A-1736
B.Sc. (I.T.) (Sem. V) Examination
March / April – 2015
Operating System

Time : 3 Hours] [Total Marks : 70
Instructions :
(1) Fill up strictly the details of subject, examination and section number on your answer book.

Name of the Examination : B.SC. (I.T.) (SEM. V)
Name of the Subject : OPERATING SYSTEM
Subject Code No. : 1 7 3 6 Section No. (1, 2,.....) Nil

(2) Draw the Figure and give example whenever necessary.

1 Answer in Short (Any 7) 14
(1) Differentiate time sharing and real time os.
(2) What do you mean by cooperating process?
(3) What are contents of PCB?
(4) What is use of dirty bit?
(5) What are major functions of file management?
(6) What do you mean by synchronous and asynchronous device?
(7) Define protection domain and access right.
(8) List different levels of security to protect system.

2 Explain following. (Any 2) 14
(1) Discuss about scheduling queues. Also explain preemptive and non-preemptive scheduling.
(2) Discuss SJF and RR scheduling algorithms.
(3) What is semaphore? How does it solve critical section problem?
3 Explain following. (Any 2)  
(1) Explain internal and external fragmentation. Also discuss need of compaction.
(2) Differentiate between paging and segmentation.
(3) Explain page replacement. Explain any one page replacement policy in detail.

4 Explain following. (Any 2)  
(1) Discuss about file system structure.
(2) Explain various file allocation techniques.
(3) Explain disk management.

5 Explain following. (Any 2)  
(1) Explain deadlock recovery methods.
(2) Why process synchronization is needed? How semaphores achieve synchronization?
(3) Discuss priority scheduling algorithm. What is starvation? How to avoid it?