2/2 CSE

Code No. 3297

FACULTY OF ENGINEERING

B.E. 2/4 (CSE) II-Semester (Supplementary) Examination, January 2011

OPERATING SYSTEMS

Time : Three Hours] [Maximum Marks : 75

*Answer **ALL** questions from Part A. Answer any **FIVE** questions from Part B.*

PART—A (Marks : 25)

1. Differentiate between different multiprocessors. 3
2. What is multilevel feedback queue scheduling ? 2
3. Explain about virtual memory concept. 2
4. Why index allocation of disk space is more preferred over other allocation schemes ? 3
5. What is monitor ? Compare with semaphore. 3
6. What is dining philosophers problem ? 2
7. What is cycle stealing in the context of I/O systems ? 2
8. Find out total no. of head movements using FCFS disk scheduling for following I/O requests on cylinders :

   98, 183, 37, 122, 14, 124, 65, 67.

   Assume disk head is initially at cylinder 53. 3
9. What is the role of plug-and-play manager in WINDOWS XP ? 2
10. List the different memory management techniques in UNIX. 3

PART—B (Marks : 50)

11. (a) Describe about 3 multithreading models. 4

    (b) Following is the snapshot of a CPU :

Process	CPU Burst	Arrival time
P1	10	0
P2	29	1
P3	03	2
P4	07	3

Draw Gantt chart and calculate turnaround time and waiting time of the jobs for FCFS, STF, SRTF (Shortest Remaining Time First), and RR (Time Quantum 10) Scheduling algorithms. Arrival time is applicable to SRTF algorithm. 6

12. (a) Explain about segmentation. 6
    (b) Write about index fill allocation method. 4
13. (a) Give a simple algorithm to specify a solution to Dining philosophers problem using monitors. 6
    (b) Write short note on Access-matrix with example. 4
14. (a) Explain about any two disk scheduling algorithms. 6
    (b) What are Interrupts ? Explain the interrupt driven I/O cycle ? 4
15. (a) Explain memory mgt. in LINUX systems. 5
    (b) Explain the environmental subsystem in Windows XP. 5
16. (a) Describe about process and PCB of processor. 6
    (b) Explain cause and prevention of thrashing. 4
17. Write short notes on any **TWO** of the following :
    (a) Architecture of Windows XP system
    (b) STREAMS
    (c) Deadlocks. 5+5