Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov/Dec – 2017**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **14CS2065** | **Duration :** | **3hrs** |
| **Sub. Name :** | **STORAGE AREA NETWORK** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Discuss about the various generation of computing architectures that overcame the barriers in digitizing the data to users and now has evolved as a technology with interactivity, responsiveness and adaptability as the usability aspects for accessible and timely conduct of business. | CO1 | 10 |
| b. | Discuss the various stages in evolution of data centre from mainframe to external storage subsystems. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Explain the ten ways the SAN paradigm shift changes the information processing for the better. | CO1 | 15 |
| b. | Justify the statement *“Hardware makes SAN possible; Software makes SANs happen”.* | CO1 | 5 |
| 3. | a. | Illustrate how the processing of digital information has continually evolved to become increasingly flexible and approachable. | CO2 | 10 |
|  | b. | Discuss how the mirroring technology helps to achieve highly available data in SAN. | CO1 | 10 |
| (OR) | | | | |
| 4. | a. | Describe how the RAID controllers and volume managers aids to implement mirroring to ensure data availability and consistency. | CO2 | 10 |
|  | b. | Discuss the role of parity disks in achieving fault tolerance during disk failures. | CO4 | 10 |
| 5. |  | Elucidate the standards, components, interconnects and protocol that constitute Fibre Channel which is dominant SAN interconnect technology. | CO2 | 20 |
| (OR) | | | | |
| 6. | a. | Explain the effects and solutions for interconnect, RAID controller and volume manager failures with suitable diagrams. | CO4 | 10 |
|  | b. | How the RAID controller failure affects the performance of the SAN? Propose a solution to overcome the RAID controller failures. | CO4 | 10 |
| 7. |  | Describe how the volume managers stripe the data across several disks to achieve high performance through load balancing. | CO1 | 20 |
| (OR) | | | | |
| 8. | a. | Illustrate the need of enterprise backup architecture and its policies with relevant examples and neat sketches. | CO3 | 10 |
|  | b. | Explain how the consistency is maintained between redundant resources such as software or hardware components in different types of replication. | CO4 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Discuss the role of zoning in dividing the SAN into private subnetworks within each of which cooperative sharing of resources is possible. | CO4 | 10 |
|  | b. | Illustrate the need of enterprise backup architecture and its policies with relevant examples and neat sketches. | CO4 | 10 |