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VI SEM-Model-CS...



**104-DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**MODEL EXAM EXAMINATION (2022 – 2023 EVEN)**

**III Year / VI Semester**

**CS8603 – DISTRIBUTED SYSTEMS**

**Date & Time: 16/05/2023 & 09:30 AM to 12:30 PM** **Max. : 100 Marks**

**Note:**

- Write the examination using blue or black pen
- Draw neat sketch with pencil (if necessary)
- Use tables or charts (if necessary)
- Answer all questions

Q. No.	Question	Bloom's Taxonomy Level	CO
<b>Part – A</b>			
<b>(Each Question carries 2 Marks)=5*2=10 marks</b>			
1.	Name the primitives for distributed communication.	Remembering	CO1
2.	Comparison between synchronous and asynchronous execution.	Understanding	CO1
3.	Define Causal order execution.	Remembering	CO2
4.	What is meant by group communication in distributed systems?	Remembering	CO2
5.	What you meant by local checkpoint.	Remembering	CO3
6.	What is the purpose of the wait-for-graph (WFG)? Give an example for WFG.	Remembering	CO3
7.	List the benefits of recovery.	Remembering	CO4
8.	What is the drawback of a checkpoint based rollback recovery approach?	Remembering	CO4
9.	List out the characteristics of P2P systems.	Remembering	CO5
10.	Name the three types of consistency model in DSM.	Remembering	CO5
<b>Part – B</b>			
<b>(Answer for each question carries 13 Marks)=5*10=65 marks</b>			
Q. No.	Question	Bloom's Taxonomy Level	CO
11.	(a) Discuss the design issues and challenges in distributed system from a system perspective.	Creating	CO1
	OR		

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	(b)(i) Draw the omega and butterfly networks for n = 16 inputs and outputs. (7) (ii) Elaborate the functions need to address while designing a distributed computing system. (6)	Creating	CO1
12.	(a) Discuss about message ordering paradigms. OR (b) Discuss in detail about Snapshot algorithms for FIFO channels	Creating	CO2
13.	(a) Outline Lamport's algorithm with an example. OR (b) How we can achieve deadlock detection in distributed systems? Explain various models to carry out the same.	Understanding	CO3
14.	(a) List out the agreement statements that should follow the synchronous systems. OR (b) Give byzantine agreement tree algorithm and illustrate with an example.	Analyzing	CO4
15.	(a) What do you understand about Content-Addressable Networks (CAN)? Explain how it is useful in P2P networks. OR (b) Describe in detail about Distributed Shared Memory (DSM) and its application.	Evaluating	CO5
<b>Part – C</b>			
<b>(Answer for each question carries 15 Marks) 1*15=15 marks</b>			
16.	(a) Briefly describe about the chandy-misra-haas algorithm for the AND model OR (b) External synchronization ensures internal synchronization. But	Evaluating	CO3