

Exam Date: 22/05/2014.

Student Exam No. _____

Ganpat University

B. Tech. Semester: VI CE/IT

Regular Examination May - 2014

2CE605/2IT605: DISTRIBUTED SYSTEMS

Time: 3 Hours

Total Marks: 70

Instructions:

1. Figures to the right indicate full marks
2. Each section should be written in a separate answer book
3. Be precise and to the point in your answer

Section – I

- Q-1 (A) Define the term Scalability. Explain various scaling techniques for Scalability. 6
- (B) Explain little endian and big endian format. Also discuss problem and its solution when communication happens between these two formats machine. 6
- OR
- Q-1 (A) Write different goals of Distributed Systems in detail. 6
- (B) Explain Parameter passing and Dynamic binding in detail in RPC. 6
- Q-2 (A) What do you mean by distributed objects? Explain the concept of remote method invocation with a suitable example. 6
- (B) What is an IDL file? Explain IDL file with example of calculator service in RPC. 5
- OR
- Q-2 (A) Write differences between "program in execution" and "lightweight process". Also Discuss various advantages of Multithreading. 6
- (B) Define following terms. 5
1. Distributed Systems
 2. Solar time
 3. Openness
 4. Marshalling
 5. Clock skew
- Q-3 (A) Discuss the role of virtualization and architecture of virtual machine in distributed systems 6
- (B) Explain basic element of IBM aglet life cycle and its operations in details. 6

Section – II

Q-4 (A) What is the use of election algorithm? Explain in detail the Bully algorithm for electing a leader. 6

(B) What is a mobile agent? Discuss the good reasons to start use of mobile agents. 6

OR

Q-4 (A) Explain following terms with example. 6

1. Remote execution

2. Code on demand

3. Process migration

(B) What is difference between physical clock and logical clock? Explain Logical clock algorithm for clock synchronization. 6

Q-5 (A) Explain characteristics of distributed file system and explain the remote access and upload/download model for NFS. 6

(B) Explain CODA client architecture and define various states of Venus in CODA file system 5

OR

Q-5 (A) Explain various goals of distributed file system. Explain the basic NFS architecture for UNIX system. 6

(B) Define the following terms. 5

1. UTC

2. TAI

3. Solar second

4. Middleware

5. Heterogeneity

Q-6 (A) Explain architecture of Google File System in brief. 6

(B) What are web services? Why we use web services? Explain architecture of web services in brief. 6

END OF PAPER