

[Total No. of Questions - 9] [Total No. of Printed Pages - 2]  
(2125)

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**MCA 4th Semester Examination**  
**Cloud Computing (NS)**  
**MCA-E45**

**Time : 3 Hours**

**Max. Marks : 60**

*The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.*

**Note :** Attempt five questions in all. Attempt one question from each section A, B, C & D. Question no. 9 in section E is compulsory and candidate is required to answer all the parts.

**SECTION - A**

1. What is cloud computing? When was the cloud hosting concept started? Discuss in detail the various characteristics and components of cloud computing. (10)

OR

2. Define cloud computing with example. Discuss the importance of cloud computing in current era of information technology. (10)

**SECTION - B**

3. What are multitenant softwares? Discuss multischema approach to multitenancy. (10)

OR

4. What are the inter cloud issues? Discuss in detail the cloud middleware and mobile cloud computing. (10)

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**SECTION - C**

5. Discuss in detail Relational databases, cloud file system, GFS and HDFS. (10)

OR

6. Discuss map-reduce model in detail. (10)

**SECTION - D**

7. Write down the features and functions of Nimbus and T platforms. (10)

OR

8. Discuss in detail the security architecture of cloud computing. (10)

**SECTION - E**

9. Write short note on the following.
  - (a) Define Cloud services with example.
  - (b) What do you mean by elastic computing?
  - (c) Define the term web service with example.
  - (d) What are the issues in web based applications?
  - (e) What are the various issues in cloud computing?
  - (f) Define BigTable.
  - (g) Privacy in cloud.
  - (h) Virtual threats. (8×2½=20)