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18SCS23

Second Semester M.Tech. Degree Examination, June/July 2019

Cloud Computing

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. With a neat diagram, explain the structure of the 3 delivery models and different types of cloud. (10 Marks)
- b. Write short notes on the following :
 - i) Cloud Vulnerabilities
 - ii) Ethical issues in Cloud Computing. (10 Marks)

OR

- 2 a. Explain the different types of Service offered by AWS which are accessed through AWS Management Console. (10 Marks)
- b. Explain the different Open – Source platforms for Private Cloud. (05 Marks)
- c. Explain the use of energy use and Ecological impact of large scale data centre. (05 Marks)

Module-2

- 3 a. List and explain the different challenges in Cloud Computing. (06 Marks)
- b. What is a Workflow? Explain the life cycle of the workflow. (08 Marks)
- c. With neat sketch, explain in detail the Zookeeper Co-ordination Service. (06 Marks)

OR

- 4 a. With neat diagram, explain in detail the Map Reduce Programming model. (08 Marks)
- b. What are the different high performance computing that can be performed on the cloud? (06 Marks)
- c. With neat diagram, explain the execution of loosely coupled workloads using the Azure platform. (06 Marks)

Module-3

- 5 a. What is Virtualization? Explain what is hypervisor and its features with steps to show how it virtualizes CPU and memory. (08 Marks)
- b. Differentiate between Full Virtualization and Para Virtualization. (06 Marks)
- c. Explain with neat diagram, the different types of hypervisor and consideration to be taken while executing privileged and unprivileged instructions. (08 Marks)

OR

- 6 a. Explain the Case study of XEN hypervisor with suitable diagrams. (10 Marks)
- b. Briefly explain the darker side of virtualization. (05 Marks)
- c. Briefly explain how virtualization is done for X86 Architecture. (05 Marks)

Module-4

- 7 a. List and explain the different policies for Cloud Resource Management. (06 Marks)
- b. Explain with a neat sketch, a 2 – level Allocation Architecture based on control theory for cloud. (08 Marks)
- c. Explain in detail the pricing and Allocation Algorithm. (06 Marks)

OR

- 8 a. Using start – time fair queuing Scheduling Algorithm to compute the virtual start – up and the virtual finish time for 2 threads a and b with weight $W_a = 1$ and $W_b = 5$. When the time quantum is $q = 15$ and thread b blocks at time $t = 24$ and wakes up at time $t = 60$. Plot the virtual time of the scheduler function of the real time. (12 Marks)
- b. Explain how the Resource is managed and Application is scaled dynamically in Cloud. (08 Marks)

Module-5

- 9 a. With neat diagram, explain the different surface of Attacks in Cloud Computing Environment. (10 Marks)
- b. Explain the different Security risks faced by Cloud Users. (10 Marks)

OR

- 10 a. Write a note on Service for Adaptive data streaming and Cloud based optimal FPGA synthesis. (10 Marks)
- b. With neat diagram, explain the Virtual Security Services provided by VMM and dedicated security VM. (10 Marks)
