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MCS-227

**MASTER OF COMPUTER
APPLICATIONS (MCA-NEW)**

Term-End Examination

December, 2025

MCS-227 : CLOUD COMPUTING AND IoT

Time : 3 Hours

Maximum Marks : 100

Weightage : 70%

Note : *Question No. 1 is compulsory. Answer
any **three** questions from the rest.*

1. (a) Explain the evolution of cloud computing and its impact on modern IT infrastructure. 10

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- (b) What is Edge Computing ? Draw the architecture diagram of edge computing including all of its components and explain it. 10
- (c) What are fundamental components of IoT application development framework ? Explain them briefly. 10
- (d) Explain the role of virtualization in cloud computing. Compare full-virtualization with para-virtualization. 10
2. (a) What are the challenges in cloud security ? Explain different security mechanisms. 7
- (b) Discuss the concept of cloud data storage and different storage models. 8

- (c) Explain the concept of auto-scaling in cloud computing. 5
3. (a) Discuss different IoT communication protocols and their applications. 10
- (b) What is VM sizing ? Briefly describe any *three* common types of VM sizing techniques. 10
4. (a) Compare and contrast cloud, edge and fog computing. 7
- (b) Discuss real-time applications of IoT in healthcare and smart cities. 8
- (c) What is the role of Load Balancer in cloud and how does it works ? Briefly explain. 5

5. (a) What are the key challenges in IoT security ? Discuss various mitigation strategies. 7

(b) Explain the integration of cloud computing with IoT and its advantages. 5

(c) Write short notes on the following : 4+4

(i) Hypervisor

(ii) Load Balancing as a Service
(LBaaS)

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