

Registration No. :

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Total number of printed pages – 2

B. Tech  
PCCS 4304

**Sixth Semester Back Examination – 2015**

**OPERATING SYSTEM**

**BRANCH : CSE**

**QUESTION CODE : M 175**

**Full Marks – 70**

**Time : 3 Hours**

*Answer Question No. 1 which is compulsory and any **five** from the rest.  
The figures in the right-hand margin indicate marks.*



1. Answer the following questions :

2×10

- (a) What is an interrupt ?
- (b) What is a resource allocator ?
- (c) What is real time operating system ?
- (d) What is PCB ?
- (e) What is Context Switch ?
- (f) What is semaphores ?
- (g) What is critical section problem ?
- (h) Define Swapping.
- (i) What is TLB ?
- (j) What is seek time ?

2. (a) Explain operating system structure in detail.

5

(b) Define Process. Explain the different state of Process.

5

P.T.O.

3. Explain about deadlock prevention and deadlock avoidance algorithms. 10
4. What is scheduling ? Explain the different types of scheduling. 10
5. (a) Difference between internal and external fragmentation. 5  
(b) Difference between logical and physical address. 5
6. What are the page replacement algorithm ? Compare LRU and Optimal Replacement Algorithm with an example. 10
7. Define Allocation Algorithm. Describe the following allocation algorithms : 10  
(a) First fit  
(b) Best fit  
(c) Worst fit.
8. Suppose that a disk drive has 5000 cylinders, numbered 0 to 4999. The drive is currently serving a request at cylinder 143, and the previous request was at cylinder 125. The queue of pending requests, in FIFO order, is :  
86, 1470, 913, 1774, 948, 1509, 1022, 1750, 130.
- Starting from the current head position, what is the total distance (in cylinders) that the disk arm moves to satisfy all the pending requests for each of the following disk-scheduling algorithms ? 10
- (a) FCFS  
(b) SSTF  
(c) SCAN.

