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Roll No. ....283.....

PAPER ID—11298

**B. Tech. EXAMINATION, 2024**

(Fifth Semester)

COMPUTER SCIENCE AND ENGINEERING  
(CYBER SECURITY)

Cloud Computing

*Time : 3 Hours*

*Maximum Marks : 70*

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Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

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**Note :** Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. 1 is compulsory. All questions carry equal marks.

**(Compulsory Question)**

1. (a) What are the main advantages of Cloud Computing ?

- (b) What are the essential characteristics of distributed systems ?
- (c) What are the primary benefits of using Microsoft Azure for enterprise-level solutions ?
- (d) Enlist *five* applications of Salesforce.com.
- (e) Explain the concept of consensus protocol.
- (f) Why is virtualization important in Cloud Computing ?
- (g) In parallel and distributed systems, what does the term 'atomicity' refer to ?

7×2=14

### Unit I

- 2. (a) What is Cloud Computing, and how does it differ from traditional computing models ? 7
- (b) How do the different cloud deployment models help to implement cloud services ? 7

3. (a) What are the major challenges faced in Cloud Computing ? Discuss the challenges of ensuring data portability in Cloud Computing. 7
- (b) How does data loss occur in cloud environments ? 7

## Unit II

- ~~4.~~ (a) What are the different types of parallelism in parallel computing, and how do they differ ? 7
- (b) What is the role of communication protocols in distributed systems and how do they facilitate process coordination ? 7
5. (a) What is concurrency and how it can be implemented in parallel computing ? What challenges arise in managing concurrency and how can they be addressed ? 7

- (b) How are Petri nets used in distributed systems ? What are the advantages of using Petri nets for analysing and designing concurrent systems ? 7

### Unit III

6. (a) How does Amazon Web Services (AWS) support businesses in scaling their infrastructure ? 7
- (b) What is the concept of Intercloud and how does it enable seamless cloud service integration across different cloud providers ? 7
7. (a) What security responsibilities do users have when utilizing cloud computing services ? Explain in brief. 7
- (b) What is the difference between full virtualization and paravirtualization ? 7

## Unit IV

8. (a) Critically analyse the limitations of assuming that all applications delivered using web services are SaaS. 7

(b) What is the SPI model in cloud computing, and how does it define the relationship between cloud services and their consumers? 7

9. (a) How does service abstraction in cloud computing help simplify management and enhance flexibility for users? 7

(b) What are open cloud services and how do they differ from normal cloud offerings in terms of flexibility and integration? 7