UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, July 2020

Course: Distributed Computing   Semester : VIII
Program: B.Tech- CSE+Mobile Computing   Time   : 03 hrs.
Course Code: CSIB 489   Max. Marks: 100
Instructions: Attempt all the questions.

SECTION A (Low Difficulty Level)

S. No.		Marks	CO
Q 1	 Which of the following corresponds to an inconsistent global state? (a) {LS11, LS22, LS32, LS41} (b) {LS12, LS23, LS32, LS41} (c) {LS13, LS24, LS34, LS42} (d) {LS14, LS24, LS34, LS42}	5	CO3
Q 2	if one site fails in the distributed system, (a) the remaining sites can continue operating (b) all the sites will stop working (c) the directly connected site will stop working (a) (d) none of the mentioned	5	CO1
Q 3	Depending on the situation each node in the Distributed Database system can act as, _____ . (a) Client (b) Server (c) Both (a) & (b) (d) None of the these	5	CO4
Q 4	Marshalling is **not** the process of taking a collection of data items and assembling them into a form suitable for transmission in a message. **(True/False)**	5	CO2
Q 5	Processes on a remote systems are identified by (a) Host ID (b) Host Name & Identifier (c) identifier (d) Process ID	5	CO2
Q 6	Which of the following are the stages in the evolution of distributed DBMS? (a) Unit of Work (b) Remote Unit of Work	5	CO4

	(c) Distributed Unit of Work (d) Distributed Request		
	SECTION B		
Q 7	What are the main objective of the distributed system.	**10**	**CO1**
Q 8	Discuss your understanding of sequential consistency.	**10**	**CO3**
Q 9	Explain the Remote Procedure Call mechanism with various functional components.	**10**	**CO2**
Q 10	Explain the SoA governance and its functions. **OR** Discuss the various applications of grid computing	**10**	**CO4**

Q 11	State the differences between:
	      (i) Synchronous Distributed System & Asynchronous Distributed System
	      (ii) Multicast and Broadcast in Distributed System
		10	**CO1**

	SECTION-C		
Q 12	Consider a distributed system consisting of P_1, P_2, P_3, P_4, and P_5 (P_5 is currently the coordinator). P_5 fails and P_2 notices the failure. If the Bully algorithm is used for the election of a new coordinator and election attribute is the (Max of) process number, show the set of all messages communicated through each communication channel for this election. Show the type of each message as "election", "response", and "coordinator". **OR** Describe the different approaches for deadlock-detection in distributed system.	**20**	**CO3**