MAY 2019.

Second Semester

SOFTWARE ENGINEERING

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define software.
2. What is the purpose of software quality Assurance?
3. What is validation?
4. Write down the requirements engineering tasks.
5. Write any four software design concepts.
6. Define user interface.
7. Define testing.
8. What is meant by debugging?
9. Define quality control.
10. Expand RMMM.

PART B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Discuss CMMI.

Or

(b) Write a brief note on the spiral model.

12. (a) What is the importance of requirement analysis?

Or

(b) Discuss about flow – oriented modeling.

13. (a) Write about software design evaluation.

Or

(b) Write a short note on data-centered architecture.

14. (a) Describe Goal-oriented software measurement.

Or

(b) Describe on black box and white box testing.

15. (a) Discuss on software risks.

Or

(b) Write about software quality assurance.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the RAD model in detail.

17. Discuss in detail about object oriented analysis.

18. What is software architecture? Explain the importance of architecture.

19. Write about any four testing strategies.

20. What are the steps involved in software risk projection? Discuss in detail.

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D–1174

Sub. Code
41222

DISTANCE EDUCATION

PGDCA. EXAMINATION, MAY 2019.

Second Semester

Computer Application

RELATIONAL DATABASE MANAGEMENT SYSTEMS

(CBCS – 2018-19 Academic year onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions

1. What is Instances?
2. Write two difference between database and File System.
3. Define View.
4. What do you mean by Integrity Constraint?
5. What is nested queries?
6. Define normalization?
7. What are Concurrent transactions?
8. What is atomicity?
9. What is Indices?
10. Define Dynamic storage.

PART B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Discuss about ER model.

Or

(b) Write the functions of Database Administration.

12. (a) Briefly discuss on Logical database design.

Or

(b) Write about Querying Relational data.

13. (a) Describe about Lossless Join decomposition.

Or

(b) Write a brief note on functions of Trigger.

14. (a) Discuss in detail about Transaction state.

Or

(b) Describe about Buffer Management.

15. (a) Write short notes on File organisation.

Or

(b) Discuss about Index data structure.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions

16. Explain the types of Data Models with suitable diagram.

17. Discuss in detail about the altering/destroying Tables and views.

18. Describe about Boyce Codd Normal Form (BCNF)

19. Write a detailed note on Log based Recovery.

20. Explain in detail about B^+ Trees.

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D–1175

Sub. Code
41223

DISTANCE EDUCATION

P.G.D.C.A EXAMINATION, MAY 2019.

Second Semester

Computer Applications

COMPUTER GRAPHICS

(CBCS 2018–19 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is a display controller?

2. Name any four input devices.

3. Define Viewport.

4. What is Point Clipping?

5. Define Convex Hull.

6. List the advantages of B-Splines

7. Define Perspective Projection.

8. Write the matrix representation for reflection of points relative to the xy plane.

9. What are the basic functions of depth-sorting method?

10. What is Morphing?

PART B — (5 × 5 = 25 marks)

Answer ALL questions

11. (a) Discuss Flood-Fill algorithm.

Or

(b) Write the steps in Midpoint Circle algorithm.

12. (a) Explain Window to Viewport coordinate Transformation.

Or

(b) Explain 2D Rotation.

13. (a) Discuss about Bezier Curue Properties.

Or

(b) Explain Quadric Surfaces.

14. (a) Write short notes on Viewing Pipeline.

Or

(b) Explain 3 Dimensional Scaling.

15. (a) Explain Depth Butler Algorithm.

Or

(b) Write about the design of Animation Sequence.

PART C — (3 × 10 = 30 marks)

Answer Any THREE questions

16. Explain Bresenhams Line drawing algorithm in detail.

17. Explain Sutherland Hodgeman Polygon clipping algorithm.

18. Explain Polygon Rendering Methods.

19. Discuss in detail about the General Parallel Projection Transformation.

20. Explain in detail Motion Specifications.

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