

Exam. Code : 206702

Subject Code : 4103

M.Sc. Computer Science 2<sup>nd</sup> Semester

## CLOUD COMPUTING

Paper—MCS-204

Time Allowed—3 Hours]

[Maximum Marks—100

**Note** :— Attempt **FIVE** questions, selecting at least **one** from each Section. The **fifth** question may be attempted from any section. Each question carries equal marks.

## SECTION—A

1. (a) What is Cloud Reference Model ? What are the applications of these models ? 10
- (b) What is Virtualization ? How many types of virtualization are there ? 10
2. (a) What are open challenges in cloud computing ? 10
- (b) In how many classes cloud services can be categorized ? Briefly explain each one of them. 10

## SECTION—B

3. (a) What are various deployment models of different clouds ? Explain. 10
- (b) Differentiate between cloud and traditional application architecture. 10

4. What do you understand by SLA and QoS ? How it supports cloud computing ? Explain. 20

### SECTION—C

5. Explain Map reduce programming methodology. How it helps in implementing complex problems using Cloud Computing ? 20
6. (a) How securities policies are implemented on Cloud Computing ? 10
- (b) Explain cloud data security challenges. 10

### SECTION—D

7. Explain the following :
- (i) Federated Cloud Computing
- (ii) Big-Data analytics 20
8. (a) What do you understand by cloud analytics ? Explain. Also describe how it works. 10
- (b) Explain energy efficiency in cloud computing. 10