

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – III • EXAMINATION – WINTER • 2014****Subject code: 735102****Date: 25-11-2014****Subject Name: Data Center Management****Time: 02:30 pm - 05:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain response time. Discuss the four main components of response time. **07**
(b) Discuss Device and Service Naming in detail covering various best practices for various protocols like NIS, DNS and LDAP **07**
- Q.2** (a) What is RH (Relative Humidity) Factor? Discuss the effects of high RH and low RH inside a data center. **07**
(b) What is an aisle? Why do we need aisle? **07**
- OR**
- (b) What is a plenum? Why do we need a plenum? **07**
- Q.3** (a) Discuss the various components of a POD Rack. **07**
(b) What is work automation? Discuss the various system administration work automation in detail. **07**
- OR**
- Q.3** (a) Discuss load-balancing in detail **07**
(b) Explain Point Load and Static Load in detail. Give an example for each type of load. **07**
- Q.4** (a) What is HVAC? Why do we need it? How do we measure the cooling requirements **07**
(b) What is MTBF and MTTR? How is MTBF and MTTR related to availability? **07**
- OR**
- Q.4** (a) Discuss in detail some of the system management best practices. **07**
(b) Discuss some of the internet security guidelines in detail **07**
- Q.5** (a) What is a raised floor and non-raised floor? List few instances where a raised floor and a non-raised floor is recommended. What are the advantages and disadvantages of using a raised and non-raised floors. **07**
(b) Explain the differences between a Network Operations Center and a Security Operations Center in detail. **07**
- OR**
- Q.5** (a) Explain in detail the differences between a Storage Area network and Network Attached Storage solutions. **07**
(b) Calculate the total cable requirement for the following scenario: **07**
- A Data center with 100 servers
 - Each server is connected to two storage devices, using two fiber cables (for performance and redundancy).
 - Each storage device is also connected to the administrative network using Cat5 cables (for console-based storage administration)
- Each server has redundant connections to the production network
