

SE - Sem III (C-Scheme) - INFT Dec 2025

Time: 3 hours

Q.P Code : 00041

Max. Marks: 80

N.B.: 1) Question No.1 is compulsory.

2) Attempt any THREE questions out of remaining FIVE questions.

3) Figures to the right indicates full marks.

4) Assume suitable data if necessary.

08/12/2025

- Q1 Answer any FOUR** 20
- Compare process scheduling and process switching
 - Explain Race condition with example.
 - What is Semaphore? What is its significance?
 - What are the various objectives and functions of Operating Systems?
 - What are features of Mobile and Real Time Operating Systems?
- Q.2**
- Consider the following reference string: 1, 2, 3, 4, 2, 1, 5, 6, 2, 1, 2, 3, 7, 6, 3, 2, 1, 2, 3, 6. Find the number of page faults with FIFO, Optimal Page Replacement and LRU with frame size=4 10
 - State features of Cloud OS. Enlist its advantages and disadvantages. 10
- Q.3**
- Explain file allocation methods in detail with proper diagram 10
 - What is a thread? How multithreading is beneficial? Compare and contrast different multithreading models. 10
- Q.4**
- What is an Operating System? Explain structure of Operating System. 10
 - What is RAID? What are different levels of RAID 10
- Q.5**
- Explain paging in detail. Describe how logical address is converted into physical address 10
 - Discuss virtual memory technique. compare a physical address and a virtual address? 10
- Q.6 Write short notes on (any FOUR)** 20
- Deadlock avoidance
 - Process Control Block
 - Disk Scheduling
 - Real Time OS
 - Threading and Multithreading

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