

**B.Tech. DEGREE EXAMINATION, MAY 2023**

Sixth Semester

**18ECE335T– INTRODUCTION TO VIRTUAL COMPUTING***(For the candidates admitted from the academic year 2018-2019 to 2021-2022)***Note:**

- (i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40<sup>th</sup> minute.
- (ii) **Part - B & Part - C** should be answered in answer booklet.

Time: 3 hours

Max. Marks: 100

**PART – A (20 × 1 = 20 Marks)**Answer **ALL** Questions

- |   | Marks | BL | CO | PO |
|---|-------|----|----|----|
| 1. In many applications, HPC and HTC systems desire<br>(A) Transparency (B) Selectivity<br>(C) Dependency (D) Adoptability  | 1     | 1  | 1  | 1  |
| 2. A _____ consist of multiple autonomous computers, each having its own private memory, communicating through a computer network.<br>(A) Parallel (B) Centralized<br>(C) Distributed (D) Autonomous                      | 1     | 2  | 1  | 1  |
| 3. _____ converts bit serial processing to word – level processing<br>(A) Bit level parallelization (B) Instruction level parallelization<br>(C) Job level parallelization (D) Data level parallelization                 | 1     | 1  | 1  | 5  |
| 4. Grid system applies to<br>(A) Dynamic resources (B) Elastic resources<br>(C) Static resources (D) Spare resources  | 1     | 2  | 1  | 5  |
| 5. The technology used to distribute service requests to resources is referred to as<br>(A) Load Performing (B) Load Balancing<br>(C) Load Scheduling (D) Load Distributing   | 1     | 1  | 2  | 5  |
| 6. _____ approach translates basic blocks of dynamic source instructions to target instructions<br>(A) Dual binary translation (B) Duo binary translation<br>(C) Static binary translation (D) Dynamic binary translation | 1     | 2  | 2  | 5  |
| 7. Application – level virtualization is also known as<br>(A) Process – level virtualization (B) Partial Virtualization<br>(C) Instruction – level virtualization (D) System – level virtualization                       | 1     | 1  | 2  | 5  |
| 8. The _____ the ring number, the _____ the privilege of instruction bring executed<br>(A) Higher, Lower (B) Lower, Higher<br>(C) Lower, Lower (D) Higher, Higher   | 1     | 2  | 2  | 5  |

9. \_\_\_\_\_ is built within the domain of an intranet owned by an single organization  
(A) Public cloud (B) Private cloud  
(C) Hybrid cloud (D) Cluster cloud
10. The data centre is connected to the internet at \_\_\_\_\_ with many access router and border routers.  
(A) Layer 2 (B) Layer 1  
(C) Layer 3 (D) Layer 4
11. Which of the following is a type of cloud computing service?  
(A) Software-and-a-server (B) Source-as-a-software  
(C) Software-as-a-server (D) Software-as a-service
12. GAE is an \_\_\_\_\_ for users  
(A) Application development platform (B) Infrastructure platform  
(C) Virtual platform (D) Data platform
13. The REST interactions are \_\_\_\_\_  
(A) Stateless (B) State full  
(C) Static (D) Memory less
14. " \_\_\_\_\_ " refers to both the processes to develop standards and the standards themselves.  
(A) Closed (B) Open  
(C) Fetch (D) Delete
15. Which of the following is a base interface of data management services?  
(A) Data Creating (B) Data Facility  
(C) Data Representation (D) Data Manipulation
16. \_\_\_\_\_ which specifies a set of interfaces outlining the communication semantics input / self and queuing systems?  
(A) Core Java (B) Java message service  
(C) AMQP (D) .net Framework
17. The basic storage concept in clouds is \_\_\_\_\_ for amazon  
(A) S1 (B) Blobs  
(C) S3 (D) S2
18. \_\_\_\_\_ is a major cloud in Google  
(A) Big Table (B) Simple DB  
(C) Azure (D) VO Table
19. The Hadoop core is divided into \_\_\_\_\_ fundamental layers  
(A) Two (B) Three  
(C) Four (D) Five

20. The \_\_\_\_\_ function runs the same code written by users for the \_\_\_\_\_ function as its functionality is identical to it.  
(A) Reduce, Map (B) Map, Reduce  
(C) Combiner, Reduce (D) Reduce, Combiner

### PART – B (5 × 4 = 20 Marks)

Answer ANY FIVE Questions

- |  | Marks | BL | CO | PO |
|--|-------|----|----|----|
| 21. Compare Grid versus Clouds.  | 4     | 3  | 1  | 1  |
| 22. State the disadvantages of OS extensions.                                    | 4     | 1  | 2  | 5  |
| 23. What are the basic requirements for managing the resources of a data centre? | 4     | 1  | 3  | 3  |
| 24. Categorize the broad areas of OGSA services.                                 | 4     | 3  | 4  | 1  |
| 25. Name some infrastructure cloud features.                                     | 4     | 1  | 5  | 1  |
| 26. Discuss the various parallel scheduling policies introduced by time sharing. | 4     | 2  | 1  | 5  |
| 27. What is public cloud – Give example?   | 4     | 1  | 3  | 3  |

### PART – C (5 × 12 = 60 Marks)

Answer ALL Questions

- |  | Marks | BL | CO | PO |
|--|-------|----|----|----|
| 28. a. Discuss the various design objectives of computer cluster.  | 12    | 2  | 1  | 1  |
| (OR)   |       |    |    |    |
| b. Elaborate on software environments for distributed systems and clouds.  | 12    | 2  | 1  | 5  |
| 29. a. Illustrate two level memory mapping procedure with memory virtualization.                                 | 12    | 3  | 2  | 5  |
| (OR)   |       |    |    |    |
| b. Write a detailed note on levels of virtualization implementation.   | 12    | 3  | 2  | 5  |
| 30. a. Discuss about IaaS, PaaS and SaaS service models.   | 12    | 2  | 3  | 1  |
| (OR)   |       |    |    |    |
| b. Describe the functions of Generic cloud architecture.   | 12    | 2  | 3  | 3  |
| 31. a. Explain the various Grid services and OGSA architecture.  | 12    | 2  | 4  | 1  |
| (OR)   |       |    |    |    |
| b. Write a short note on UDDI and service registers with a neat diagram of UDDI entities and their relationship. | 12    | 2  | 4  | 1  |
| 32. a. Describe the various platform features supported by clouds and sometimes grids.                           | 12    | 2  | 5  | 1  |
| (OR)   |       |    |    |    |
| b. Draw the features of Azure cloud platform and elaborate on Microsoft Azure programming support.               | 12    | 2  | 5  | 1  |

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