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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech (Electronics & Computer Engineering) (Sem.-5)**OPERATING SYSTEM****Subject Code : BTCS-401****M.Code : 70573****Time : 3 Hrs.****Max. Marks : 60****INSTRUCTIONS TO CANDIDATES :**

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A**1. Answer briefly :**

- (a) Differentiate between long term scheduler from short term scheduler.
- (b) Distinguish between a process and a program.
- (c) What is the difference between a page table and a page frame?
- (d) What is the need of page replacement?
- (e) What are logical and physical pages?
- (f) What do you mean by a file? What are its attributes?
- (g) What does the acronym UNIX stands for?
- (h) What is the role of i/o controller?
- (i) What is the difference between kernel and shell?
- (j) Explain the difference between time-sharing and multi-programming.

SECTION-B

2. What are the various views of the operating system? Explain.
3. What is a deadlock? What are the characteristics of a deadlock? Explain with examples.
4. Explain the concept of thrashing.
5. What is a PCB? What is stored in it? What is its role in the CPU scheduling? Explain.
6. Explain the structure of the Unix operating system in detail.

SECTION-C

7. What are the criteria used for comparing various scheduling algorithms? Compute the Average Waiting & Turnaround times for the following, if Shortest Remaining Time

First Scheduling Algorithm is used:

Process	Arrival Time	Burst Time
P1	0	8
P2	1	4
P3	2	9
P4	3	5

8. Suppose that a disk drive has 5000 cylinders, numbered 0 to 4999. The drive currently Services a request at cylinder 143, and the previous request was at cylinder 125. The queue of pending request in FIFO order is :

86, 1470, 913, 1774, 948, 1509, 1022, 1750, 130

Starting from the current position, what is the total distance (in cylinders) that the disk arm moves to satisfy all pending requests, for each of the following algorithms:

a) FCFS b) SSFT c) SCAN d) LOOK e) C-SCAN.

9. Explain the concepts of multiprocessor and distributed operating systems.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.