CB

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MASTER OF SCIENCE (M.SC) IN COMPUTER APPLICATIONS

EXAMINATION : MAY - 2024

SEMESTER - I

Sub.: Advanced Operating System (MSC-103-22)

Date :30/05/2024 **Total Marks : 60** **Time: 10.00 am To 12.30 pm**

Instruction:

1. *All questions are compulsory unless and otherwise stated.*
2. *Bold figures to the right of every question are the maximum marks for that question.*
3. *Candidates are advised to attempt questions in order.*
4. *Answers written illegibly are likely to be marked zero.*
5. *Use of scientific calculators, Log tables, Mollier Charts is allowed.*
6. *Draw neat and labelled diagram wherever necessary.*

Q. 1. Answer the following in 2 - 3 lines. (Any 5) **(10)**

1. Define process.
2. What is thread scheduling?
3. What are 3 main objectives of OS design?
4. What is a real-time operating system?
5. What are 3 main objectives of OS design?
6. Define multi processing.
7. What are the benefits of caching?

Q. 2. Answer the following in short. (Any 4) **(20)**

1. What is the difference between preemptive and non-preemptive scheduling?
2. State & **e**xplain basic function of OS.
3. What is swapping? Explain constraints of swapping
4. What is a file system in operating systems?
5. How to avoid race condition
6. Explain all classical epic problems in synchronization with diagram

Q. 3. Answer the following in detail. (Any 3) **(30)**

1. Describe in detail deadlock prevention and deadlock avoidance.
2. Difference between demand paging and segmentation.
3. Explain virtual memory management policies.
4. Explain all file structure methods.
5. What is deadlock in operating systems?
