

**M.C.A. SEM - III (CHOICE BASED CREDIT SYSTEM 2011 &
2012 COURSE) : SUMMER - 2018
SUBJECT: OPERATING SYSTEM CONCEPTS**

Day: **Friday**
Date: **27/04/2018**

S-2018-1792

Time: **02.00 PM TO 05.00 PM**
Max. Marks: 100

N.B.:

- 1) Attempt any **FOUR** questions from Section –I. Each question carries **15** marks.
- 2) Attempt any **TWO** questions from Section –II. Each question carries **20** marks.
- 3) Answers to both the sections should be written in **SAME** answer book.

SECTION-I

- Q.1** Explain design issues for paging systems in memory management.
- Q.2** Define operating system. Explain various types of operating systems with their merits and demerits.
- Q.3** Define process. Explain any two process scheduling algorithm.
- Q.4** Explain what is inter-process synchronization? Explain in detail with suitable examples.
- Q.5** Explain different memory allocation techniques. What are its limitations? Give the solutions to overcome these limitations.
- Q.6** Write short notes on any **THREE** of the following:
- a) DMA
 - b) Operating system structure
 - c) Semaphore
 - d) Issues in message implementation

SECTION-II

- Q.7** For a given system having 50 tracks. Following is the sequences of tracks.
35, 28, 27, 45, 40, 31, 42, 27, 25, 26
Currently head is on track number 27 and moving outside. Explain the concept and find total track movement in case of
- i) Shortest seek time first
 - ii) First come first served.
- Q.8** Consider the following case:

Job No.	Arrival Time	Run Time
P ₁	12.00	4.00 hrs
P ₂	12.10	3.00 hrs
P ₃	12.25	0.50 hrs
P ₄	12.35	0.20 hrs

Find the turn around time if jobs are scheduled using

- i) FIFO
- ii) SJF
- iii) Round Robin

- Q.9** Explain the similarities and differences between Linux and Window operating system.

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