

Roll No.

Total No. of Questions : 09]

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B.Tech. (Sem. - 4th)
OPERATING SYSTEM
SUBJECT CODE : CS - 202
Paper ID : [A0458]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

- 1) Section - A is **Compulsory**.
- 2) Attempt any **Four** questions from Section - B.
- 3) Attempt any **Two** questions from Section - C.

Section - A

Q1)

(10 × 2 = 20)

- a) Give at least three different view of Operating System.
- b) What is a time sharing system?
- c) What is meant by saying that program is reentrant?
- d) What is a multitasking system?
- e) What are the main purposes of an operating system?
- f) What are the main advantages of the multiprogramming?
- g) What do you understand by Spooling?
- h) What is a system call?
- i) What is a Process Control Block?
- j) What is a process of a program?

Section - B

(4 × 5 = 20)

- Q2)** Distinguish between preemptive and non-preemptive scheduling policies.
- Q3)** What are the various memory management techniques? Discuss with example.
- Q4)** List various free space management techniques and explain them.
- Q5)** What are the different types of operating system? Explain with example.
- Q6)** What is the critical section problem. How is it handled?

Section - C

(2 × 10 = 20)

- Q7)** (a) What is the main advantage of using deadlock detection instead of prevention or avoidance?
(b) List and explain the conditions necessary and sufficient to produce a deadlock.
- Q8)** A variable partition memory system has at some point in time the following hole sizes in the given order :- 20k, 15k, 40k, 60k, 10k, 25k. A New process is to be loaded. Which hole size would be filled using best-fit, first-fit and worst-fit respectively?
- Q9)** Suppose that the head of moving head-disk with 200 tracks, numbered 0 to 199, has just finished a request at track 125. The queue of the requests is kept in FIFO order :
86, 147, 91, 177, 94, 150, 102, 175, 130.
What is the total number of head movements needed to satisfy requests for the following disk Scheduling algorithms :-
(a) FCFS
(b) SSTF
(c) Scan.

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