R6799

Sub. Code
551201

M.SC. DEGREE EXAMINATION, APRIL – 2022

Second Semester

Computer Science

DISTRIBUTED OPERATING SYSTEM

(CBCS – 2019 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are the types of Advanced operating system?

2. What are the Characteristics of Deadlock?

3. Define mutual exclusion.

4. What is Global State?

5. Define distributed file system.

6. Define distributed shared memory.

7. What is failure recovery?

8. What is Two Phase commit protocol?

9. What is process?

10. What are the advantages of Multi Processors?

Part B (5 × 5 = 25)

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

11. (a) Describe the following: (i) Critical section problem. (ii) Producer – consumer problem.

Or

(b) Explain types of Advanced Operating System.

12. (a) Describe Distributed Mutual Exclusion.

Or

(b) Discuss the following : (i) Token-based algorithm (ii) Non token-based algorithm.

13. (a) Analyze in detail about distributed file systems.

Or

(b) Write the issues in Task migration?

14. (a) Discuss recovery in concurrent systems.

Or

(b) Describe the voting protocols.

15. (a) List out the features of Linux operating system.

Or

(b) Describe threads.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Discuss about Deadlock models in detail.

17. Explain in detail about Agreement Protocols.

18. Describe the algorithm for implementing DSM.

19. Explain Non-blocking commit protocols.

20. Explain in detail about Reliability/Fault tolerance in data base operating system.

———————

R6800	Sub. Code 551202

M.SC. DEGREE EXAMINATION, APRIL – 2022

Second Semester

Computer Science

ADVANCED JAVA PROGRAMMING

(CBCS – 2019 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is the limitation of using singleton pattern?

2. How Tree Map orders the elements if the key is a string?

3. What are the applet information methods?

4. What is a Map in java?

5. What is JDBC?

6. Which interface is responsible for transaction management in JDBC?

7. Define cookies in Java.

8. Enlist four action tags in JSP?

9. List out the tools for developing web API?

10. What is Jshell?

Part B (5 × 5 = 25)

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

11. (a) Discuss the difference between array lists vs. linked list.

Or

(b) When We use Factory Pattern? How it is implemented? Explain.

12. (a) Discuss – Applet life cycle.

Or

(b) Discuss – AWT Component classes with example.

13. (a) Explain in detail the various components of JDBC?

Or

(b) Define all the classes of JDBC drives.

14. (a) Write a JS code to display data from student database.

Or

(b) Write a servlet code to read html data and display data on client browser.

15. (a) What are the common test performed on API'S?

Or

(b) How does the API builder work? Explain.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write short note on: (a) Adapter Pattern. (b) Template Pattern.

17. What are the steps involved in Applet development? Discuss it.

18. What are the different types of lockings in JDBC? Explain it in detail.

19. Write a short note on JSP exception handling with suitable example.

20. What is a functional interface? What are the rules of defining a functional interface? Explain it with example.

———————

R6801	Sub. Code 551203

M.Sc. DEGREE EXAMINATION, APRIL – 2022

Second Semester

Computer Science

CRYPTOGRAPHY AND NETWORK SECURITY

(CBCS – 2019 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Specify the four categories of security threats?

2. Define active and passive attack.

3. Define KDC.

4. What is elliptic curve cryptography?

5. What is message authentication?

6. What are the services provided by PGP?

7. Define Kerberos?

8. What are the features of SET?

9. Define malicious software?

10. List the three classes of intruder?

Part B (5 × 5 = 25)

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

11. (a) Write about any two classical crypto systems (substitution and transposition) with example?

Or

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

12. (a) Explain bout RSA with one suitable example.

Or

(b) Explain about secure hash algorithm (SHA) in detail.

13. (a) Explain the operational description of PGP.

Or

(b) Explain the architecture of electronic mail security.

14. (a) What is secure socket layer? Explain the SSL handshake protocol.

Or

(b) Explain the secure electronic transaction with neat diagram?

15. (a) Discuss the various virus counter measures in detail.

Or

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

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain the classical encryption techniques in detail.

17. Write and explain the digital signature algorithm.

18. Name any cryptographic keys used in PGP. Explain.

19. Write short notes on authentication header and ESP.

20. Describe the trusted system in detail.

———————

R6802	Sub. Code
	551556

M.Sc. DEGREE EXAMINATION, APRIL – 2022

Second Semester

Computer Science

Elective-II — SOFTWARE ARCHITECTURE

(CBCS – 2019 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is the use of technical constraints?

2. What is QAW?

3. List the demerits of using visual languages.

4. What is ACME?

5. What is the use of data flow styles?

6. What is architectural style?

7. Define : System decomposition.

8. List out various approaches for architectural design.

9. What is the use of web services?

10. What is the need for evaluation?

Part B (5 × 5 = 25)

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

11. (a) Discuss the following: (i) Documenting quality attributes (ii) Technial constraints.

Or

(b) Explain in detail about the influence of software architecture on organization.

12. (a) Explain in detail about good practices in documentation.

Or

(b) Why we need formal languages? Discuss it in detail.

13. (a) Explain in detail about call – return styles.

Or

(b) Discuss : Event styles.

14. (a) Discuss about architecting for specific quality attributes.

Or

(b) Explain in detail about system decomposition.

15. (a) Explain about SOA and web services.

Or

(b) Discuss : ATAM and its variations.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Elaborate architecture business cycle.

17. Define : Views. How to represent views? Discuss about what are the notations available and state that how to documenting the views using UML?

18. Discuss in detail about data flow styles with example.

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

20. Why we need evaluation? Discuss in detail about scenario based evaluation against the drivers.

———————

R6803	Sub. Code
	551559

M.Sc. DEGREE EXAMINATION, APRIL – 2022

Second Semester

Computer Science

ELECTIVE-II: ADVANCED DATA MINING TECHNIQUES

(CBCS – 2019 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. What do you mean by data integration?

2. How can you measure the dispersion of data?

3. What is absolute support?

4. Give an example for multidimensional association rules.

5. What is classification?

6. What are the advantages of neural networks?

7. What do you mean by divisive hierarchical clustering?

8. What is the use of self organizing map?

9. What is the underlying principle of the hidden web?

10. How can you compute page rank?

Part B (5 × 5 = 25)

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

11. (a) Describe the possible schemes available for integration of a data mining system with a database.

Or

(b) Describe the issues to be considered during data integration.

12. (a) How can you improve the efficiency of Apriori algorithm?

Or

(b) How can you use quantitative association rules for mining?

13. (a) How the decision tree induction is useful for classification?

Or

(b) Describe the procedure for back propagation.

14. (a) Describe the nearest neighbour algorithm.

Or

(b) Write a note on Hebbian learning.

15. (a) What are crawlers?

Or

(b) What are the differences between mining techniques of structured and unstructured data?

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. What are the methods available for data cleaning and explain.

17. Describe the Apriori algorithm.

18. Describe the procedure for predicting a class label using Bayesian classification.

19. Explain the density-based methods.

20. How is web usage mining different from web structure mining and web content mining?

———————