

CBCS SCHEME



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18SCS23

Second Semester M.Tech. Degree Examination, Aug./Sept.2020 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 block diagram, explain cloud computing reference model and services provided by the cloud. (10 Marks)
- b. What are the major challenges faced in cloud? (05 Marks)
- c. Write a short note on cloud storage diversity and vendor lock - in. (05 Marks)

OR

- 2 a. Write a note and objectives of service and Compliance – level agreements. (06 Marks)
- b. Discuss in details about the Issues faced with respect to energy use in large – scale data centers. (08 Marks)
- c. What are the limits of responsibility to be agreed between a cloud user and the Cloud Service provider? (06 Marks)

Module-2

- 3 a. What are the different cloud applications are classified? Explain in detail. (06 Marks)
- b. What is a Workflow? With neat diagram, explain the life cycle of a workflow. (08 Marks)
- c. With the architecture, explain the map – reduce programming model. (06 Marks)

OR

- 4 a. Explain the case study of the Grep , the web applications. (10 Marks)
- b. Write a short note on following : (10 Marks)
 - i) Cloud computing for biological research.
 - ii) Cloud for high performance computing.

Module-3

- 5 a. What is the need of layering and virtualization in cloud? Explain in detail with architecture. (10 Marks)
- b. Explain in detail, how the hardware is supported for virtualization. (05 Marks)
- c. With a neat diagram, explain how network virtualization is optimized in Xen 2.0. (05 Marks)

OR

- 6 a. Elucidate the problems faced by virtualization in X86 Architecture. (10 Marks)
- b. Explain the case study of XEN hypervisor, with suitable diagram. (10 Marks)

Module-4

- 7 a. List and explain the different policies adopted for Cloud resource management. (06 Marks)
- b. Explain in detail about how the control theory is applied in scheduling the task in a cloud. (06 Marks)
- c. With a neat sketch, explain how the co-ordination is made among Autonomic Performance Manager. (08 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

OR

- 8 a. Use the Start – time Fair Queuing (SFQ) Scheduling algorithm to compute the virtual start-up and the virtual finish time for 2 threads a and b with weights $W_a = 1$ 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 in detail about how the deadlines are achieved while scheduling Applications in Map - reduce. (08 Marks)

Module-5

- 9 a. Explain the security risk faced by Cloud user. (08 Marks)
- b. Describe the major concerns of cloud with respect to the security. (06 Marks)
- c. With a neat diagram, explain the Virtual Security Services provided by VMM. (06 Marks)

OR

- 10 a. Briefly explain how the security rules are applied for application and transport layer protocols in EC2. (08 Marks)
- b. List the step – by – step process to launch an EC2 Linux instance from a Linux platform. (06 Marks)
- c. Explain how to use Simple Storage Service (S3) bucket in Java. (06 Marks)
