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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Eighth Semester, B.E. - Information Science and Engineering

Semester End Examination; Aug. / Sep. - 2020

Distributed Systems

Time: 3 hrs Max. Marks: 100

***Note**: i) Answer **TWO** full questions, selecting **ONE** full question from **UNIT - I** and **UNIT - II**.*
*ii) Answer any **THREE** full questions, choosing from **UNIT - III, UNIT - IV** and **UNIT - V**.*

UNIT - I

1 a. Construct a model illustrating spontaneous networking in a hospital referring to its key features. 10

b. Distinguish between synchronous and asynchronous distributed systems. 10

OR

2 a. Outline and describe various characteristics of interprocess communication. 10

b. Explain TCP stream communication and address any two issues associated with stream communication. 10

UNIT - II

3 a. List by briefing various methods involved in object model. 10

b. Construct a table to address various design issues of RMI. 10

OR

4 a. Outline the various distributed file system requirements. 12

b. Design a processing model describing distribution of process in Andrew file system. 8

UNIT - III

5 a. Explain how messages are exchanged between a pair of NTP Peers? 10

b. Identify various detecting global properties of global states. 10

6 a. Explain the 'snapshot' algorithm of Chandy and Lamport. 10

b. Determine the state of reach ability between states in 'snapshot' algorithm. 10

UNIT - IV

7 a. Construct tables for the following:

i) The Lost update problem 10

ii) Serially equivalent interleaving of two transactions

b. Summarize the drawbacks of locking in optimizing concurrency control. 10

8 a. Design a model for distributed banking transaction referring to nested file transaction. 10

b. Explain the operations of two phase commit protocol. 10

Contd...2

UNIT - V

9	a.	Explain the methods of attack classified according to way in which a channel is misused.	10
	b.	Distinguish between symmetric and asymmetric algorithms.	10
10	a.	Construct an architectural model for management of replicated data.	10
	b.	List and brief various sequences of events for a client request operation.	10

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Multi Cruiser
2.9.2020