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Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 44010 Roll No.

B. Tech. Examination, 2026

(Even Semester)

DEPLOYMENT OF CLOUD

Time : Three Hours] *[Maximum Marks : 60*

Note :– Attempt all questions.

SECTION – A

1. Attempt all parts of the following : 8×1=8

   (a) Expand SaaS, PaaS and IaaS.

   (b) Define on-demand self-service in cloud computing.

   (c) What is rapid elasticity?

   (d) Name the three primary service models of cloud computing.

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(e) What is buildpack in cloud foundry?

(f) What does REST stand for?

(g) What is containerization?

(h) What is Pod in kubernetes?

SECTION – B

2. Attempt any two parts of the following : 2×6=12

(a) Explain the essential characteristics of cloud computing with suitable examples.

(b) *Differentiate between* SaaS, PaaS and IaaS with real-world examples and use cases.

(c) Describe IBM cloud toolchain and explain how it supports continuous delivery?

(d) Discuss public, private, hybrid and community cloud deployment models with advantages and limitations.

SECTION – C

Note :– Attempt all questions. Attempt any two parts from each questions. 8×5=40

3. (a) Compare traditional IT infrastructure with cloud service providers in terms of cost, scalability and maintenance.

(b) Discuss the challenges and risk involved in cloud adoption.

(c) What is DevOps? Explain the DevOps lifecycle with suitable diagram and stages.

4. (a) Describe the capabilities of IBM cloud continuous delivery services.

(b) Explain REST architecture principles and constraints. Why is REST suitable for cloud-based applications?

(c) Discuss IBM Watson services and their capabilities in cloud applications.

5. (a) Explain the architecture of REST APIs. Describe HTTP methods and their mapping to CRUD operations.

(b) Explain database on IBM cloud. Describe cloudant database and its key features.

(c) What is containerization? Explain docker architecture and componetns.

6. (a) Explain Kubernetes architecture and its key building blocks : pods, deployment, service and cluster.

(b) Compare virtual machines and containers. Why are containers preferred in modern cloud-native applications?

(c) Explain the business requirements, functional requirements and non-functional requirements in cloud-based application development. Describe each with suitable examples.

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