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## P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

**Fourth Semester, Master of Computer Applications (MCA)**

**Semester End Examination; June - 2016**

### Cloud Computing

Time: 3 hrs

Max. Marks: 100

*Note: Answer FIVE full questions, selecting ONE full question from each unit.*

#### UNIT - I

- |      |  |    |
|------|--|----|
| 1 a. | Discuss the use of HPC and HTC systems built with parallel and distributed computing technologies. | 10 |
|      | b. Explain the four operational layers of distributed computing systems.                           | 10 |
| 2 a. | Explain various dimensions of scalability.   | 6  |
|      | b. Write a note on Grid families.  | 4  |
|      | c. What are computer clusters? Discuss the design objectives of computer clusters.                 | 10 |

#### UNIT - II

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|------|---|----|
| 3 a. | Define Virtualization and also describe the various levels of virtualization implementation.  | 10 |
|      | b. Explain the functional architecture of public, private and hybrid clouds.  | 10 |
| 4 a. | Briefly explain the layered architectural development of the platform for IaaS, PaaS and SaaS applications over the Internet with neat diagram. | 10 |
|      | b. What are the challenges that has to be identified in cloud architecture development?   | 10 |

#### UNIT - III

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|------|---|----|
| 5 a. | Explain the different methods of resource provisioning with a neat diagram.                                   | 10 |
|      | b. Describe the different security, privacy and copyright protection measures provided at cloud data centers. | 10 |
| 6 a. | With a neat diagram, explain the HDFS and MapReduce architecture in Hadoop.                                   | 10 |
|      | b. Discuss the concept involved in MapReduce framework on analyzing the large data sets.                      | 10 |

#### UNIT - IV

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|------|---|----|
| 7 a. | Discuss the data mutation sequence in Google File system.       | 10 |
|      | b. Explain Amazon S3 an EBS.                                    | 10 |
| 8 a. | Discuss the cloud software environment of open stack in detail. | 10 |
|      | b. Explain the architecture and components of Aneka cloud.      | 10 |

#### UNIT - V

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|-------|---|----|
| 9 a.  | Illustrate: DISC systems and super computers.                                 | 10 |
|       | b. Explain in detail how the analysis of social networks is done graphically. | 10 |
| 10 a. | Explain the architecture of Twitter service.                                  | 10 |
|       | b. Discuss the functionalities of Face book.                                  | 10 |