Registration No: | | | | | | | | | | |

Total Number of Pages: 01 **M.TECH**

P2VDCC12

2nd Semester Regular Examination 2016-17

NETWORK ARCHITECTURE AND DESIGN

Branch: COMMUNICATION ENGG, COMMUNICATION SYSTEMS, ELECTRO & COMM. ENGG, ELECTRO AND TELECOMMUNICATION ENGG, SIGNAL PROCESSING

Time: 3 Hours

Max Marks: 100

Q.CODE:Z975

Answer Question No.1 which is compulsory and any FOUR from the rest.

The figures in the right hand margin indicate marks.

Q1 **Answer the following questions:** **(2 x 10)**

a) What is the importance of Network Analysis, Architecture and Design?

b) What is Reference Architecture? Enlist methods to optimize it.

c) What are Routing Boundaries and Routing Aggregation?

d) Mention the recommendations for choosing and applying routingprotocols for a network.

e) Write some common external relationships between addressing/routing and each of the other component architectures.

f) What is Public Key Infrastructure (PKI)?

g) What is Classful Addressing?

h) Differentiate between System Architecture and Network Architecture

i) Differentiate between LAN and WAN.

j) What is a Token Ring? How is it different from the Ethernet?

Q2 **a)** Discuss what happens when Hierarchy and Diversity are added to a network. **(10)**

b) Discuss about Service Description and Service Characteristics of Network design. **(10)**

Q3 **a)** Discuss the Network Management Component Architecture and the Security Component Architecture. **(10)**

b) Explain and illustrate different Architectural Models. **(10)**

Q4 **a)** Define Network Management. What are the Network management Tasks and Network Device Characteristics? **(10)**

b) Discuss the FCAPS Model of Network Management. **(10)**

Q5 **a)** “Prioritization, traffic management, scheduling, and queuing are at the heart of providingperformance in a network”. Elaborate. **(10)**

b) “The preparation and on-going administration of security and privacy in the networkare quite important to the overall success of the security architecture.” Discuss the important components that must be addressed/ taken into account while preparing for security in networks. **(10)**

Q6 **a)** What are the IPSec and SNMP protocols? **(10)**

b) Describe the steps involved in a Network Design Process? **(10)**

Q7 **Write short Notes on any two of the following** **(10X2)**

a) Performance Characteristics of Network Service

b) Subnetting

c) Remote Access Security

d) System Description