

SL No of QP : 7538
Unique Paper Code : 2343010019
Name of the Paper : Cloud Computing
Name of the Course : B.Sc. (H) Computer Science - DSE
Semester : VI
Duration : 3 Hours
Maximum Marks : 90 Marks

Instructions for Candidates

1. Write your Roll No. at the top immediately on receipt of this question paper.
2. **Section A** is compulsory.
3. Attempt any **FOUR** questions from **Section B**.
4. Parts of a question should be attempted together.

Section A

1. (a) Describe the role of service-oriented computing in cloud. How is it different from utility-oriented computing? (6)
- (b) Briefly describe the following: (6)
 - (i) Full virtualization
 - (ii) Partial virtualization
 - (iii) Paravirtualization
- (c) What is the function of a data center in the context of cloud computing? Discuss any two components of a data center. (6)
- (d) What is data-intensive computing? List two characteristics and two challenges in data-intensive computing. (6)
- (e) Describe the following: (6)
 - (i) Private cloud
 - (ii) Public cloud
 - (iii) Hybrid cloud

Section B

2. (a) Define software architecture styles. Differentiate between the following: (8)
 - (i) Thin-client and fat client models
 - (ii) Two-tier and three-tier architecture
- (b) "A distributed system is a collection of independent computers that appears to its users as a single coherent system." Discuss the given statement. Illustrate the components of a distributed system. (7)

3. (a) Define Cloud Computing. Discuss any two practical applications of Cloud Computing. (8)
- (b) What is distributed computing? Explain, in brief, any two technologies that led to the development of Cloud Computing? (7)
4. (a) Describe the working of PaaS-I, PaaS-II and PaaS-III. State any two characteristics that identify a PaaS implementation/solution. (8)
- (b) Discuss Infrastructure-as-a-service (IaaS) service model. Discuss any four services offered under IaaS cloud implementation. (7)
5. (a) Write short note on the following: (8)
- (i) Sharing
 - (ii) Aggregation
 - (iii) Emulation
 - (iv) Isolation
- (b) What is virtualization? State any two factors that led to the adoption of virtualization. Explain Virtualization Reference model with the help of a diagram. (7)
6. (a) What are the steps of determining the cost of a cloud implementation? Write the effect of the following while measuring the cloud implementation: (8)
- (i) Capital expenditure
 - (ii) Right sizing of cloud resources
- (b) What is Service Level Agreement (SLA)? State any three parameters specified in a SLA. Why should SLA be dependent on the usage model? (7)