

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2016

B.Tech VIII/ M.Tech II Semester

COURSE CODE: 10M11CI212

MAX. MARKS: 25

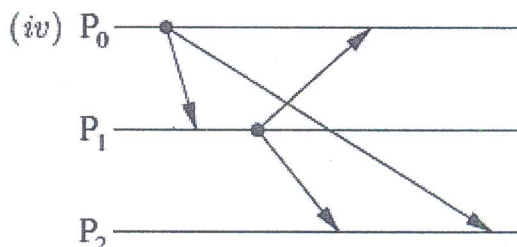
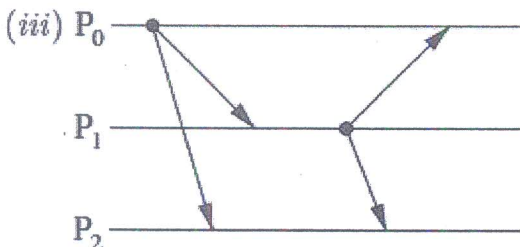
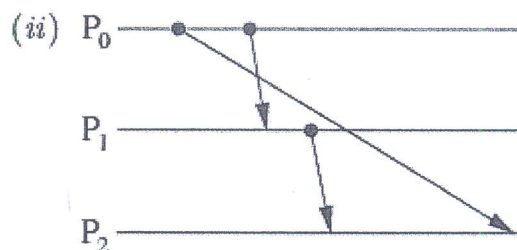
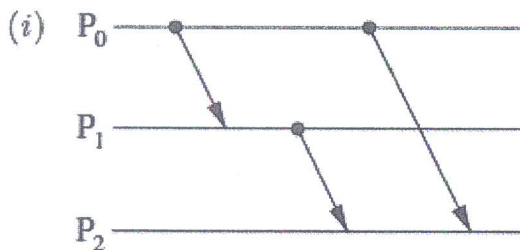
COURSE NAME: Advanced Operating Systems

COURSE CREDITS: 3

MAX. TIME: 1Hr 30 Min

*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

1) a) For each of the cases of IPC illustrated below, give the vector clock values that message receiving and delivery modules could maintain for each process. 3 marks



b) Define "causal order" of message delivery. In which, if any, of (i) to (iv) above is causal order violated at the message receiving module 2 marks

2) a) Discuss the role of naming services in distributed systems. List two navigation schemes that can be used for name resolution in domain name systems. 4 marks

b) Routing Tables in IBM Web Sphere and in many message-queuing systems are configured manually. Describe a simple way to so this automatically 1 marks

3) a) Why mutual exclusion is more complex in distributed systems? Categorize and compare mutual exclusion algorithms 3 marks

(b) What is a deadlock? List the four necessary and sufficient conditions for a deadlock to occur

1 marks

c) What happens when two process detect the demise of the coordinator simultaneously and both decide to hold an election using the bully algorithm? 1 mark

4) a) What is the major difference between stateless server and stateful server? Which server is easy to implement? 3 marks

b) What are the desirable features of good Message Passing system? Explain each briefly. 2 marks

5) a) What is ordered message delivery? Compare the various ordering semantics for message-passing. Explain how each of these semantics is implemented. 3 marks

b) What constraint does distributed inter-process communication (IPC) impose on the clock values of the communicating parties? 2 marks

JUIT TEST-2 EXAMINATION- APRIL 2016