Seventh Semester B. E. (Comp. Tech.) (CBS) Examination

ADVANCE OPERATING SYSTEM

Elective – II

Time : Three Hours]　　　　　　　　[Max. Marks : 80

N. B. : (1) All questions carry marks as indicated.
(2) Solve Question 1 OR Question 2
(3) Solve Question 3 OR Question 4
(4) Solve Question 5 OR Question 6
(5) Solve Question 7 OR Question 8
(6) Solve Question 9 OR Question 10
(7) Solve Question 11 OR Question 12
(8) Due credit will be given to neatness and a adequate dimensions.
(9) Assume suitable Data wherever necessary.
(10) Illustrate your answers wherever necessary with the help of neat sketches.

1. (a) What are advantages of distributed system over traditional time sharing system.　　6

   (b) What are the issues in distributed operating system.　　8

OR

2. (a) What is the necessity of logical clock ? Explain working principle of Lamports logical clock.　　8

   (b) What is meant by cuts of a distributed computation ? What is consistent cut ?　　6

3. (a) Explain Ricart-Agrawala algorithm. 7

(b) Show that in Lamport's algorithm the critical section is necessary according to the increasing order of timestamps. 6

OR

4. (a) What are the requirements of mutual exclusion algorithm ? 6

(b) Discuss the generalized algorithm. 7

5. (a) Discuss deadlock handling strategies in distributed system. 6

(b) Show that Byzantine agreement cannot always be reached among four processors if two processors are faulty. 7

OR

6. (a) What are Agreement Protocols. ? What are Agreement and validity objectives of Byzantine Agreement problems ? 7

(b) What is deadlock ? What are the issues in distributed deadlock ? 6

7. (a) What is meant by distributed file system ? 7

(b) What is consistency protocol ? What is difference between sequential and casual consistency. 6

OR

8. (a) What are the design issues in the design of distributed file system. 7

(b) What are the forms of memory coherence ?　6

9.　(a) What are issues in task migration ?　6

　　(b) Explain the concept of load balancing along with sender initiated algorithm ?　7

OR

10.　(a) Discuss the issues in load balancing algorithm in distributed systems.　7

　　(b) How does process migration takes place in heterogeneous system ?　6

11.　(a) Classify the types of failures in computer system.　7

　　(b) Differentiate between two phase and three phase Commit protocol.　7

OR

12.　(a) What are the types of fault in distributed system ? Explain.　7

　　(b) What is orphan message ? Explain line locks.　7