Code No.2777/CBCS

FACULTY OF ENGINEERING

B. E. (CSE) (CBCS) VII – Semester (Main) Examination, December 2019

Subject: Distributed systems

Time: 3 hours

Max. Marks: 70

Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.

PART – A (20 Marks)

1. List out the goals of distributed systems.
2. Define process and threads.
3. What are interceptors?
4. List out clock synchronization algorithms.
5. What are the 3V's of Big Data?
6. What is directory information tree (DIT)?
7. State semantic sub object and communication sub object.
8. Name the different kinds of enterprise Java Beans (EJB).
9. What is meant by aliase?
10. Differentiate cluster computing systems and grid computing systems.

PART – B (50 Marks)

11. (a) Write short notes on architectural styles of distributed systems. (4)
    (b) Explain the types of distributed systems. (6)
12. Explain in detail election algorithm. (10)
13. Brief how files are distributed in distributed file systems with its architecture. (10)
14. (a) How consistency and replication is maintained in distributed coordination based system. (5)
    (b) Discuss the issues in Fault tolerance for distributed file systems. (5)
15. Write short notes on:
    (a) Data centric consistency model. (5)
    (b) Client-centric consistency model. (5)
16. Explain in detail about distributed commit protocol. (10)
17. Explain the features of Apache Pig. (10)

******

Code No. 11238

FACULTY OF ENGINEERING

B.E. 4/4 (CSE) I-Semester (Main & Backlog) Examination,
November / December 2018

Subject : Distributed Systems

Time : 3 Hours **Max. Marks: 75**

Note: Answer all questions from Part-A & any five questions from Part-B.

PART – A (25 Marks)

1 List out the goals of distributed systems. (3)

2 What is an intranet? (2)

3 Differentiate between Marshalling and Unmarshalling. (3)

4 Differentiate between RPC and LRPC. (2)

5 Explain briefly about Reliable multicast. (2)

6 Discuss about physical clocks and logical clocks. (3)

7 What is a global state? (2)

8 What are fault – tolerant services? (2)

9 State the basic design issues in the distributed shared memory system. (3)

10 List out various tasks of recovery manager. (3)

PART – B (50 Marks)

11 (a) Discuss briefly about the architectural models of distributed systems. (5)
(b) Explain Resource sharing in distributed systems. (5)

12 What is interprocess communication? Discuss general characteristics of IP communication with example. (10)

13 (a) What are the election algorithm? Discuss abut Bully algorithm. (5)
(b) Explain about distributed debugging. (5)

14 (a) Explain in detail about nested distributed transactions with proper examples.(5)
(b) Explain about concurrency control algorithms. (5)

15 What is sequential consistency ? Describe various methods for implementing sequential consistency. (10)

16 Explain the implementation and working of X-500 directory service. (10)

17 Write short notes on the following:
(a) Fault Tolerant Services (4)
(b) Logical time and Logical clocks (3)
(c) Name service (3)

*****

Code No. 11238/S

FACULTY OF ENGINEERING

B.E. 4/4 (CSE) I-Semester (Suppl.) Examination, May / June 2019

Subject : Distributed Systems

Time : 3 Hours **Max. Marks: 75**

Note: Answer all questions from Part-A & any five questions from Part-B.

PART – A (25 Marks)

1 Differentiate between distributed system and computer network. (3)
2 What are the types of failures? (2)
3 What is java object serialization? Give an example. (3)
4 What is thread scheduling? (2)
5 What properties should be satisfied for reliable multicast? (3)
6 Explain briefly about internal and external synchronization. (3)
7 Define distributed dead lock and edge chasing. (2)
8 What are the uses of replication? (2)
9 What do you mean by weak consistency of shared memory? How is it different from sequential consistency? (3)
10 What is “lost update” problem? What are its implications? (2)

PART – B (50 Marks)

11 List out the challenges of distributed system. Explain in detail. (10)

12 (a) How does the communication takes place between distributed objects? Explain. (7)
(b) What is marshaling? (3)

13 (a) What are Election algorithms? Explain about bully algorithm. (5)
(b) Explain about distributed debugging. (5)

14 What is optimistic concurrency control? How concurrency control can be achieved in distributed transactions. Explain. (10)

15 Explain the implementation and working of X.500 Directory Service. (10)

16 Explain about SUN network file system. (10)

17 Write short notes on:
(a) Logical time and logical clock (3)
(b) Name service. (3)
(c) Consensus in synchronous systems (4)

*****

Code No. 296/S

FACULTY OF ENGINEERING

B.E. 4/4 (CSE) I - Semester (Suppl.) Examination, May / June 2018

Subject : Distributed Systems

Time : 3 Hours **Max. Marks: 75**

Note: Answer all questions from Part-A answer any five questions from Part-B.

PART – A (25 Marks)

1 What are the challenges in Distributed Systems? (3)
2 Differentiate between Distributed systems and computer networks. (2)
3 What is Name Space? (2)
4 What are the uses of Events and Notifications in DS? (3)
5 Discuss distributed mutual exclusion. (3)
6 Define strongly consistent global state. (2)
7 Define flat and distributed transactions. (3)
8 What is atomic commit protocol? (2)
9 Define Granularity in Distributed shared memory management. (2)
10 List various task of recovery manager. (3)

PART – B (50 Marks)

11 (a) Discuss in brief about architectural model of DS. (5)
(b) Explain layered architecture for distributed systems. (5)

12 (a) Explain how a new process is created in Distributed systems. (5)
(b) How is directory service implemented in distributed systems? (5)

13 (a) Explain about distributed debugging. (4)
(b) What is election algorithm? Explain Bully algorithm. (6)

14 (a) Explain nested transactions. (4)
(b) What are distributed deadlocks? Explain. (6)

15 (a) Explain sequential consistency in DSM. (5)
(b) Explain File Management in SUN network file system. (5)

16 Explain in detail about concurrency control in distributed transactions. (10)

17. Write short notes on:
(a) CODA files system Architecture. (4)
(b) Release consistency. (4)
(c) RMI. (2)

*****

Code No. 296/S

FACULTY OF ENGINEERING

B.E. 4/4 (CSE) I - Semester (Suppl.) Examination, May / June 2018

Subject : Distributed Systems

Time : 3 Hours **Max. Marks: 75**

Note: Answer all questions from Part-A answer any five questions from Part-B.

PART – A (25 Marks)

1 What are the challenges in Distributed Systems? (3)
2 Differentiate between Distributed systems and computer networks. (2)
3 What is Name Space? (2)
4 What are the uses of Events and Notifications in DS? (3)
5 Discuss distributed mutual exclusion. (3)
6 Define strongly consistent global state. (2)
7 Define flat and distributed transactions. (3)
8 What is atomic commit protocol? (2)
9 Define Granularity in Distributed shared memory management. (2)
10 List various task of recovery manager. (3)

PART – B (50 Marks)

11 (a) Discuss in brief about architectural model of DS. (5)
(b) Explain layered architecture for distributed systems. (5)

12 (a) Explain how a new process is created in Distributed systems. (5)
(b) How is directory service implemented in distributed systems? (5)

13 (a) Explain about distributed debugging. (4)
(b) What is election algorithm? Explain Bully algorithm. (6)

14 (a) Explain nested transactions. (4)
(b) What are distributed deadlocks? Explain. (6)

15 (a) Explain sequential consistency in DSM. (5)
(b) Explain File Management in SUN network file system. (5)

16 Explain in detail about concurrency control in distributed transactions. (10)

17. Write short notes on:
(a) CODA files system Architecture. (4)
(b) Release consistency. (4)
(c) RMI. (2)

*****

Code No: 296

FACULTY OF ENGINEERING

B.E. 4/4 (CSE) I-Semester (Main & Backlog) Examination, December 2017

Subject: Distributed Systems

Time: 3 Hours **Max. Marks: 75**

Note: Answer all questions of Part-A, & Answer any FIVE Questions from Part-B.

PART-A (25 Marks)

1. What are the goals in Distributed Systems? (3)
2. What is a multithreaded process? (2)
3. Differentiate between marshalling and unmarshalling. (2)
4. Discuss how communication can be done between distributed objects. (3)
5. What are the physical and logical clocks? (3)
6. What is strongly consistent global state? (2)
7. What is ACID property? (2)
8. Discuss lost and update problem. (3)
9. Differentiate weak and strong consistencies (3)
10. What are the basic approaches in ensuring in ensuring fault tolerance in distributed systems? (2)

PART-B (50 Marks)

11. List and explain the challenges in distributed systems. (10)

12. (a) Describe inter process communication in UNIX with an example. (6)

    (b) Briefly explain RPC. (4)

13. (a) Explain the concept of Lamports totally ordered logical clocks (5)

    (b) What is election algorithm? Explain Bully algorithm. (5)

14. (a) Explain concurrency control method using time stamp ordering. (5)

    (b) Explain two phase commit protocol to ensure consistency. (5)

15. (a) Discuss about the implementation issues in Distributed Shared Memory (5)

    (b) Explain virtual file system in SUN network file system. (5)

16. (a) What is the importance of transaction recovery in Distributed System? What are the mechanisms used for recovery. (10)

17. Write short notes on:
    a) CODA file systems. (4)
    b) Distributed mutual exclusion (4)
    c) Directory service using X.500 (2)

Code No. 3288

FACULTY OF ENGINEERING

B.E. 4/4 (CSE) I - Semester (Suppl.) Examination, May / June 2017

Subject : Distributed Systems

Time : 3 Hours **Max. Marks: 75**

Note: Answer all questions from Part-A and answer any five questions from Part-B.

PART – A (25 Marks)

1	What are the goals of Distributed systems?	(3)
2	Define Process.	(2)
3	Differentiate between Marshalling and Unmarhsalling.	(3)
4	Define RMI.	(2)
5	What is Byzantine agreement problem?	(3)
6	What is Multicast communication?	(2)
7	What are nested transaction? Give example.	(3)
8	What is atomic commit process?	(2)
9	Differentiate weak consistency and strong consistency.	(3)
10	List various task of recovery manager.	(2)

PART – B (50 Marks)

11	(a) Discuss briefly about the architectural models of distributed systems.	(5)
	(b) Explain resource sharing in Distributed systems.	(5)
12	(a) Discuss how inter process communication is carried out in UNIX.	(5)
	(b) Explain Remote Procedure call.	(5)
13	(a) Explain the concept of Global states.	(5)
	(b) What are election algorithms? Explain Bully algorithm.	(5)
14	(a) Explain how to achieve concurrency control in distributed transactions.	(5)
	(b) Explain various fault tolerant services.	(5)
15	(a) Discuss about the implementation issues of DSM.	(5)
	(b) Explain SUN network file system.	(5)
16	(a) Explain CODA file system architecture.	(5)
	(b) Explain how directory service is implemented in distributed systems.	(5)
17	Write short notes on the following:	
	(a) Logical time and logical clocks	(4)
	(b) Distributed deadlocks	(3)
	(c) Name service	(3)

*****

Code No. 3268

FACULTY OF ENGINEERING

B.E. 4/4 (CSE) I – Semester (Main & Backlog) Examination, December 2016

Subject: Distributed Systems

Time: 3 Hours **Max.Marks: 75**

Note: Answer all questions from Part A. Answer any five questions from Part B.

PART – A (25 Marks)

1	What are the goals of Distributed systems?	3
2	Define Interaction model.	2
3	Explain RPC in brief.	3
4	Define DNS.	2
5	Logical time and logical clocks.	3
6	Define Distributed debugging.	2
7	What are fault tolerant services?	3
8	What is Timestamp ordering?	2
9	What are the distributed file system requirements?	3
10	List various task of recovery manager.	2

PART – B (5x10 = 50 Marks)

11 a)	Explain in detail about the challenges of distributed systems.	5
b)	Discuss about operating system architecture.	5
12 a)	Explain about client – server communications.	5
b)	Explain about external data representation in detail.	5
13 a)	Discuss about distributed mutual exclusion in detail.	5
b)	What are the advantages of clock synchronization algorithms? Explain any one.	5
14 a)	Explain Nested transactions with example.	5
b)	Explain CODA file system architecture.	5
15 a)	Explain in detail about release consistency.	5
b)	Explain SUN network file system.	5
16 a)	Explain two phase commit protocol (2PL).	5
b)	Explain consensus in synchronous systems.	5
17	Write short notes on:	
a)	Distributed shared memory	4
b)	Optimistic concurrency control	3
c)	Distributed deadlock.	3

****

Code No. 5269 / S

FACULTY OF ENGINEERING

B.E. 4/4 (CSE) I - Semester (Suppl.) Examination, June 2016

Subject :Distributed Systems

Time : 3 Hours

Max. Marks: 75

Note: Answer all questions from Part-A and answer any five questions from Part-B.

PART – A (25 Marks)

1 Define distributed systems. What are the main objectives of distributed systems? (3)
2 What are the design requirements to the distributed system Architecture? (3)
3 Define Execution Environment. What are the variables? (3)
4 Define IPC. Characteristics of IPC. (2)
5 What is global State? (2)
6 Explain Berkely Algorithm. (3)
7 Define deadlock and phantom Dead Lock. (2)
8 Difference between Flat and nested transactions. (2)
9 Define DSM. List out the implementation issues of DSM. (2)
10 Explain about Locks. Drawbacks of Locks. (3)

PART – B (50 Marks)

11 (a) Explain about the Design Issues of Distributed Systems. (7)
(b) Explain abut multithreading. (3)

12 (a) Explain about the remote invocation steps in RPC. (8)
(b) Define DNS and give examples of DNS. (2)

13 (a) What is the goal of election Algorithms? Explain about election algorithms. (7)
(b) Explain about any one algorithm for achieving distributed mutual exclusion. (3)

14 (a) Explain about optimistic concurrency control in distribution transactions. (8)
(b) Define Time stamp ordering. (2)

15 Explain in detail about SUN NFS. (10)

16 Explain about dead lock detection Algorithms in distributed systems. (10)

17 Write short notes on the following:
(a) Lamport Logical clocks (5)
(b) Group Communication (5)

****

Code No. 9231/S

FACULTY OF ENGINEERING

B.E. 4/4 (CSE) I – Semester (Suppl.) Examination, June / July 2015

Subject : Distributed Systems

Time : 3 hours | Max. Marks : 75

Note: Answer all questions from Part–A. Answer any FIVE questions from Part–B.

PART – A (25 Marks)

1	What is marshalling?	2
2	What is multicast communication?	3
3	What is strongly consistent global state in distributed systems?	2
4	List out the advantages of replication	2
5	Explain briefly about atomic commit process	3
6	What is sequential consistency?	2
7	Define RPC.	2
8	What are the various goals of distributed systems?	3
9	List out the services provided by CORBA.	3
10	Explain about directory server interface.	3

PART – B (50 Marks)

11	a)	Explain in detail about the challenges of distributed systems.	5
	b)	Explain resource sharing in distributed systems.	5
12	a)	Describe the various RPC protocols that support client server communication.	5
	b)	Discuss about election algorithms.	6
13	a)	Explain about distributed debugging.	5
	b)	Discuss about distributed mutual exclusion in detail.	5
14	a)	Explain how to achieve concurrency control in distributed transactions.	6
	b)	Discuss briefly about Concurrency control methods.	5
15	a)	Explain various Fault-tolerant services.	5
	b)	Explain in brief about CODA file system.	5
16	a)	What is lost update problem? Discuss its implications in detail.	4
	b)	Explain passive replication for fault tolerant.	6
17		Write short notes on the following :	
	a)	Consensus in synchronous systems	5
	b)	Distributed shared memory	5

******

Code No. 9231

FACULTY OF ENGINEERING

B.E. 4/4 (CSE) I-Semester (Main) Examination, December/January 2014-15

Subject : Distributed Systems

Time : 3 Hours | Max. Marks: 75

Note: Answer all questions of Part - A and answer any five questions from Part-B.

PART – A (25 Marks)

1 What are the challenges of Distributed systems? (2)
2 Define a process. (2)
3 Differentiate between marshalling and unmarshalling. (3)
4 What is a name space? (2)
5 Discuss about physical clocks are logical clocks. (3)
6 Explain about distributed mutual exclusion. (3)
7 What are the nested transactions? Give an example. (3)
8 What are fault tolerant services? (2)
9 What is meant by Release consistency? (3)
10 List out various tasks of recovery manager. (2)

PART – B (50 Marks)

11 (a) Explain briefly about architectural models of distributed systems.
(b) Discuss about operating system architecture.

12 Describe inter process communication in UNIX with an example.

13 (a) What are the election algorithms? Explain about Bully algorithm.
(b) Explain about distributed debugging.

14 (a) Compare the methods for concurrency control.
(b) Discuss the implementation of CORBA lookup.

15 Explain about SUN Network File system.

16 Explain the implementation and working of X.500 Directory service.

17 Write short notes on :
(a) Design and implementation issues of distributed shared memory
(b) Distributed deadlocks.

*****

Code No. 6459 / N

FACULTY OF ENGINEERING

B.E. 4/4 (CSE) I-Semester (New) (Main) Examination, November 2013

Subject : Distributed Systems

Time : 3 Hours | Max. Marks: 75

Note: Answer all questions of Part - A and answer any five questions from Part-B.

PART – A (25 Marks)

1. List out the goals of Distributed systems. (3)
2. What do you mean by Logical clocks? (2)
3. What is Marshalling? (2)
4. Explain briefly about file service architecture. (3)
5. Explain briefly about Reliable multicast. (3)
6. What is weak consistency? Differentiate between weak consistency and strong consistency. (3)
7. State the basic design issues in the distributed shared memory systems. (2)
8. What are vector time stamps? (3)
9. Distinguish between static and dynamic RMI. (2)
10. List out various tasks of recovery manager. (2)

PART – B (50 Marks)

11.(a) Discuss briefly about the architectural models of distributed systems. (5)
(b) Explain Resource sharing in distributed systems. (5)

12.(a) Explain about external data representation in detail. (5)
(b) Discuss how inter process communication is carried out in UNIX. (5)

13.(a) Explain how directory service is implemented in distributed system. (5)
(b) Explain the concept of global states. (5)

14.(a) Explain in detail about nested distributed transactions with proper examples. (5)
(b) Explain about concurrency control algorithms. (5)

15.(a) Explain in detail about release consistency. (5)
(b) Discuss about SUN Network file system. (5)

16.(a) Explain about the operating systems support in distributed systems. (5)
(b) Explain in brief about process status and synchronizing physical clocks. (5)

17. Write short notes on the following:
(a) Fault tolerant services (4)
(b) Logical time and logical clocks (3)
(c) Name service (3)

*****