Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

PGDCA (2014 & Onwards) (Sem.–1)

COMPUTER OPERATING SYSTEM

Subject Code : PDCA-103

Paper ID : [B0143]

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Answer briefly :

a) What are threads?

b) Define Interprocess communication.

c) Differentiate between paging and segmentation.

d) What is multimode execution?

e) Differentiate between multi-programming and multi-processing system.

f) Define thrashing.

g) Differentiate between mutex and semaphores.

h) What do you understand by the term hard-disk scheduling?

i) What are the various ways to provide authentication in operating system?

j) What is the function of memory-mapped I/O?

SECTION-B

Q2 Explain the working of DMA controller.

Q3 Define file and explain different file access methods.

Q4 Consider the processes P1, P2, P3, P4 given in the below table, which arrived for execution in the same order, with Arrival Time 0, and given Burst Time. Find the Waiting Time and Turnaround time for given processes using the FCFS scheduling.

Process	Burst Time (ms)
P1	21
P2	3
P3	6
P4	2

Q5 What is a Critical Section problem? Give the conditions that a solution to the critical section problem must satisfy.

Q6 Define Deadlock and explain all the necessary conditions responsible for a deadlock to occur.

SECTION-C

Q7 Define operating system. What are the types of operating system?

Q8 Discuss basic memory management techniques with their advantages and disadvantages.

Q9 Explain different Page Replacement Algorithms used in Demand Paging.