R–4599

Sub. Code
551201

M.Sc. DEGREE EXAMINATION, APRIL 2021

Second Semester

Computer Science

DISTRIBUTED OPERATING SYSTEM

(CBCS – 2019 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1.   Define Operating system.

2.   How is Deadlock resolved?

3.   What is Vector Clock?

4.   What is Termination Detection in distributed system?

5.   What are the services of Distributed File System?

6.   What is Distributed Scheduling?

7.   What is meant by Fault Tolerance?

8.   Define Nonblocking Commit Protocols.

9.   Define Threads.

10.   What is Linux and how does it work?

Part B $(5 \times 5 = 25)$

Answer **all** questions choosing either (a) or (b).

11. (a) Discuss the functions of operating system.

Or

(b) Analyze the Mechanism of Synchronization.

12. (a) Explain in detail about Lamport's Algorithm.

Or

(b) Discuss about Operating System Design issues.

13. (a) Explain in detail about Distributed Scheduling

Or

(b) Explain Load Distributing Algorithm.

14. (a) Discuss about Dynamic Voting Protocols.

Or

(b) Explain Failure Recovery and Fault Tolerance.

15. (a) How Fault Tolerance is carried out in the OS? Explain.

Or

(b) Analyse Database Operating Systems.

Part C $(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain in detail about
    (a) Process Deadlock
    (b) Models of Dead lock
    (c) Conditions for Deadlock.

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17. Discuss about any Three Distributed Deadlock Detection algorithms.

18. Explain in detail about Architecture and mechanisms of Distributed File System.

19. Briefly discuss about Check Point in Distributed Database Systems.

20. Describe the Linux Operating Systems.

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R–4599

R–4600	Sub. Code
	551202

M.Sc. (CS) DEGREE EXAMINATION, APRIL 2021

Second Semester

Computer Science

ADVANCED JAVA PROGRAMMING

(CBCS – 2019 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** the questions.

1. What is Treeset?

2. What is the benefit of the factory pattern?

3. What is the sequence for calling methods by AWT for applets?

4. What are the applets information methods?

5. What is JDBC data source and what are its benefits?

6. Which JDBC driver is the fastest driver?

7. List out servlet strengths.

8. What are the different types of comments in JSP?

9. What is Nashron javas?

10. What is the use of collection factory methods?

Part B (5 × 5 = 25)

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

11. (a) List the differences between comparable Vs comparator.

Or

(b) How to remove elements from an Array list? Explain it with examples.

12. (a) What are the steps involved in Applet development?

Or

(b) What is the difference between AWT and Swing? Discuss it.

13. (a) What are CLOB and BLOB data types in ODBC?

Or

(b) What are sockets? How sockets are represented in java? Explain it with examples.

14. (a) Discuss : JSP Life cycle.

Or

(b) What are the JSP implicit objects? Discuss it.

15. (a) Explain the syntax and characteristics of a lambda expression.

Or

(b) What is optional class? How it is used in Java? Explain it with example.

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Part C   (3 × 10 = 30)

Answer any **three** questions.

16. How to sort elements in different order (other than natural ordering) in TreeSet?

17. List out the components in AWT? Explain it in detail.

18. How can we maintain the integrity of a database by using JDBC? Explain.

19. Explain the servlet architecture with neat diagram.

20. What are the new features were added in Java 8? Discuss it in detail.

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R–4601

Sub. Code
551203

M.Sc. DEGREE EXAMINATION, APRIL 2021

Second Semester

Computer Science

CRYPTOGRAPHY AND NETWORK SECURITY

(CBCS – 2019 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** the questions.

1. Define cryptanalysis.

2. Why we need network security?

3. What are the principle elements of a public key cryptosystem?

4. What is the function of elliptic curve cryptography?

5. What is the purpose of x.509 standard?

6. What are the services provided by PGP?

7. List the difference between SSL and TLS.

8. What are the features of SET?

9. List the design goals of firewall.

10. Define virus. Specify the types of viruses.

Part B (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Give the difference between active attack and passive attack.

    Or

    (b) Explain the operations, requirements, components of network security model.

12. (a) Give the five modes of operations of Block cipher.

    Or

    (b) Distinguish between direct and arbitrated digital signature.

13. (a) Write short Notes on Electronic Mail Security.

    Or

    (b) Explain about S/MIME in detail.

14. (a) Give the benefits of IP Security.

    Or

    (b) What are the steps involved in SET Transaction? Discuss it.

15. (a) Discuss : Virus counter measures.

    Or

    (b) Explain different types of firewall and its configuration in detail.

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Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain the classical encryption techniques in detail.

17. Explain about the RSA algorithm with example as P = 7, Q = 11, e = 17 and M = 8.

18. What is Kerberos? What are the uses? Discuss it.

19. Write short notes on authentication header and ESP.

20. Elaborate Malicious software.

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R–4602

Sub. Code
551556

M.Sc. DEGREE EXAMINATION, APRIL 2021

Second Semester

Computer Science

SOFTWARE ARCHITECTURE

(CBCS – 2019 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** the questions.

1.   What is the use of software Architecture?

2.   Define: Quality Attributes.

3.   List out merits of using visual languages.

4.   Define the term Architectural Views.

5.   What is the use of Event Styles?

6.   What is Architectural Style?

7.   What do you mean by system decomposition?

8.   List out various approaches for Architectural Design.

9.   What is the process of SOA?

10. What is the need for evaluation?

Part B (5 × 5 = 25)

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

11. (a) Discuss in detail about quality Attribute Workshop.

Or

(b) Explain in detail about Architectural structures.

12. (a) Discuss in detail about various perspectives of Architectural views.

Or

(b) Explain: Architectural Description Languages.

13. (a) Discuss about Data flow styles.

Or

(b) Discuss : Shared Information Styles.

14. (a) Explain briefly about Attributes driven design.

Or

(b) Discuss: Architectural Conformance.

15. (a) Describe SOA and Web Services.

Or

(b) Discuss in detail about cloud computing.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Elaborate: Architectural Drivers.

17. Describe in detail about Architectural views and documentation.

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18. Discuss in detail about Event styles with example.

19. Describe in detail about various approaches for Architectural design.

20. Elaborate: Architectural Evaluation with example.

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3   **R–4602**

R–4603	Sub. Code
	551559

M.Sc. DEGREE EXAMINATION, APRIL 2021

Second Semester

Computer Science

ADVANCED DATA MINING TECHNIQUES

(CBCS – 2019 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   Classify the data mining tasks.

2.   What do you mean by noisy data?

3.   What are the difficulties of multilevel mining with uniform support?

4.   How can you measure the lift?

5.   What is prediction?

6.   What are Bayesian classifiers?

7.   What are the two types of hierarchical clustering methods?

8.   What is core-distance?

9. Mention the categories of mining techniques in web.

10. What is Page Rank?

Part B $(5 \times 5 = 25)$

Answer **all** questions, choosing either (a) or (b).

11. (a) Describe the five primitives for specifying a data mining task.

Or

(b) Write a note on data transformation.

12. (a) Illustrate with an example, how market basket analysis is useful.

Or

(b) Write the procedure of generating association rules from frequent itemsets.

13. (a) Compare classification and prediction methods.

Or

(b) How can you solve the nonlinear models by the method of least squares?

14. (a) Describe the squared error clustering algorithm.

Or

(b) Explain the need of self organizing map.

15. (a) How is text mining related to web mining?

Or

(b) Write a note on virtual web view.

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Part C   (3 × 10 = 30)

Answer any **three** questions.

16. Describe the major issues is data mining.

17. Explain how can you mining frequent itemsets without candidate generation.

18. How classifications is carried out using back propagation?

19. Describe the k-means clustering algorithm.

20. Write about web usage mining.

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