13MCA551

Fifth Semester MCA Degree Examination, Dec.2019/Jan.2020
Cloud Computing

Time: 3 hrs.

Max. Marks:100

Note: *Answer any FIVE full questions.*

1 a. With a neat diagram, explain evolutionary trend towards parallel, distributed and cloud computing. **(10 Marks)**
   b. Define Cloud Computing. Enlist and explain three service models and deployment models of cloud computing. **(10 Marks)**

2 a. Define a computer cluster. Explain the cluster architecture and its classification. **(06 Marks)**
   b. What is Virtualization? Mention the levels of virtualization and discuss. **(10 Marks)**
   c. Differentiate between physical cluster and virtual cluster. **(04 Marks)**

3 a. What are public, private and hybrid clouds? Explain. **(03 Marks)**
   b. With a neat diagram, explain the layered architectural development of the cloud platform for IaaS, PaaS, SaaS. **(10 Marks)**
   c. List the architectural design challenges in cloud development. **(07 Marks)**

4 a. Explain resource provisioning methods in detail. **(08 Marks)**
   b. What is the difference between data centers and cloud? **(04 Marks)**
   c. Discuss the security challenges in cloud computing. **(08 Marks)**

5 a. Explain the HDFS and MapReduce architecture in Hadoop. **(10 Marks)**
   b. With necessary diagrams, explain the data flow of a word – count problem using the MapReduce framework. **(10 Marks)**

6 a. Explain in detail the programming model supported by GAE. (Google AppEngine). With a neat diagram. **(10 Marks)**
   b. Briefly explain Google File System (GFS). Describe the BigTable, Google's NOSQL System. **(10 Marks)**

7 a. Differentiate Data Intensive Sealable Computing VS Supercomputers. **(05 Marks)**
   b. How can we ensure the QoS (Quality of Service) in cloud computing? **(05 Marks)**
   c. Discus the performance of MPI (Message Passing Interface) and MapReduce. **(10 Marks)**

8 Write short notes on :
   a. Virtual Machine Migration
   b. EUCALYPTUS
   c. HPC and HTC Systems
   d. Google's distributed lock service. **(20 Marks)**

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