MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

VII SEMESTER B.TECH. (COMPUTER SCIENCE & ENGG)

MAKEUP EXAMINATIONS, DEC 2017/JAN 2018

SUBJECT: DISTRIBUTED & CLOUD COMPUTING [CSE 4102]

REVISED CREDIT SYSTEM
(26/12/2017)

Time: 3 Hours   MAX. MARKS: 50

Instructions to Candidates:

❖ Answer **ALL** the questions.

❖ Missing data may be suitable assumed.

1A.	Using proper illustration explain the Distributed Object Model of Distributed Systems	5M
1B.	With a neat labeled diagram explain how Request-Reply protocol enables client server communication in a Distributed Environment.	3M
1C.	With examples describe the effects of Reliability and Ordering with respect to Multicast Communication.	2M
2A.	With the help of a neat diagram, distinguish between Client Server Architecture and Peer to Peer Architecture of Distributed Systems.	4M
2B.	Explain how Lamport's happens-before relation helps in clock synchronization. With the aid of diagrams describe how Lamport's algorithm can correct clocks that are not synchronized	4M
2C.	Explain how Permanent Replication technique aids in Content Replication and Placement	2M
3A.	What are the different service models available in cloud? Explain each service model with appropriate example.	5M
3B.	Using proper illustrations explain Sequential Consistency	3M
3C.	Explain a token ring algorithm for mutual exclusion	2M
4A.	With diagrams, explain the different types of hypervisors. Also explain their advantages and disadvantages.	5M
4B.	Discuss how load balancing techniques and admission control mechanisms can be used to provide guaranteed quality of service (QoS) for hosted web applications.	3M
4C.	What is live migration? Explain its benefits.	2M
5A.	Explain the architecture of Sun NFS and brief the role of each module in sun NFS with a neat diagram.	4M
5B.	What is role of MapReduce programming model in HDFS? Illustrate the process steps of word count application using Map and Reduce functions to count the number of occurrences of each word in a large collection of documents.	4M
5C.	Explain the role of heartbeats in HDFS.	2M