

Roll No: .....

Total No. of Questions : 09]

[Total No. of Pages :02

## Paper ID [CS202]

(Please fill this Paper ID in OMR Sheet)

B.Tech. (Sem. - 4<sup>th</sup>)

OPERATING SYSTEM (CS - 202)

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) What is buffering?
- b) What is logical address space?
- c) What is a thrashing?
- d) What is meant by critical section?
- e) What for are Resource Allocating Graphs used
- f) What is real time processing?
- g) What are semaphores?
- h) What is spooling?
- i) What is garbage collection?
- j) What are program threats?

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**Section - B**

(4 × 5 = 20)

- Q2)** Explain virtual memory and associative memory.
- Q3)** Discuss in detail the Data Encryption Standard (DES) algorithm. What are its limitations?
- Q4)** Write short notes on the following:  
(a) Two-phase locking.  
(b) Wait-die and Wound-wait.
- Q5)** What do you mean by page-faults? When do page-faults occur? Describe the action taken by the O.S when page fault occurs?
- Q6)** Explain the difference between internal fragmentation and external fragmentation. Which one occurs in paging system?

**Section - C**

(2 × 10 = 20)

- Q7)** (a) How can you prevent circular waiting situation in a deadlock?  
(b) Which is the main limitation of resource allocation graph?
- Q8)** Compare and contrast Public-key cryptography technique with Conventional cryptography technique.
- Q9)** What do you mean by file management? Explain the various access and allocation methods of files in detail.

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