

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Computer Engineering (IT Systems and Network Security) Semester: III

Subject Name: Data Center Management

Subject Code: 735102

Course Content:

Data center Architecture, Data center Requirements, Data center prerequisites, Required Physical Area for Equipment and Unoccupied Space, Required power to run all the devices, Required cooling and HVAC Required weight, Required Network bandwidth, Budget Constraints, Selecting a Geographic Location Safety from Natural hazards, Safe from Manmade disaster, Availability of local Technical talent, Abundant and Inexpensive Utilities, Selecting an Existing building, Data Center design, Characteristics of an Outstanding Design, Guidelines for Planning a Data Center , Data Center structures, Raised Floor Design and Deployment, Design and Plan against Vandalism, Data center design case study, Network Infrastructure in a data center, Modular Cabling Design, Points of Distribution, ISP Network Infrastructure, ISP WAN Links, Data Center Maintenance, Network Operations Center, Network Monitoring, Data-center physical security, Data center Logical security, Data center Consolidation, Reasons for data center Consolidation, Consolidation opportunity, Server consolidation, Storage Consolidation, Network Consolidation, Service Consolidation, Process Consolidation, Staff Consolidation, Data Consolidation phases, Data center servers, Sever Capacity Planning, System Management Best Practices, Server Cluster Best Practices, Data Storage Best Practices, Network Management Best Practices, Documentation Best Practices, Security Guidelines Internet security, Source Security Issues, Best Practices for System Administration, System Administration Work Automation, Device Naming, Naming Practices, NIS, DNS, LDAP, Load balancing, Terminology, Advantages, Types of load balancing, Implementing a Network with Load-Balancing Switches

Text Book:

Administering Data Centers: Servers, Storage and Voice over IP, Kailash Jayaswal

Reference Book:

Data center fundamentals, Mauricio Arregoces, Maurizio Portolani