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MCS-227

MASTER OF COMPUTER APPLICATIONS (MCA-NEW)

Term-End Examination

June, 2023

MSC-227 : CLOUD COMPUTING AND IOT

Time : 3 Hours *Maximum Marks : 100*

Weightage : 70%

Note : *(i) Question No. 1 is compulsory.*

(ii) Answer any ***three*** *questions from the rest.*

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1. (a) What is cloud computing service delivery models ? List and explain any *four* service delivery models. 10

   (b) Explain the following scaling strategies : 10

   (i) Proactive scaling

   (ii) Reactive scaling

   (iii) Combinational scaling

Also, compare proactive and reactive scaling with reference to the suitability, working, cost and implementation parameters.

(c) Explain all the *four* components, which support IoT system, with the help of a sample block diagram. 10

(d) What is fog computing ? Explain the working of its along with any use case. Also, mention it advantages. 10

2. (a) Define edge computing. Also, briefly explain the working of edge computing. 10

(b) What is Virtualization ? Explain its underlying abstraction. Also, mention its important characteristics. 10

3. (a) Compare and contrast cluster, grid and cloud computing with reference to characteristics, physical structure, hardware, resources, applications, networking and scalability parameters. 10

(b) What is load balancing ? What is its functionality ? Explain the following load-balancers along with their features : 10

(i) Network load balancer

(ii) Application load balancer

4. (a) Define a sensor with reference to an IoT device. Explain its characteristics. List and explain any *four* IoT sensors along with their functions in the IoT devices. 10

(b) What is cloud security ? What are the threats to cloud security ? Explain various information security methods is cloud computing. 10

5. Write short notes on the following : 4×5=20

(a) Public and private clouds

(b) Challenges in cloud computing

(c) Hierarchical structure of cloud

(d) Use case of edge computing