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Total No. of Questions: 09

Total No. of Pages: 02

MCA (Sem. 4)
ADVANCED OPERATING SYSTEMS
Subject Code: MCA-404
Paper ID: 74122

Time: 03 Hrs.

Max. Marks: 60

INSTRUCTIONS TO CANDIDATES:

1. Section A, B, C & D contains TWO questions carrying TEN marks each and students have to attempt at least ONE questions in EACH SECTION.
2. Section E is COMPULSORY consisting of TEN questions carrying TWO marks each.

SECTION A

1. Discuss the architecture of distributed operating system. How resource availability and fault tolerance is ensured in distributed operating systems?
2. Discuss the various challenges faced in the design and development of distributed operating systems.

SECTION B

3. How real time and embedded systems are different from standard distributed operating systems? Discuss the basic structure and components of real time systems.
4. Discuss how scheduling of periodic, a periodic and sporadic tasks in real time systems is performed.

SECTION C

5. How resource monitoring and scheduling is performed in Grid Computing systems? Define performance metrics for scheduling algorithms.
6. Discuss the various differences between cluster and grid computing. Discuss the various components of Grid computing architecture.

SECTION D

7. Explain in detail the different cloud service models along with the neat diagram?
8. Give the design principles and structure of Mobile Computing?

SECTION E

9. Write briefly:
 - a) Discuss Cloud Computing Characteristics?
 - b) What is Fault Tolerance?
 - c) Explain Energy Aware CPU Scheduling?
 - d) What are the problems faced by Load Balancing?
 - e) Give the brief case study of working of clustering?
 - f) Explain features of Mobile Computing?
 - g) Define Nano Kernel?
 - h) Define Hypervisor in Cloud Computing?
 - i) Define IaaS and PaaS?
 - j) What is Mobile Computing?