KINGS

COLLEGE OF ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

QUESTION BANK

SUB.CODE/SUBJECT : CS1353/DISTRIBUTED SYSTEMS YEAR / SEM: III / VI

UNIT – I

BASIC CONCEPTS

PART – A (2 MARKS)

1. Define distributed systems?
2. Give examples of distributed systems .
3. Write the following

(i)HTTP (ii) HTML (iii) URL

4. What are the uses of web services?
5. Define heterogeneity.
6. What are the characteristics of heterogeneity ?
7. What is the purpose of heterogeneity mobile code?
8. Why we need openness?
9. How we provide security?
10. Define scalability.
11. What are the types of transparencies?
12. Define transparencies.
13. Define System model.
14. What is the architectural model?
15. What is the fundamental model?
16. What are the difficult for treat and distributed system?
17. Define Middleware.
18. What are the different types of model?
19. Which type of network can be used by distributed system?

20. What are the different types of network?
21. Define latency.
22. What is the difference between networking and internetworking?
23. What is meant by networking?
24. What is meant by internetworking?
25. What are the different types of switching are used in computer networking?
26. Define protocol.
27. What is the function of router?
28. What is meant by internet protocol?
29. Define domain name.
30. Define mobile IP.

PART-B

1. a. Explain the Differences between intranet and internet.	(8)
b. Write in detail about www	(8)
2. Explain the various challenges of distributed systems	(16)
3. Write in detail about the characteristics of inter process communication	(16)
4. a. Explain in detail about marshalling	(8)
b. Explain about the networking principles.	(8)
5. Describe in detail about client - server communication.	(l6)
6. Write in detail about group communication.	(l6)
7. Explain in detail about the various system models	(16)
8. a. Describe details about architectural model?	(8)
b. Describe details about functional model?	(8)
9. a. Explain the various types of networks?	(8)
b. What are the networking issues for distributed System?	(8)
10.Explain about the internet protocols.	(16)

UNIT II

PROCESSES AND DISTRIBUTED OBJECTS

PART – A (2 MARKS)

1. What is meant by interprocess Communication?
2. What is the difference between RMI and RPC?
3. Define Datagram.
4. What is the use of UDP?
5. What are the methods provides by datagram socket?
6. What are the characteristic of network hidden by stream abstraction?
7. What is the use of remote object references?
8. List out the choices in RMI invocation semantics.
9. Write note on Dispatcher.
10. Define the binder.
11. What is a server thread?
12. List the activities of an activator.
13. What is mean by object location?
14. What is remote procedure call?
15. Give the difference between RMI and RPC.
16. What do you mean by Authentication?
17. Define notification.
18. Define the term metadata.
19. What is file replication?
20. Write note on flat file service.
21. Define path name.
22. What are the properties of URL?
23. Define name service.

PART-B

1. a. Explain the Communication between distributed objects (8)
   b. Explain in detail about Events and Notifications (8)
2. Explain in detail about Remote Procedure call with a case study. (16)
3. Describe java RMI. (16)
4. Explain about the group communication (16)
5. Describe about the client server communication (16)
6. a. Explain characteristics of interprocess communication. (8)
   b. Explain UDP datagram communication (8)
7. Explain the various type communications. (16)

UNIT III

OPERATING SYSTEM ISSUES I

PART – A (2 MARKS)

1. Mention the function of distributed operating system.
2. What is concurrent processing?
3. Write note on protection.
4. Define the shared memory multi-process.
5. What is the function of a process manager?
6. Define threads.
7. Distinguish between threads and multiple process.
8. When an object is considered to be a garbage?
9. How is distributed dead lock detected?
10. What is distributed termination detector?
11. Define marker receiving rule.
12. Define marker sending rule.
13. What is distributed debugging?
14. Why computer clock synchronization necessary?
15. What is global state predicate?

16. Write short note on name spaces.
17. List the domain names.
18. Define the term multi-cast.
19. What do you mean by group communication?

PART-B

1. Explain in detail the operating system layers. (16)
2. Write note on: i)Protection ii)Address space (16)
3. Explain the creation of new process in distributed systems. (16)
4. Write a detail note on threads. (16)
5. Explain the operating system architecture. (16)
6. Write note on: i) clocks ii) clock skew iii)Co-ordinate universal time (16)
7. Discuss about dead locks in detail. (16)
8. Explain about distributed mutual exclusion. (16)
9. Write note on: i) Distributed garbage collection
   ii) Distributed deadlock detection
   iii) Distributed termination detection (16)
10. Briefly explain the election algorithms. (16)

UNIT IV

OPERATING SYSTEM ISSUES II

PART – A (2 MARKS)

1. Define atomicity.
2. What do you mean by transaction?
3. What is transactional object?
4. Write note on durability.
5. Define isolation.
6. What happens when server actions related to process crashes?

7. What happens when client actions related to server process crashes?
8. What is agreement in passive replication?
9. Write note on nested transactions.
10. What are transactions?
11. What is two-phase locking?
12. Write note on shared locks.
13. Write the rules for nested transaction.
14. Define deadlock.
15. How dead lock is prevented?
16. Write note on timeouts.
17. How deadlock is detected?
18. What is validation phase?
19. What is update phase?
20. Define granularity.
21. What is two phase commit protocol?
22. What is one phase commit protocol?
23. Write note on transaction priority.
24. What is meta data?

PART-B

1. Discuss transactions with suitable example.	(16)
2. What is concurrency control? Explain in detail.	(16)
3. Briefly explain Nested Transactions.	(16)
4. Write short notes on locks with suitable example.	(16)
5. What is a deadlock? How deadlock can be recovered?	(16)
6. Explain flat Transaction and Nested Transaction.	(16)
7. Discuss a distributed banking transaction.	(16)
8. Explain Two Phase commit protocol.	(16)
9. Briefly Explain distributed dead locks.	(16)
10. Explain transaction recovery.	(16)

UNIT V

DISTRIBUTED TRANSACTION PROCESSING

PART – A (2 MARKS)

1. Define cryptography.
2. What are the security policies?
3. What is message tampering?
4. List the threads in distributed system.
5. Write note on replaying.
6. What do you mean by information leakage?
7. List the uses of cryptography.
8. What is authentication?
9. Define digital signature.
10. What do you mean by digital certificate?
11. What is fire wall?
12. What is block ciphers?
13. What is private key?
14. What is replication?
15. What are the role of group membership service?
16. How group membership changes notified?
17. What is object group?
18. What is passive replication?
19. List the suspense of events under active replication.
20. What are the state components of a replication manager contains?
21. Write note on primary copy replication.
22. What are the uses of replica manager?

PART-B

1. Discuss threats and attacks in distributed system. (16)
2. Explain cryptography and the uses of cryptography. (16)

3 .Write short on : i)Authentication ii) Digital signature (16)

4. Explain in detail: i)certificates ii) Fire walls (16)

5. Write shorts on : I)Blocks ciphersII) Stream ciphers (16)

6. Explain the basic model for the management of replicated data . (16)

7. Discuss group communication and its services. (16)

8. Explain passive replication model for fault tolerance. (16)

9. Discuss active replication model. (16)

10. Explain architectures for replicated transaction. (16)