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

(An Autonomous Institution affiliated to VTU, Belgaum)

**Seventh Semester, B.E. - Computer Science and Engineering**

**Semester End Examination; Dec - 2016/Jan - 2017**

**Information Storage and Management**

*Time: 3 hrs*

*Max. Marks: 100*

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

### UNIT - I

- 1 a. Define data center. List and explain the core elements and key requirements for data center elements. 10
- b. What do you mean by RAID? Explain with an example the following RAID technology, 10
- i) Striping                      ii) Mirroring                      iii) Parity.
- 2 a. With a neat diagram, describe the components of an intelligent storage system. 10
- b. Why cache is an important component in an intelligent storage system? Explain read and write operations with cache. 10

### UNIT - II

- 3 a. Illustrate, how initiator and the target communicate with each other's using command protocol standard in SCSI command model? 10
- b. Describe the five layers of fiber channel protocol stack. 10
- 4 a. Explain fiber channels three inter connectivity options. 10
- b. Define NAS. Explain components of NAS. 10

### UNIT - III

- 5 a. Illustrate the topologies used to implement iSCSI connectivity. 10
- b. List and explain the features and benefits of CAS. 10
- 6 a. Define storage virtualization. Explain the types of storage virtualization. 10
- b. With a net diagram, explain the CAS architecture. 10

### UNIT - IV

- 7 a. How do you define Business Continuity (BC)? Illustrate the five stages of business continuity lifecycle. 10
- b. Describe the following EMC power path : 10
- i) Power path features
- ii) Dynamic load balancing.
- 8 a. Why backup is needed? Explain how purpose of backup is served? 10
- b. Explain the three topologies that are used in a backup environment. 10

**UNIT - V**

- 9 a. Explain host-based and storage-based replications technologies which are adopted for local replications. 10
- b. Describe remote replication technologies. 10
- 10 a. Write the list of protection strategies that must be implemented in various security zones. 10
- b. Describe, management tasks in a storage infrastructure are categorized. 10

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