

S.D.E.

M.C.A. SEM -II : WINTER - 2017

SUBJECT : OPERATING SYSTEMS

Day : Wednesday

Date : 13/12/2017

Time : 02.00 P.M. TO 05.00 P.M.

W-2017-4418

Max. Marks : 80

N.B.:

- 1) Attempt ANY FIVE questions from Section – I and ANY TWO questions from Section – II.
- 2) Answers to both the sections should be written in SEPARATE answer books.
- 3) Figures to the right indicate FULL marks.

SECTION – I

- Q.1 What is operating system? Write the importance and functions of operating systems. [10]
- Q.2 Discuss the process concept in detail. [10]
- Q.3 Explain memory management with bit map and linked list. [10]
- Q.4 What are monitors? Give the need of it. Illustrate the format of monitor with example. [10]
- Q.5 What do you mean by Directories? How directories are implemented? Explain. [10]
- Q.6 Explain DMA transfer in detail. [10]
- Q.7 Write short notes on ANY TWO of the following: [10]
- a) Device drivers
 - b) Second chance page replacement algorithm
 - c) Distributed operating system

SECTION – II

- Q.8 Consider the following case: [15]

Process	Run time (min)
P ₁	7
P ₂	2
P ₃	4
P ₄	1

Explain the following process scheduling algorithms and find out the average waiting and turnaround time in case of:

- a) FCFS b) SJF

- Q.9 Suppose hard disk having 50 tracks. Currently head is on track number 40 and moving inside. System want to refer the following tracks: [15]

41, 35, 50, 25, 39, 07, 19, 10, 32.

Explain the following algorithms and calculate total track movements to move all these tracks using: a) FCFS b) SSTF

- Q.10 What is deadlock? Explain how deadlock can be detected and recovered with help of example. [15]

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