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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. - 2014**  
**Information Storage and Management**

*Time: 3 hrs**Max. Marks: 100**Note: Answer any FIVE full questions, selecting at least TWO full questions from each part.***PART - A**

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| 1. a. Explain how storage technology evolved from non-intelligent internal storage to intelligent networked storage? | 8 |
| b. Discuss the key components of a disk drive?   | 7 |
| c. Mention the steps of an order processing system which involves the core elements of a data center.                | 5 |
| 2 a. Explain different RAID levels.  | 8 |
| b. What is Cache? How it is implemented and managed in intelligent storage system? Discuss.                          | 7 |
| c. Explain the storage system that is implemented with active passive arrays.  | 5 |
| 3 a. Explain SCSI-3 client server model and SCSI communication model.  | 8 |
| b. What is fibre channel arbitrated loop? How data transmission is done in fibre channel arbitrated loop? Discuss.   | 7 |
| c. Discuss command descriptor block and control field in SCSI command model.   | 5 |
| 4 a. What are the topologies used to implement iSCSI? Explain.   | 8 |
| b. Discuss the benefits of Network attached storage.   | 7 |
| c. What is iSCSI Names? Mention and discuss different iSCSI names.   | 5 |

**PART - B**

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| 5 a. Mention and discuss the features that are essential part of any content addressed storage solution?                    | 8 |
| b. Explain the challenges of storage virtualization.  | 7 |
| c. Define different Cantesa tools.  | 5 |
| 6 a. What are the different storages of business continuity planning lifecycle? Explain.                                    | 8 |
| b. What is Backup? What are the Backup methods used and the challenges of backup? Discuss.                                  | 7 |
| c. How information availability is measured? Discuss with example.  | 5 |
| 7 a. Explain logical volume manager based replication, its advantages and limitations used in host based local replication? | 8 |
| b. Discuss SAN-based remote replication?  | 7 |
| c. What are the purposes of taking local replicas? Explain.   | 5 |
| 8 a. What are the different key elements of risk triad? Explain.  | 8 |
| b. Discuss the components that should be monitored in storage infrastructure?   | 7 |
| c. What are the features of SMI-S that simplify SAN management?   | 5 |