B.TECH. DEGREE EXAMINATION, NOVEMBER 2009

Fifth Semester

Branch : Computer Science and Engineering

OPERATING SYSTEMS (R)

(Regular/Supplementary)

Time : Three Hours   Maximum : 100 Marks

Part A

Answer all questions.

1. What is a real time OS ? Give example of One such OS.

2. What are the Initial processes activated by UNIX on booting the system?

3. What are threads? Why are they called light weight processes ?

4. What is the function of dispatcher ? Briefly explain.

5. What do you mean by a critical section ?

6. Briefly explain about interprocess communication.

7. Briefly explain about simple resident monitor program.

8. Define external fragmentation found in memory allocation.

9. What are the different file permissions in UNIX ? Explain briefly.

10. List out the differences between files and directories.

(10 × 4 = 40 marks)

Part B

11. (a) Explain briefly about the features of Windows 2000.

Or

(b) Discuss in detail about the evolution of OS and also explain about the structures of OS.

12. (a) Discuss in detail about different process states, process control block and process scheduling.

Or

(b) With neat schematic explain the function of CPU scheduler. Also mention the scheduling criteria.

13. (a) Explain FCFS scheduling algorithm with a specific example.

Or

(b) What is a Semaphore ? What are the different types of Semaphores ? How do they help in solving the mutual exclusion problem ?

Turn over

14. (a) Write a technical note of the following (i) overlays. (ii) paging.

   Or

   (b) What is segmentation ? Discuss in detail about the various segmentation. Also explain about the segmentation with paging.

15. (a) With neat diagrams, explain the structure of directory and its implementation. Also explain about Hash table.

   Or

   (b) Write a short technical note of the following :

   (i) Shared and virtual devices.

   (ii) Channels and control units.

   (iii) Disk scheduling methods.

   $(5 \times 12 = 60 \text{ marks})$