Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

II SEMESTER M.C.A.

END SEMESTER EXAMINATIONS, APR 2018

SUBJECT: DISTRIBUTED COMPUTING SYSTEMS [MCA-5002]

REVISED CREDIT SYSTEM
(23/04/2018)

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ALL** the questions.
- Missing data may be suitable assumed.

1A.	Explain client server communication using HTTP.	**5**
1B.	Explain following transparencies in the context of designing a distributed system. (i) Heterogeneity (ii) Scalability (iii)Transparency	**3**
1C.	What are the advantages of distributed systems?	**2**
2A.	Explain file service architecture in distributed system.	**5**
2B.	Compare client-server and peer-to-peer architecture of distributed system.	**3**
2C.	Explain marshaling using java.	**2**
3A.	Write a UDP based client-server java program to send an integer from client and at the server has to check the received integer is part of Fibbinocci series and send the message back to the client.	**5**
3B.	Explain various failure models of distributed system.	**3**
3C.	Consider request processing time of 2ms and I/O delay time of 4ms. How many requests can be processed by two threads with 25% caching hit rate?	**2**

4A.	Explain Network File System.	**5**
4B.	Explain RMI implementation of distributed object model.	**3**
4C.	Discuss event-based processing and event notification distributed programming model to support distributed application.	**2**
5A.	Compare external and internal synchronization of physical clock. Also explain NTP time synchronization and briefly discuss three modes of NTP server synchronization.	**5**
5B.	Compare Pervasive and ubiquitous computing.	**3**
5C.	Compare Thread-per-request and thread-per-connection architecture.	**2**