

Unit-I

1. (a) Discuss ethical issues in cloud computing ? [8]
- (b) What are the characteristics of cloud computing? Explain in detail [8]

OR

1. (a) Write short notes on historical development of cloud computing. [8]
- (b) What do you understand by the term 'cloud computing'? How it is evolved ? [8]

Unit-II

2. (a) Discuss parallel or distributed computing paradigm using MapReduce and Hadoop. [8]
- (b) Discuss the generic cloud architecture with neat diagram. [8]

OR

2. (a) Discuss layers and types of cloud with reference to cloud computing. [8]
- (b) Write short notes on high level language for cloud and developing applications. [8]

Unit-III

3. (a) What is datacenter virtualization? What are the various benefits of it? [8]
- (b) Explain the followings:
 - (i) Operating system-level virtualization
 - (ii) Programming language-level virtualization
 - (iii) Application-level virtualization [8]

OR

3. (a) Why virtualization has gained so much popularity

in the context of cloud computing? Discuss the various phenomenons behind its gaining importance? [8]

- (b) Discuss the followings:
 - (i) Xen Virtualization Technology
 - (ii) VMware: full virtualization [8]

Unit-IV

4. (a) What are various ways to mitigate risks to cloud computing security? Explain. [8]
- (b) Write short notes on security policy implementation. [8]

OR

4. (a) What are CIA triad of information system security? Explain. [8]
- (b) Write short notes on trusted cloud computing. [8]

Unit-V

5. (a) Write short notes on third party services in cloud computing. [8]
- (b) What are various scientific applications of cloud computing ? [8]

OR

5. (a) Write an overview of the Aneka framework with reference to cloud computing platform. [8]
- (b) Write short notes on the followings: (any two)
 - (i) Protein Structure Prediction
 - (ii) Gene expression data analysis for cancer diagnosis
 - (iii) Satellite image processing [4×2 = 8]