

Roll No. ....

Total No. of Questions : 13]

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## Paper ID [A0405]

(Please fill this Paper ID in OMR Sheet)

**MSc. IT - 105 (New) / (S05) (Sem. - 1<sup>st</sup>)**  
**OPERATING SYSTEMS**

Time : 03 Hours

Maximum Marks : 75

### Instruction to Candidates:

- 1) Section -A is **Compulsory**.
- 2) Attempt any **Nine** questions from Section - B.

### Section - A

(15 × 2 = 30)

*Q1)*

- a) What is a computer?
- b) Define online system.
- c) What is an interrupt?
- d) Explain computer program.
- e) Can a computer work without operating system? Explain.
- f) Define software.
- g) What is a client?
- h) Define kernel.
- i) What is swapping?
- j) What is a page fault?
- k) Explain cache miss?
- l) Explain resource allocation?
- m) Define portability.
- n) What is virtual memory?
- o) What is segmentation?

**Section - B**

**(9 × 5 = 45)**

- Q2)** What is operating system? List main components of the operating system and their services.
- Q3)** What is booting? Describe the steps involved in booting.
- Q4)** Explain multiprogramming and multitasking.
- Q5)** Explain process scheduling with the help of a diagram.
- Q6)** What are interacting processes? Explain a method of implementing interacting processes.
- Q7)** What is produce-consumer problem? Give a solution for produce-consumer problem.
- Q8)** What are the main differences between single user and multi user operating systems?
- Q9)** Define thread? What are the differences between user level threads and kernel supported threads?
- Q10)** Differentiate between high level language and machine language.
- Q11)** With an example, discuss the FCFS scheduling algorithm.
- Q12)** Explain the difference between internal and external fragmentation with suitable examples.
- Q13)** Explain with an example, LFU page replacement algorithm.

