

Roll No.

Total Pages : 03

CMTE/D-23

24076

CLOUD COMPUTING AND IoT
MT-CSE-20-31(ii)

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. **1** is compulsory. All questions carry equal marks.

- 1.** (a) What is auto scaling in cloud ?
(b) List the challenges in cloud computing.
(c) How are IoT and cloud computing related ?
(d) How does Zigbee protocol work ?
(e) List the differences between COAP and MQTT protocols.

5×3=15

Unit I

- 2.** (a) With the help of a block diagram, explain the 4-levels in cloud architecture. **7**
(b) What are the different models for deployment in cloud computing ? **8**
- 3.** (a) Define Virtualization. Explain its underlying abstraction. Also mention the features provided by virtualization environment. **8**

- (b) Define resource sharing in cloud computing. Explain the implementation of single tenancy and multi-tenancy types of resource sharing in cloud computing. 7

Unit II

4. (a) Explain various queuing services provided by different cloud service provider. 10

- (b) Differentiate data security and information security. 5

5. (a) Write a short note on identity and access management services. 10

- (b) Which AWS services offer compute capabilities ? Explain that. 5

Unit III

6. (a) Give the key elements of ETSI M2M architecture. 8

- (b) Brief the difference and similarities between IoT and M2M. 7

7. (a) What is Internet of Things (IoT) ? What are components required to design IoT device and which device do we call IoT device ? Explain with example. 10

- (b) How are gateways used for data management ? 5

Unit IV

8. (a) In what way Raspberry Pi is better than Arduino ? 7

- (b) What is CoAP ? How does it work ? How can CoAP be used between devices on the same constrained network ? 8

9. Which is the mostly used protocol in IoT ? Explain the following communication protocols with reference to the IoT devices : 15

- (i) IPv6
- (ii) MQTT
- (iii) CoAP
- (iv) XMPP.