

**B.Sc. Semester-III Examination, 2022-23****COMPUTER SCIENCE [Prgramme]**

Course ID : 31518

Course Code : SP/CSC/301/C-1C

**Course Title : Operating Systems – Theory**

Time : 1 Hour 15 Minutes

Full Marks : 25

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*Answer **all** the questions.**UNIT-I**1. Answer any **five** of the following questions:

1×5=5

- a) What do you mean by starvation?
- b) Write down the major goals of operating system?
- c) What do you mean by throughput of an Operating System?
- d) Define paging.
- e) What do you mean by Dispatcher?
- f) What do you mean by system program?

- g) Difference between multiprocessing and multiprogramming os?
- h) What do you mean by operating system?

**UNIT-II**2. Answer any **two** of the following questions :

5×2=10

- a) Write down the necessary condition for deadlock to occur? Is it necessary that all the condition must hold for the deadlock occur in the system?
- b) What is system call? Explain any four system calls briefly.
- c) What do you mean by context switching? Distinguish between long term and short term scheduling?
- d) Explain the difference between internal and external fragmentation?

**UNIT-III**3. Answer any **one** of the following questions :

10×1=10

- a) What do you mean by Time Quantum? How can you implement Round Robin Scheduling algorithm? Distinguish between preemptive and non-preemptive Cpu Scheduling. 2+5+3

- b) Write down the requirements for Critical Section Problem solutions.

Write short notes on:

- a) Semaphore  
b) Inter Process Communication

5+5

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