



# INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal-500043, Hyderabad

**B.Tech VII SEMESTER END EXAMINATIONS (REGULAR) - DECEMBER 2023**

**Regulation: UG-20**

**CLOUD COMPUTING**

**Time: 3 Hours**

**(INFORMATION TECHNOLOGY)**

**Max Marks: 70**

**Answer ALL questions in Module I and II**

**Answer ONE out of two questions in Modules III, IV and V**

**All Questions Carry Equal Marks**

**All parts of the question must be answered in one place only**

## MODULE – I

1. (a) Elaborate on the characteristics of cloud computing that makes it more important and different from other technologies. [BL: Understand| CO: 1|Marks: 7]
- (b) Outline the computing platforms and technologies for the development of cloud computing applications. [BL: Understand| CO: 1|Marks: 7]

## MODULE – II

2. (a) Explain the various layered cloud architectural development design for effective cloud computing environment. [BL: Understand| CO: 2|Marks: 7]
- (b) Deploying a multi-tenant application across multiple cloud platforms can be very challenging. Explain the solution by using 6 multi-cloud architecture designs for an effective cloud strategy. [BL: Apply| CO: 2|Marks: 7]

## MODULE – III

3. (a) Categorize various types of virtualization techniques available? Explain them in detail. [BL: Understand| CO: 3|Marks: 7]
- (b) Differentiate between full vs para-virtualization and give one example virtual machine monitor, that was built in each of the two categories. [BL: Understand| CO: 3|Marks: 7]
4. (a) Classify various types of virtual machines. Illustrate each type with an example. [BL: Understand| CO: 4|Marks: 7]
- (b) Describe the three major components of virtualized environment. Bring up the concept of virtual machine manager. [BL: Understand| CO: 4|Marks: 7]

## MODULE – IV

5. (a) State the motivation for cloud resource management. Detail the resource management policies. [BL: Understand| CO: 5|Marks: 7]
- (b) Outline the concept of resource bundling in cloud computing. State few combinations of resources that can give a maximum benefit. [BL: Understand| CO: 5|Marks: 7]

6. (a) Explain the working principle of fair queuing and start time fair queuing to schedule multiple flows. [BL: Understand| CO: 5|Marks: 7]
- (b) How can the map reduce applications be scheduled with subject to deadlines? Summarize the concept of combinatorial auctions for cloud resources. [BL: Understand| CO: 5|Marks: 7]

### MODULE – V

7. (a) Discuss the various ways to enhance virtualization-based security in a legal way. [BL: Understand| CO: 6|Marks: 7]
- (b) Outline the security architecture design of a cloud environment and relate how it can be made possible to include such measures in a typical banking scenario? [BL: Apply| CO: 6|Marks: 7]
8. (a) Compare and contrast the key privacy issues in cloud and explain the steps to overcome the issues with necessary examples. [BL: Understand| CO: 6|Marks: 7]
- (b) Demonstrate in detail about the cloud infrastructure security at network, host and application level by discussing their pros and cons. [BL: Understand| CO: 6|Marks: 7]

