CBCS SCHEME

USN | | | | | | | | | | 18CS643

Sixth Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026
Cloud Computing and Its Applications

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Compare the definitions of cloud computing given by Armbrust, American NIST, and Rajkumar Buyya et al and summarize your understandings. **(10 Marks)**

b. List the characteristics and benefits of cloud computing. Explain the abstract features of cloud computing reference model with a neat sketch. **(10 Marks)**

OR

2 a. Illustrate the pros and cons of virtualization using a case study. **(10 Marks)**

b. What are the salient features of Xen architecture along with guest OS management? **(10 Marks)**

Module-2

3 a. What are the important services offered by infrastructure as a service along with the components performing various tasks? **(10 Marks)**

b. What are the candidate sectors of community clouds in cloud computing? Illustrate with the definition of community clouds provided by the National Institute of Standards and Technologies. **(10 Marks)**

OR

4 a. Illustrate the salient features of Aneka container's application services. **(10 Marks)**

b. What is the importance of reference life cycle of service instance within Aneka container? Mention the built – in features and properties of service base class. **(10 Marks)**

Module-3

5 a. Demonstrate the parameter sweep model namespaces under the common root Aneka that support for developing and controlling parameter sweep applications. **(10 Marks)**

b. Illustrate the Architecture of work flow coordination with a sample case study and neat sketch. **(10 Marks)**

OR

6 a. Demonstrate Domain Decomposition techniques for computing in various scenarios with neat diagrams. **(10 Marks)**

b. What are the differences between high performance computing and high throughput computing? **(06 Marks)**

c. What are three major elements that constitute the object model of applications based on the Thread Programming model in Aneka? **(04 Marks)**

Module-4

7 a. Illustrate the Aneka Map Reduce infrastructure elements with a neat diagram. **(10 Marks)**

b. What is data – intensive computing. Discuss open challenges in data – intensive computing given by Ian Gorton et. al. **(10 Marks)**

OR

8 a. Explain the factors that gave rise from traditional storage systems to new turning point in data intensive computing management strategies. **(10 Marks)**

b. Illustrate the prominent implementations of database structures that support data intensive applications for huge data warehouses. **(10 Marks)**

Module-5

9 a. What are Amazon Machine Images? Identify the major configuration categories that currently available for EC_2 instances. **(10 Marks)**

b. Illustrate the Runtime environment that represent the execution context of applications hosted on google App Engine. **(10 Marks)**

OR

10 a. What are the three different roles of compute services in Microsoft Azuse core components? **(10 Marks)**

b. Demonstrate the Business and consumer applications with a case study satellite data processing. **(10 Marks)**

* * * * *