

**Subject : Operating Systems**

Day : Friday  
Date : 03/06/2016



Time : 02.00 P.M. TO 05.00 P.M.  
Max Marks : 80 Total Pages : 1

**N.B.:**

- 1) Solve **ANY FIVE** from Section – **I.** and **ANY TWO** from Section – **II.**
- 2) Both the sections should be written in the **SAME** answer book.
- 3) Figures to the right indicate **FULL** marks.

**SECTION - I**

- Q.1** Discuss the various operating system structures with help of diagrams. (10)
- Q.2** What is PCB? What is the need of it? Explain the structure of it in detail. (10)
- Q.3** Discuss the concept of virtual memory in detail. (10)
- Q.4** What is mutual exclusion? Explain various algorithm of it with advantages and disadvantages. (10)
- Q.5** Discuss the concept of disk space management in detail. (10)
- Q.6** Explain the DMA transfer with help of necessary diagrams. (10)
- Q.7** Write short note on (10)
- a) Priority scheduling.
  - b) Distributed Operating Systems.

**SECTION - II**

- Q.8** System having 40 tracks. Currently Head is on track no. 20 and moving outside. Tracks are referenced in following order. (15)  
23 27 20 17 29 32 31 17 15 24  
Explain the concept and Calculate total track moments in case of:
- a) Shortest seek time first
  - b) First come first served
- Q.9** Consider the following case : (15)
- | Process | Execution time |
|---------|----------------|
| P1      | 7              |
| P2      | 3              |
| P3      | 8              |
| P4      | 1              |
- Explain the policies and calculate the average turnaround and waiting time in case of
- a) Shortest job first
  - b) First come first served.
- Q.10** a) “Operating System increases the productivity of end-user” Comment. (07)
- b) Explain various services for process management. (08)

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