

Question Paper

Exam Date & Time: 01-Dec-2023 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal School of Information Sciences (MSIS), Manipal
First Semester Master of Engineering - ME (Cloud Computing) Degree Examination - November / December 2023
Cloud Foundations and Architecting (Elective -1) [CDC 5132]

Marks: 100

Duration: 180 mins.

Friday, December 1, 2023

Answer all the questions.

- 1) A. Define Cloud Computing and with suitable justifications highlight the benefits of Cloud Computing over traditional architecture. (BL:1, CO:1, PO:1) (6 MARKS)

B. Interpret different service models of Cloud With suitable example of real time services explain. (BL:3, CO:1, PO:1) (4 MARKS)
- 2) Demonstrate the suitable Cloud services to provide solution for the given business need. Consider that you are a Cloud Architect for a particular business case. Client needs a Cloud solution to host static website to handle scaling and load with high availability and durability.. (BL:3, CO:1, PO:10) (10 MARKS)
- 3) Describe in detail about the components of AWS Global Infrastructure and highlight the benefits of Global Infrastructure. (BL:2, CO:2, PO:2) (10 MARKS)
- 4) Use case study to illustrate the need of IAM roles and also highlight on IAM policies with suitable example. (BL:3, CO:3, PO:1) (10 MARKS)
- 5) A. Demonstrate the following VPC Networking features, need and objectives with suitable diagram: (10)
 - a. VPC
 - b. NAT Gateway
 - c. Internet Gateway
 - d. Route Tables
B. Interpret with suitable example scenario and block diagram how Cloud Front Distributions delivers data at faster speed and provides consistent network experience to its customers. (BL:3, CO:2, PO:5) (6 + 4 = 10 MARKS)
- 6) A. Demonstrate the key components required to launch an EC2 instances. (10)
B. Interpret how Lambda Serverless computing approach is different w.r.t to other compute options in AWS and also highlight key features and how to configure Lambda function.

(BL:3, CO:4, PO:2) (5 + 5 = 10 Marks)
- 7) A. Interpret on using Elastic Block storage and Instance Store storage as a root volume for EC2 Instances. Also comment of EBS Snapshot features and benefits. (10)
B. Use suitable scenario to explain S3 life cycle policies to optimize cost on storing data. (BL:3, CO:3, PO:1) (6 + 4 = 10 MARKS)
- 8) Demonstrate the basic components of RDS and also highlight the differences between an un-managed and managed database solutions in Cloud. (BL:3, CO:2, PO:2) (6 + 4 = 10 MARKS)
- 9) Describe the usage, configuration and features of on following services: (10)
 - a. Elastic Load Balancer
 - b. Cloud Watch

c. EC2 Auto Scaling

(BL:2, CO:3, PO:5) (4 + 3 + 4 =10 MARKS)

- 10) Demonstrate the best practices of creating a well architected cloud framework for an application workload. (BL:3, CO:4, PO:1) (10 MARKS) (10)

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