



**SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, JUNE 2004**

IT 2K 606B/ CS 2K 606 B—DISTRIBUTED SYSTEMS

Time : Three Hours

Maximum : 100 Mar

- I. (a) Explain the different types of transparency.
 (b) What is DCE ? Explain.
 (c) Write a note on transfer on reference.
 (d) Explain the difference between user level threads and Kernel level threads.
 (e) Give a mechanism for implementing consistent ordering.
 (f) Explain the terms : Name space, Name server and Name resolution.
 (g) Explain the requirements for load distributing.
 (h) Write a note on general architecture of DSM systems.

(8 × 5 = 40 marks)

- II. (a) (i) Explain the difference between the terms Service and server. In the design of a distributed operating system, discuss the relative advantages and disadvantages of using a single server and multiple servers for implementing a service.
 (ii) What are the main differences between a network operating system and a distributed operating system ?

(8 marks)

(7 marks)

Or

- (b) (i) In the micro-kernel approach for designing a distributed operating system, what are the primary tasks that the Kernel must perform ?

(8 marks)

- (ii) Explain fault detection and recovery.
 III. (a) (i) Explain address space transfer mechanisms.
 (ii) Explain the different message forwarding mechanisms.

(7 marks)

(8 marks)

(7 marks)

Or

- (b) (i) Explain the advantages of process migration.
 (ii) Explain the issues on designing a threads package.

(8 marks)

(7 marks)

Turn over

IV. (a) (i) Describe some flexibility features that a message-passing system should provide to its users.

(8 marks)

(ii) Write a suitable IPC primitives that will allow the users to take advantage of flexibility features of a message passing system.

(7 marks)

Or

(b) (i) Discuss the advantages and disadvantages of blocking and non-blocking types of IPC.

(8 marks)

(ii) Explain absolute and relative names.

(7 marks)

V. (a) (i) Explain adaptive algorithms for load sharing.

(8 marks)

(ii) What are the factors to be included while selecting a suitable load sharing algorithm ?

(7 marks)

Or

(b) (i) Explain file-catching schemes.

(8 marks)

(ii) Explain the advantages of file replication.

(7 marks)

[4 × 15 = 60 marks]