D–2218

Sub. Code
31311

DISTANCE EDUCATION

M.Sc. (Information Technology) DEGREE EXAMINATION, DECEMBER 2023.

First Semester

COMPUTER ORGANIZATION AND ARCHITECTURE

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. What are basic properties of Boolean algebra?

2. What is a karnaugh map?

3. Define bus.

4. What is mean by arithmetic logic shift unit.

5. Define instruction cycle.

6. What are the different types addressing modes.

7. Briefly explain priority interrupt.

8. What is mean by asynchronous data transfer.

9. Comment on Virtual memory.

10. Define DMA.

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) What are Flip-Flops? Explain.

Or

(b) Explain about multiplexer.

12. (a) Explain the four condition of RS Flip-Flop.

Or

(b) Write short notes on register transfer.

13. (a) Discuss about register.

Or

(b) What is an Addressing Mode?

14. (a) Explain Peripheral Devices with example.

Or

(b) Write down Hardware implementation for multiplication operation.

15. (a) Write short notes on memory hierarchy.

Or

(b) Sketch the block diagram of associative memory.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. What are universal gates? Explain with truth table.

17. Give the hardware implementation for signed magnitude data.

18. Give detail note on stack organizations.

19. Design the flowchart for addition and subtraction of bfloating-point numbers with an example.

20. Explain how the auxiliary memory.

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Sub. Code
31312

DISTANCE EDUCATION

M.Sc. (Information Technology) DEGREE EXAMINATION, DECEMBER 2023.

First Semester

OBJECT ORIENTED PROGRAMMING AND JAVA

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. List out various benefits of OOPs.

2. Define Java Support Systems.

3. Give a note on Wrapper Classes.

4. What is meant by constructors?

5. Comment on Multithreading.

6. Define Synchronization.

7. What is Applet tag?

8. List out various types of errors.

9. Comment on I/O Class.

10. Define Random Access File.

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) Explain about Tokens and Java Statements.

Or

(b) Write a java program to implement looping statements.

12. (a) Describe Method overloading in Java.

Or

(b) Write a note on Enumerated Types.

13. (a) Explain about creating a thread.

Or

(b) Discuss about Life cycle of a thread.

14. (a) How to throw our own exceptions? Explain with example.

Or

(b) How to draw Bar charts in Applet?

15. (a) Write about Byte Stream Classes.

Or

(b) Discuss about Reading/writing characters in Java.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Discuss various operators in Java.

17. Illustrate on Inheritance and its types.

18. How to implementing the Runnable Interface? Explain with example.

19. Explain about Applet Life cycle.

20. Discuss in detail about Input / Output Exceptions.

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D–2220

Sub. Code
31313

DISTANCE EDUCATION

M.Sc. (Information Technology) DEGREE EXAMINATION, DECEMBER 2023.

First Semester

DATA STRUCTURES AND ALGORITHMS

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. What is meant by Data Structure?

2. Define Primitive Data types.

3. List out various applications of Queues.

4. Comment on Circular Queue.

5. What is Binary Tree?

6. Define Hashing Techniques.

7. What is Complete Binary Tree?

8. Comment on Searching.

9. Write about Bubble Sort.

10. Define Sorting.

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) Write about Array and Initialization of Array.

Or

(b) Explain various types of data structures.

12. (a) What is Queue? Explain various operation of Queue.

Or

(b) Write a note on representation of linked list.

13. (a) How to perform insertion and deletion operation in Binary Tree?

Or

(b) Explain about Binary Tree traversals.

14. (a) Briefly explain various types of Searching.

Or

(b) What is Linear Search? Explain with example.

15. (a) Explain about Insertion Sort.

Or

(b) Write a note on Tree Sort.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Discuss about One dimensional array and its representation.

17. Explain about Stack and its implementation.

18. Illustrate on Binary Search Tree.

19. How to sorting elements using Linear Search? Explain with example program.

20. Which sorting algorithm is best? Justify with example.

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	31321

DISTANCE EDUCATION

M.Sc. (Information Technology) DEGREE EXAMINATION, DECEMBER 2023.

Second Semester

DATA MINING AND WAREHOUSING

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL the questions.

1. What ia data cleaning?
2. List out the use of data pre-processing.
3. Define AR algorithms.
4. Define classification.
5. What do you meant by K-Means algorithm?
6. List out the uses of Neural Networks.
7. Why we need Web mining?
8. What is knowledge mining?
9. List out various types of big data.
10. Define Hadoop.

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) Describe data warehouse server.

Or

(b) How do you use data transformation in data mining?

12. (a) Explain about the pincher search algorithm.

Or

(b) Discuss about the decision tree classification.

13. (a) Describe about hierarchical clustering.

Or

(b) Elucidate the supervised learning.

14. (a) Give a note on spatial mining.

Or

(b) Discuss about the Weka.

15. (a) Discuss about the technologies available for big data.

Or

(b) List out the core Hadoop components.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Explain different forms of knowledge.

17. Discuss about classification by Back Propagation.

18. Elaborate the STIRR and ROCK.

19. Write a note on Text clustering and temporal mining.

20. Compare Traditional versus Big data approach.

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	31322

DISTANCE EDUCATION

M.Sc. (Information Technology) DEGREE EXAMINATION, DECEMBER 2023.

Second Semester

RELATIONAL DATABASE MANAGEMENT SYSTEM (RDBMS)

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. Define Database System.
2. List out the features of ER Model.
3. What is meant by integrity constraint?
4. Write a note on selection operation.
5. Give any 2 basic SQL queries.
6. What is aggregative Operators?
7. Outline the atomicity and durability.
8. Define multiple granularity.
9. What is file organization and indexing?
10. Define B+ trees.

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) Compare database system and file system.

Or

(b) Elaborate on database design and ER diagrams.

12. (a) Illustrate on querying relational data.

Or

(b) Explain about projection operations with example.

13. (a) Explain nested queries with example.

Or

(b) Elaborate logical connectivity's with example.

14. (a) Outline the transaction concept.

Or

(b) Elaborate on lock based protocols.

15. (a) Compare the cluster, primary and secondary indexes.

Or

(b) Elaborate on free base indexing.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Explain about database languages and DDL with examples.

17. Elaborate various joins in relational algebra with example.

18. Demonstrate the first, second and third normal forms.

19. Elaborate time stamp protocols.

20. Illustrate the ISAM.

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	31323

DISTANCE EDUCATION

M.Sc. (Information Technology) DEGREE EXAMINATION, DECEMBER 2023.

Second Semester

VISUAL PROGRAMMING WITH .NET

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is Visual Studio?

2. Describe Share Point Projects.

3. Illustrate Main Method.

4. How do you create a code snippet?

5. Define Delegates.

6. Write about Startup object.

7. What is use of Breakpoints?

8. Define Foreign Keys.

9. What are layouts in WPF?

10. Mention the uses of DataGrid.

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) Write notes on Role of Software.

Or

(b) Explain about the Unified process.

12. (a) How do you validating requirements?

Or

(b) Comment on Scenario-Based Modeling.

13. (a) Write a notes on Design Concepts

Or

(b) List out various steps for Interface Design.

14. (a) What is called a Unit Testing? Explain it.

Or

(b) Explain various metrics for measurement.

15. (a) Comment on Software Risks.

Or

(b) Write a note on the ISO 9000 quality standards.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Discuss about Visual Studio Project Types.

17. Illustrate Loops in visual studio with example.

18. How use arrays and generics in visual studio?

19. Briefly explain debugging methods in visual studio with example.

20. How to deploy web services with WCF?

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	31331

DISTANCE EDUCATION

M.Sc. (Information Technology) DEGREE EXAMINATION, DECEMBER 2023.

Third Semester

OPEN SOURCE SOFTWARE

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Write basic concepts in Linux.

2. Define Signals.

3. How do you access a string in SQL?

4. Define Sequence.

5. How to declare variables in PHP?

6. Mention various modes of open ( ) function.

7. What is called Dictionaries?

8. Define Exceptions.

9. How to modify variables in Perl?

10. What is called Modules?

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) Write a note on Kernel Mode.

Or

(b) Explain about Personalities in Linux.

12. (a) How do you terminating account in SQL?

Or

(b) Write a note on Generating Summary in SQL.

13. (a) Write a PHP program to find Armstrong numbers.

Or

(b) Comment on PHP Templates.

14. (a) Give brief notes on Sequences in Python.

Or

(b) Write a Python program to find the size of a dictionary.

15. (a) Comment on Subroutine.

Or

(b) Demonstrate IF Statement using Perl.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Briefly explain about various advanced concepts in Linux.

17. Comment on Working with strings in SQL.

18. Demonstrate Error handling in PHP.

19. Write a Python program to build flashcard using class in python.

20. Discuss about working of files in Perl.

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	31332

DISTANCE EDUCATION

M.Sc. (Information Technology) DEGREE EXAMINATION, DECEMBER 2023.

Third Semester

OPERATING SYSTEMS

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define Operating Systems.
2. List out various types of OS.
3. What is Process?
4. Comment on Scheduler.
5. What is synchronization?
6. Define deadlock recovery.
7. Comment on Semaphore.
8. What is memory allocation?
9. Define Mass Storage structure.
10. What is meant by Directory?

PART B — (5 × 5 = 25 marks)

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

11. (a) Explain various operations of operating system.

Or

(b) Write a note on OS Services.

12. (a) Give a short note on inter process communication.

Or

(b) Briefly explain about Scheduling criteria.

13. (a) Write a note on Deadlock characterization.

Or

(b) Explain about Deadlock prevention.

14. (a) Give a short note on contiguous memory allocation.

Or

(b) Write a note on Segmentation.

15. (a) Briefly explain about File sharing and protection.

Or

(b) How Disk scheduling performed in OS?

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Illustrate on Operating System Structure.

17. Discuss various operation on processes.

18. Explain various methods for handling deadlocks.

19. How paging works in operating system?

20. Discuss about File system structure and implementation.

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DISTANCE EDUCATION

M.Sc. (Information Technology) DEGREE EXAMINATION, DECEMBER 2023.

Third Semester

COMPUTER NETWORKS

(CBCS 2018-19 Academic Year onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Why we need wireless network?

2. List the use of WAN.

3. Define framing.

4. What is ARQ?

5. What do you mean by static routing?

6. Define broad cast.

7. Why we need TCP?

8. Expand HTTP and define.

9. What is Encryption?

10. Define AES.

PART B — (5 × 5 = 25 marks)

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

11. (a) List out the application of Computer networks.

Or

(b) Elaborate the transmission media.

12. (a) Illustrate the Cyclic Redundancy Check.

Or

(b) Discuss about ALOHA.

13. (a) Describe about the shortest path routing.

Or

(b) Explain control algorithms.

14. (a) Write a note on file transfer.

Or

(b) Elaborate the remote file access.

15. (a) Elucidate the cryptography.

Or

(b) What is the use of security services? Explain.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Illustrate the analog and digital signals performance.

17. Evaluate about selective - repeat ARQ.

18. Explain in detail about distance vector routing.

19. Discuss about the following: (a) WWW (b) SNMP.

20. Describe about the cryptographic principles with details.

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DISTANCE EDUCATION

M.Sc. (Information Technology) DEGREE EXAMINATION, DECEMBER 2023.

Fourth Semester

WEB TECHNOLOGY

(CBCS 2018-2019 Academic Year onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is the tag used for changing the font name in HTML?

2. List out various features of XML?

3. What are the three tags used in JSP bean development?

4. Mention the roles in EJB.

5. What is servlet?

6. Mention the role and responsibility of Http request method.

7. Define Java Server Pages.

8. How to deal with syntax errors in JSP page?

9. What is JDBC in Java?

10. Mention the components of Struts Framework.

PART B — (5 × 5 = 25 marks)

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

11. (a) In HTML, mention the steps carried out to insert an image and an alternate text for the same.

Or

(b) Give a short note on the XML structure.

12. (a) What are the steps to be followed in creating a new Bean?

Or

(b) What is EJB life cycle? Describe it with suitable diagram.

13. (a) Explain the life cycle of servlet.

Or

(b) What is session tracking? Explain the way of handling session in servlet.

14. (a) Write a JSP program to design Employee registration form.

Or

(b) Explain about sharing session.

15. (a) Bring out the various classes used in JDBC extension API used in Java.

Or

(b) Give a brief account on JDBC architecture.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. What is table in HTML? Create table in HTML using HTML tags and Format table with HTML tags.

17. Discuss about Bean Introspection in detail.

18. Explain in detail about Servlet API and javax.servlet package.

19. Discuss in detail about (a) problems with Servlets (b) Anatomy of JSP Page.

20. Write a JSP program to connect MS Access database.

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31342

DISTANCE EDUCATION

M.Sc.(Information Technology) EXAMINATION,
DECEMBER 2023.

Fourth Semester

SOFTWARE ENGINEERING

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL the questions.

1. What are the characteristics of the software?

2. Can you able to list out various approaches in process assessment?

3. What is called Thumb rule?

4. Comment on Preliminary use case diagram.

5. Define a term Information Hiding.

6. Why is Architecture Important?

7. Write short note on black box testing.

8. Define Cohesion.

9. Describe a Risk Refinement.

10. What is Quality?

PART B — ($5 \times 5 = 25$ marks)

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

11. (a) Explain about Layered Technology.

Or

(b) How you assess the process?

12. (a) Write a tasks of requirement engineering.

Or

(b) How to create a Behavioral Model?

13. (a) Comment on Data Design.

Or

(b) How to evaluate user interface design?

14. (a) Write test strategies for Object-Oriented Software.

Or

(b) Mention metrics for Software Quality and Software Process.

15. (a) Compare Reactive vs. Proactive Risk Strategies.

Or

(b) Comment on Software Reviews.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Comment on Process Patterns.

17. Illustrate Flow-Oriented Modeling.

18. Briefly explain the design models.

19. Mention the various metrics for Analysis model, Design model and Measurement.

20. Review on Quality Management.

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DISTANCE EDUCATION

M.Sc. (Information Technology) DEGREE EXAMINATION, DECEMBER 2023.

Fourth Semester

CLOUD COMPUTING

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

SECTION A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. List down the pros and cons of cloud service development.
2. Write down the types of cloud service development.
3. Define collaboration on group projects.
4. Explain the computing for corporation.
5. Elaborate the collaborating on word procession.
6. Explain the collaboration on contact management.
7. List out the overview of cloud storage.
8. Write about software as a security service.
9. Comment on open nebula.
10. List the importance of nimbus tool.

SECTION B — (5 × 5 = 25 marks)

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

11. (a) Explain the Cloud computing.

Or

(b) Elaborate the developing of cloud services.

12. (a) Elaborate how to collaborate schedules.

Or

(b) Explain collaborating on group projects and events.

13. (a) Explain how to explore the online scheduling applications?

Or

(b) Explain the exploring online planning and task management.

14. (a) Outline the security in cloud.

Or

(b) Elaborate on Map reduce.

15. (a) Illustrate the tool — Nimbus.

Or

(b) Elaborate on open nebula tool.

SECTION C — (3 × 10 = 30 marks)

Answer ANY THREE questions

16. Elaborate discovering cloud services development service and tools.

17. Elaborate the communicating across the community.

18. Explain the collaboration on project management.

19. illustrate the Amazon S3.

20. Demonstrate the tool - nimbus.

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