

Cloud Computing (315325)

MSBTE Diploma · K-Scheme · Model Question Paper — Set A

Time: 3 Hours**Max. Marks: 70****Instructions:**

1. All questions are compulsory.
2. Answer each next main question on a new page.
3. Illustrate your answers with neat sketches wherever necessary.
4. Figures to the right indicate full marks.
5. Assume suitable data, if necessary.
6. Mobile phone, pager and any other electronic communication devices are not permissible in the examination hall.

Q.1 Attempt any FIVE of the following:**10**

- a) Define cloud computing as per NIST.
- b) List any four essential characteristics of cloud computing.
- c) Define hypervisor. Give any two examples.
- d) List the two types of SLA and give one example of each.
- e) List any four policy and organizational risks in cloud computing.
- f) State any two examples of cloud-based ubiquitous computing used by students.
- g) State the function of NameNode and DataNode in HDFS.

Q.2 Attempt any THREE of the following:**12**

- a) Explain the SaaS cloud service model. Write its two advantages and two disadvantages.
- b) Describe the virtualization reference model with a neat diagram.
- c) Explain the architecture of Google File System (GFS) with a neat diagram.
- d) Explain identification, authentication, authorization and auditing with respect to identity and access management (IAM) in cloud.

Q.3 Attempt any THREE of the following:**12**

- a) Differentiate between Type-1 and Type-2 hypervisor. (Any four points)
- b) Explain the five phases of the SLA life cycle.
- c) Explain ZigBee device types and network topologies with neat diagrams.
- d) Describe cloud storage system architecture with a neat diagram.

Q.4 Attempt any THREE of the following:**12**

- a) Explain the steps of live VM migration with a neat diagram.
- b) Explain any four technical risks in cloud computing.

- c) Explain the features of Google App Engine (GAE) with its architecture.
- d) Explain the architectural components of cloud computing (front end and back end) with a neat diagram.
- e) A hospital wants doctors to monitor the ECG of heart patients from anywhere. Explain how ECG analysis is done in the cloud and how it is accessed.

Q.5 Attempt any TWO of the following:

12

- a) Explain public, private, community and hybrid cloud deployment models with diagram. Write one advantage and one disadvantage of each.
- b) Explain the Xen architecture and guest OS management with a neat diagram.
- c) Explain multi-tenancy and trust management as cloud security concepts.

Q.6 Attempt any TWO of the following:

12

- a) Explain the architecture of a Virtualized Data Centre (VDC). Write the benefits of server virtualization in a VDC.
- b) Explain data security technologies used in cloud and list the data security risks.
- c) Explain the benefits of Amazon EC2 and Amazon S3 as cloud platforms.

Note: This is a **model question paper prepared by Ananda Technologies** only for practice and exam preparation, based on the pattern of previous MSBTE question papers and the K-scheme syllabus. It is **not an official MSBTE paper**, and it does **not** mean that these questions will come in the exam. Answers follow standard textbook points; marks shown are indicative. Free for students — anandatechnologies.in