



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

Time : 3 Hours]

[Total Marks : 70

**Instructions :**

(1)

<p>नीचे दर्शावेक निशानीवाणी विगतो उत्तरवही पर अवश्य कपवी. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination : B.SC. (I.T.) (SEM. V)</p> <p>Name of the Subject : OPERATING SYSTEM</p> <p>Subject Code No. : 1 7 3 6 Section No. (1, 2,....): Nil</p>	<p>Seat No. : □ □ □ □ □ □</p> <p style="text-align: center;">Student's Signature</p>
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(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) **14**
- (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) **14**
- (1) Discuss about file system structure.
  - (2) Explain various file allocation techniques.
  - (3) Explain disk management.
- 5** Explain following. (Any 2) **14**
- (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?
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