

# B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

## September / October 2023 Supplementary Examinations

**Programme: B.E.**

**Branch: Computer Science And Engineering**

**Course Code: 21CS7PECCT**

**Course: Cloud Computing**

**Semester: VII**

**Duration: 3 hrs.**

**Max Marks: 100**

**Date: 30.09.2023**

**Instructions:** 1. Answer any FIVE full questions, choosing one full question from each unit.  
2. Missing data, if any, may suitably assumed.

### UNIT - I

- |   |    |  |   |
|---|----|--|---|
| 1 | a) | Is Cloud Computing really beneficial? Justify                      | 5 |
|   | b) | Demonstrate with a diagram cloud application deployment lifecycle. | 6 |
|   | c) | Explain the features of following IaaS services                    | 9 |
|   |    | ➤ Amazon EC2   |   |
|   |    | ➤ Google Compute Engine  |   |
|   |    | ➤ Azure VMs  |   |

### UNIT - II

- |   |    |  |    |
|---|----|--|----|
| 2 | a) | Demonstrate the steps involved in live migration of a VM       | 10 |
|   | b) | Based on its architecture, Differentiate between               | 6  |
|   |    | ➤ Full Virtualization and Para Virtualization                  |    |
|   |    | ➤ Process Virtual Machine and System Virtual Machine           |    |
|   | c) | Distinguish between Guest-Based Manager and Host-Based Manager | 4  |

### OR

- |   |    |  |    |
|---|----|--|----|
| 3 | a) | Demonstrate two implementation techniques of system virtual machines along with its advantages and disadvantages | 10 |
|   | b) | Based on its architecture and properties, differentiate among the following virtualization software              | 10 |
|   |    | i) XEN   |    |
|   |    | ii) KVM  |    |
|   |    | iii) VMware  |    |

### UNIT - III

- |   |    |   |   |
|---|----|---|---|
| 4 | a) | Illustrate with a neat diagram the stack of six layers of cloud services  | 8 |
|   | b) | Describe the various resource-provisioning methods applied by providers   | 6 |
|   | c) | Explain the Cloud Security Defense strategies with respect to Security challenges in VMs, Cloud Defense methods, Defense with Virtualization. | 6 |

**Important Note:** Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

**OR**

- 5    a)    Cloud Provider usually expects its cloud customers (i.e., SaaS providers) to express a preference regarding where they want their application services to be hosted. List the shortcomings in this approach and demonstrate how the problem is overcome by global exchange of cloud resources through brokering with a diagram **10**
- b)    Demonstrate that the various cloud players like Cloud service providers and IT Administrators, Software developers or Vendors, End Users or Business Users vary in their roles under the IaaS, PaaS, and SaaS models. **10**

**UNIT - IV**

- 6    a)    Demonstrate the process of Hadoop MapReduce job execution with a diagram **10**
- b)    Illustrate the interactions between the following with a sequence diagram: **10**
- i)    Resource Manager and Application Manager in job execution
- ii)    Application Manager and Node Manager in job execution

**UNIT - V**

- 7    a)    Define the following: **4**
- (i)    Docker (ii) Docker Cloud
- b)    Define Kubernetes. List out the additional capabilities supported by Kubernetes **6**
- c)    Differentiate between dedicated hosts, virtual machines, and Docker with a diagram **10**

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