Birla Institute of Technology & Science, Pilani
Work-Integrated Learning Programmes Division
Second Semester 2021-2022

Comprehensive Examination
(EC-3 Regular)

Course No.   : CSI ZG527
Course Title   : CLOUD COMPUTING
Nature of Exam   : Open Book
Weightage   : 50%
Duration   : 2 Hours
Date of Exam   : 22/05/2022 (AN)

No. of Pages   = 1
No. of Questions =9

Note:
1. Please follow all the *Instructions to Candidates* given on the cover page of the answer book.
2. All parts of a question should be answered consecutively. Each answer should start from a fresh page.
3. Assumptions made if any, should be stated clearly at the beginning of your answer.

Q.1   **Statement 1:** Cloud is not suitable for enterprises where there are a large number of users.
      Statement 2: Public cloud should not be used for mission-critical services.
      Do you agree that the above statements are true or false?. Justify your answer.   [5]

Q.2   What is KVM (Kernel-based virtual machine) virtualization?. Is it Type-1 or Type 2?. Mention
      the advantages and disadvantages of KVM..   [5]

Q.3   What are the differences between Public, Private, and Elastic IP addresses?. Also, provide a use
      case for each of these addresses.   [5]

Q.4   What is a System Container?. Differentiate between System container and Application container
      with respect to the number of processes and the design purpose. Also, provide one example
      application for each of these containers.   [5]

Q.5   Differentiate between Amazon's Elastic Beanstalk and Microsoft Azure application platforms with
      respect to Scalability, Load balancing, and Availability.   [6]

Q.6   Compare the Platform as a Service and Software as a Service with respect to developers and users.
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Q.7   Define availability. Discuss the methods available to detect the failure of an application instance.
      Also, describe what steps are necessary after identifying the failed instance to ensure that the new
      requests are served.   [6]

Q.8   Explain how security can be provided to the applications developed in the Infrastructure as a
      Service (IaaS) environment.   [6]

Q.9   Differentiate between the Regular file system and the Hadoop Distributed File System (HDFS).
      Also, mention the reasons why HDFS is fault-tolerant.   [6]

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