BHARATIYA VIDYA BHAVAN'S
SARDAR PATEL INSTITUTE OF TECHNOLOGY
MUNSHI NAGAR, ANDHERI (WEST), MUMBAI – 400 058, India
(Autonomous College Affiliated to University of Mumbai)

END Semester Examination

Max. Marks: 100	Duration: 3 hours
Class:TYMCA	Semester: V
Course Code:MCA504	Date: 25/11/2017
Subject: Distributed Computing and Cloud Computing	Time: 10 AM to 1 PM

Instructions:
(1) All questions are compulsory.
(2) Use of scientific calculator is allowed.
(3) Assume any necessary data but justify the same.

Question No.		Max. Marks	CO
Q1 (a)	Explain different distributed computing model. Answer: 1.Definition of distributed system(1 Mark) 2.Workstation Model with diagram(3 Marks) 3. Workstation-server model(3 Marks) 4.Processor-pool model(3 Marks)	10	CO1
Q 1 (b)	What are the different message buffering strategies in IPC? Answer: 1.Explanation of message buffering(2 Marks) 2.Null buffer(2 Marks) 3. Single-message buffer(2 Marks) 4.Infinity capacity buffer(2 Marks) 5.Multiple message buffer(2 Marks) OR What is IPC and its advantages? Explain different components of IPC message. Answer: 1.Explanation of IPC and message passing(2 Marks) 2.Advatages of message passing(4 Marks) 3. Components of message passing with explanation(4 Marks)	10 10	CO1 CO1
Q2 (a)	Explain different clock synchronization algorithms. Answer: 1.Exolanation of clock synchronization algorithm with diagram(2 Marks) 2.Centralized algorithm(passive time server, active time server)(4 Marks) 3.Distributed algorithm(Global averaging, localized averaging)(4 Marks)	10	CO2

	OR Explain ring election algorithm. Answer: 1.Explanation of ring algorithm and notations(3 Marks) 2.Explanation of ring algorithm with diagram(5 Marks) 3.Evaluation (2 Marks)	10	CO2
Q2 (b)	What is clock synchronization? Explain physical clock? What is clock skew? Answer: 1.Explanation of clock synchronization(2 Marks) 2.Physical clock (4 Marks) 3.Implemetation of physical clock(2 Marks) 4. Explanation of skew(2 Marks)	10	CO2
Q3 (a)	Explain address space transport mechanism in process migration. Answer: 1.Explanation of address space transport mechanism(1 Marks) 2.Total freezing with diagram(3 Marks) 3.Pretransfer with diagram(3 Marks) 4.Transfer-on –reference(3 Marks) OR Explain DSM consistency models. Answer: 1.Explanation of consistency model with diagram(1 Mark) 2. Strong Consistency(3 Marks) 3. Processor based consistency(3 Marks) 4. Weak Consistency(3 Marks)	10 10	CO3 CO3
Q3 (b)	Explain different methods used for data location in DSM. Answer: 1.Centralized manager algorithm(2 Marks) 2. Broadcast algorithm(2 Marks) 3. Fixed-distributed Manager algorithm(3 Marks) 4. Dynamic distributed manger algorithm(3 Marks) OR Explain different components and desirable features of DFS Answer: 1.Explanation of DFS(2 Marks) 2.Componets of DFS(3 Marks) 3.Desirable features of DFS(5 Marks)	10 10	CO3 CO3
Q4 (a)	What are the key components of SOA and technology used in SOA? Answer: 1.key components of SOA with diagram and explanation(5 Marks) 2. Technologies used in SOA with explanation (5 Marks)	10	CO4
Q4 (b)	Explain different types of clouds with example. Answer: 1.Explaination of cloud technology(2 Marks) 2.Private cloud with example.(2 Marks)	10	CO4

	3. Public cloud with example(2 Marks) 4.Hybrid cloud with example(2 Marks) 5. Community cloud with example(2 Marks) OR Differentiate between RPC centric view and Document Centric view. Explain Composing services. Answer: 1.Difference between RPC centric view and Document centric view with 5 points (5 Marks) 2.Composing services with example(5 Marks)	10	CO4
Q5 (a)	Explain IaaS, PaaS, SaaS, MaaS and CaaS in detail. What are the benefits of cloud computing? Answer: 1.IaaS(2Marks) 2.PaaS(2 Marks) 3.SaaS(2 Marks) 4.MaaS(1 Mark) 5.CaaS(1 Mark) 6.Benifits of cloud computing(2 Marks)	10	CO5
Q5 (b)	Explain Hadoop and Mapreduce technologies used to implement cloud. Answer: 1.Hadoop technology (5 Marks) 2.Mapreduce technology(5 Marks)	10	CO5