

JK LAKSHMIPAT UNIVERSITY, JAIPUR

INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination (Backlog), May - 2019

B. Tech/ M. Tech (as applicable) in Computer Science & Engineering, Semester VI

Roll No.....

COURSE CODE: CSE601

Time: 3 hours

Max. Marks: 100

COURSE TITLE: DISTRIBUTED SYSTEMS

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Assume suitable data wherever required and mention it clearly.
3. Writing appropriate units, nomenclature, and drawing neat sketches/schematics/ flow chart wherever, required are an integral part of the answer.

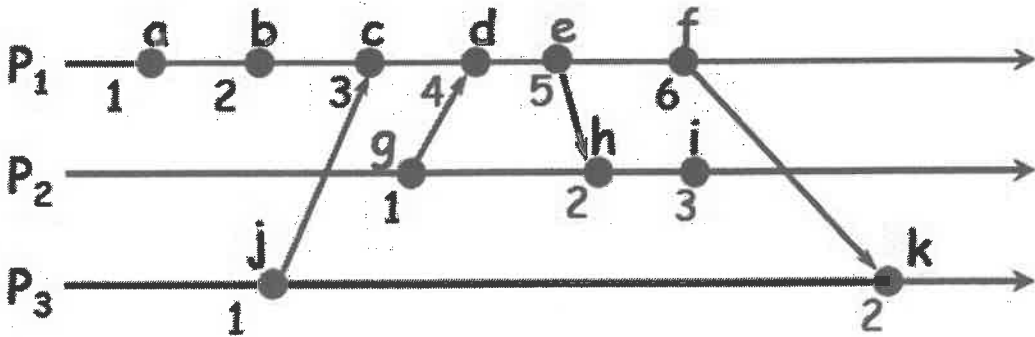
Q.1A	Objective type multiple choice questions (10 questions @ 1 mark)	10
i.	_____ is the process of taking collection of data items and assembling them into a form suitable for transmission in a message. a) Data Encapsulation c) Data Abstraction b) Marshalling d) None of the above	
ii.	_____ allows the movement of resources and clients within a system without affecting the operation of users or programs. a) Replication transparency c) Scaling Transparency b) Mobility transparency d) Performance Transparency	
iii.	The time interval a request waits for its Critical Section execution to be over after its request messages have been sent is known as : a) Access Time c) Response Time b) Synchronization Time d) Latency Time	
iv.	After a transaction has completed successfully, all its effects are saved in permanent storage. This property of transaction is known as : a) Atomicity c) Isolation b) Consistency d) Durability	
v.	Causally ordered multicast in Distributed System uses : a) Vector timestamps c) Physical clock b) Lamport timestamps d) none of the above	
vi	In distributed file system _____ is a mechanism for maintaining disk data on the local machine. a) Virtual Memory c) flash memory b) Buffering d) Caching	
vii	A _____ is a software layer that masks heterogeneity and provides a programming model in distributed system. a) Middleware c) Transport b) Network d) Application	

viii	_____ is an authentication system for an open network computing environment where user's machine are under the complete control and cannot be trusted to identify users to network services. a) Digital Signature c) Firewall b) Kerberos d) None of the above	
ix	In _____ server, in case the server crashes the entire information is lost. a) Stateful c) Distributed b) Stateless d) Immediate	
x	Previously granted resources cannot be forcibly taken away is a : a) Mutual Exclusion condition b) Hold and Wait condition c) No pre-emption condition d) Circular wait condition	
Q.2	There are various types of transparency exist which are major concerns of distributed system. Explain various types of transparency. State any three advantages and disadvantages of distributed system with respect to centralized systems	10

Q.3	Discuss the various issues in designing Distributed Systems with suitable real life examples.	10
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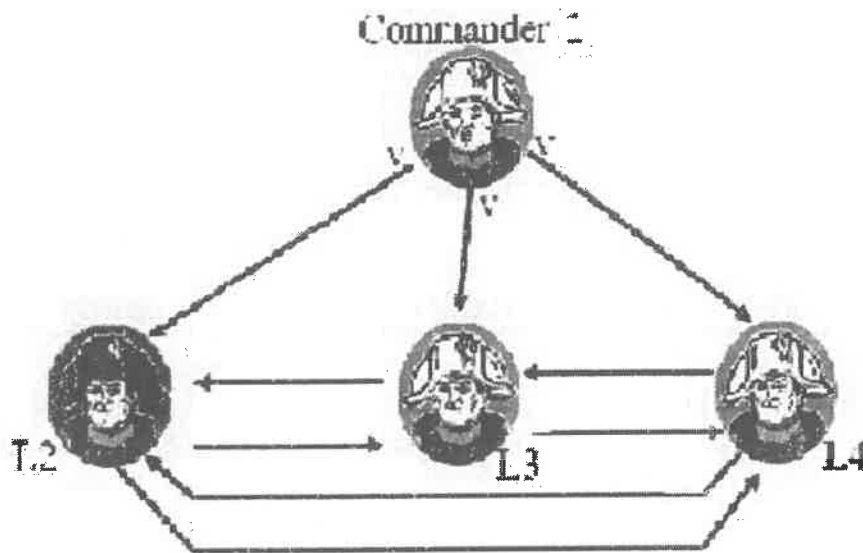
Q.4	Elaborate the process of mounting remote file system in Network File System(NFS).	10
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Q.5	JAVA RMI is one of the method of invoking remote method in distributed system. With suitable steps/example explain how JAVA RMI works.	10
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Q.6	In the given Event Counting example explain what are bad events and the how the logical ordering of events done using LAMPORT's clock :- 	20
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Q.7 Show that Byzantine agreement cannot always be reached among four processors if two processors are faulty. Use suitable scenarios to justify your answer 15

Q.8 Assume the scenario stated below and explain whether the faulty process will be detected or not using suitable algorithm. Explain the stated algorithm also. 15



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