Roll No.

Total No. of Questions: 09

Total No. of Pages: 02

MCA (Sem.4)
ADVANCED OPERATING SYSTEMS
Subject Code: MCA-404
Paper ID: A2558

Time: 3 Hrs.

Max. Marks: 100

INSTRUCTION TO CANDIDATES:
1. **Sections A, B, C and D contains TWO questions each carrying TWENTY marks each. Attempt any ONE question from each section.**
2. **Section E is COMPULSORY consisting of TEN Questions carrying TWO marks each.**

SECTION A

1. Discuss in detail the architecture and organization of Multi-Processor and Distributed operating system.

2. What is Distributed File System? Explain its advantages and disadvantages.

SECTION B

3. What is Real Time and Embedded operating system? Discuss the hardware elements and structure of real time and embedded systems.

4. Differentiate between the following:
   a) Nanokernel, Microkemel and Monolithic kernel based models
   b) Periodic, Aperiodic and Sporadic tasks

SECTION C

5. Describe in detail with neat diagram the Grid computing architecture.

6. Write short note on the following:
   a) Cluste computing
   b) MOSIXOS

SECTION D

7. Define Cloud. What are the cloud building blocks? Discuss the applications of cloud.

8. Elaborate in detail the features of various mobile operating systems.

SECTION E

9.

a. What do you mean by Availability in distributed systems?

b. Distinguish between Grid computing and cluster computing.

c. What is SAN?

d. What is software virtualization?

e. Define load balancing.

f. What do you mean by energy aware CPU scheduling?

g. Define PaaS and Saas.

h. How Xen hypervisor is different from VMW are hypervisor?

i. What is the difference between public cloud and private cloud?

j. What is clock synchronization?