Total No. of Questions : 12]

P801

[Total No. of Pages : 3

[Max. Marks : 100

SEAT No. :

[4659]-214 B.E. (I.T.) (Semester - II) DISTRIBUTED SYSTEMS (2008 Pattern)

Time : 3 Hours]

Instructions to the candidates :

- 1) Answers to the two sections should be written in separate answer books.
- 2) Answer any three questions from each section.
- 3) Neat diagrams must be drawn wherever necessary.
- 4) Figures to the right side indicate full marks.
- 5) Use of calculator is allowed.
- 6) Assume suitable data, if necessary.

SECTION - I

- Q1) a) Describe the working of Distributed system based upon middleware software system. Also clearly describe the role played by middleware in Distributed system.[9]
 - b) Describe various architectural models and their variations with suitable examples. [9]

OR

- *Q2)* a) Compare Distributed System versus Centralized Systems. [9]
 - b) What are types of failures? Classify the following failures based on types of failures with justification. [9]
 - i) Sudden shutdown of a system
 - ii) Network crash
 - iii) System reset while working
 - iv) Unnoticed event handler closing a word document

(Q3) a) Define and explain following along with one application of it. [8]

- i) Synchronous Distributed Systems
- ii) Asynchronous Distributed Systems
- b) Discuss the concept of request/reply message handling using HTTP protocol and TCP protocol. Compare the working, limitations and advantages of both protocols. [8]

P.T.O.

- Q4) a) What is primary motivation behind the development of a lightweight RPC System? Describe the four techniques used in a LRPC system that makes more efficient than a conventional RPC system.
 [8]
 - b) Write a short note on
 - i) Sun RPC
 - ii) CORBA
- Q5) a) Compare Centralized, Decentralized, Distributed and Token ring mutual exclusion algorithms.[8]
 - b) Explain network time protocol to distribute time information over Internet. [8]

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[8]

OR

- *Q6)* a) Explain how NTP is useful to distributed time over the Internet? Also state the features of NTP.[8]
 - b) Discuss happens-before relationship in a set of events occurred in various processes. [8]

SECTION - II

- Q7) a) How communication does takes place in CODA File System? Describe the implementation and resolution of CODA File identifier.[9]
 - b) Explain file service architecture in detail. [9]

OR

- (Q8) a) What is Distributed File System? Explain different types of services provided by Distributed File System. [9]
 - b) What are different file sharing semantics used in distributed file system? [9]
- *Q9*) a) What is Distributed Shared memory? Explain its advantages. [8]
 - b) What are the two options available for propagating updates made by one process to other processes? Also explain granularity of sharing. [8]

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Q10)	a)	Explain following consistency models in short.		[8]
		i)	Release consistency model	
		ii)	Casual consistency model	
		iii)	Processor consistency model	
		iv)	Pipelined consistency model	
	b)	Wha	at is client centric consistency model? Explain in detail.	[8]
Q11)	a)	Explain following protocols:		[8]
		i)	One-Phase Commit	
		ii)	Two-Phase Commit	
		iii)	Three-Phase commit	
	b)) What is the use of stable storage? How stable storage technique in recovery?		used [8]
			OR	[0]
Q12)	a)	Explain following orderings:		
		i)	FIFO	
		ii)	Casual	
		iii)	Total	
		iv)	No Ordering	
	b)	Wha	at is a recovery line? Draw and explain domino effect n detail.	[8]

