

1C8112

Total No. of Questions : 20

Total No. of Pages : 03

Roll No. : .....

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M.C.A. I-Sem. ( Main/Back ) Exam. - 2024

MCA-103 / Operating System

Time : 3 Hours

Maximum Marks : 70

Min. Passing Marks : 28

**Instructions to Candidates :**

Attempt all ten questions from Part-A. All five questions from Part-B and three questions out of five questions from Part C.

*Schematic diagrams must be shown wherever necessary. Any data missing may suitably be assumed and stated clearly. Units of quantities used / calculated must be stated clearly.*

*Use of following supporting material is permitted during examination. (As mentioned in Form No. 205)*

1. ....

2. ....

**PART - A**

**( Word Limit 25 )**

**[10×2=20]**

Q.1. Why is the Operating System important?

Q.2. Give any two benefits of Multiprocessor systems.

Q.3. What do you mean by 'Process Synchronization'?

Q.4. What is Virtual Memory?

- Q.5. What is the advantage of Open source?
- Q.6. Explain the purpose and syntax of ls command of Linux.
- Q.7. What do you understand by a Shell?
- Q.8. What is Metacharacter?
- Q.9. Define LILO.
- Q.10. What is the purpose of init process?

### PART - B

( Word Limit 100 )

[5×4=20]

- Q.1. What are the different states of a process? Explain.
- Q.2. Differentiate between Logical address and Physical address.
- Q.3. Explain any two process management system calls of Linux.
- Q.4. Differentiate between while and until statements.
- Q.5. Explain the file permission types of Linux.

### PART - C

(Any Three)

[3×10=30]

- Q.1. What do you mean by 'CPU Scheduling'? Briefly explain various types of Scheduling Algorithms.
- Q.2. What is deadlock? What are the necessary conditions for deadlock to occur discuss deadlock prevention and avoidance in detail.
- Q.3. Explain the following Commands of Linux :

(a) head

- (b) tail
- (c) cat
- (d) rmdir
- (e) cp
- (f) mv
- (g) rename
- (h) mkdir
- (i) cd
- (j) cut

Q. 4. With the help of suitable examples, discuss various control statements of shell programming.

Q. 5. Write short notes on the following :

- (a) File and Directory types
- (b) System Services

----- X -----