No. of Printed Pages : **1**

Sl. No.

# C2-R4 : ADVANCED COMPUTER NETWORKS

**NOTE :**

**1. Answer question 1 and any FOUR from questions 2 to 7.**

**2. Parts of the same question should be answered together and in the same sequence.**

**Time : 3 Hours** **Total Marks : 100**

**1.** (a) Explain the functions and protocols and services of each layer of TCP/IP Model.
(b) Briefly discuss about the types of ATM adaptation layer.
(c) Explain about differentiated services ?
(d) Define ABR and CBR. Also give some examples of CBR.
(e) Explain why congestion control in a TCP/IP internet is complex ?
(f) List out the assumptions for single server and multiserver queues.
(g) State Kendall's notation. **(7x4)**

**2.** (a) Define VPN and ISDN. Also explain features of ISDN.
(b) Explain any one interior routing protocol.
(c) Explain SONET Layered architecture and Frame format for SONET.
(d) Explain optical networking with its benefits and drawbacks. **(5+5+4+4)**

**3.** (a) Write short note on Open Shortest Path First Algorithm.
(b) Briefly describe standard network management protocol along with its PDU.
(c) Describe the design goals for RSVP protocol used in networking.
(d) Discuss the objectives and features of Random Early Detection Algorithm. **(4+5+4+5)**

**4.** (a) Describe the concept of VPN Tunnelling.
(b) What is packet handling ? How MPLS Packet forwarding uses label stacking.
(c) Differentiate between delay and jitter in the context of networking.
(d) Write a short note on media streaming servers. **(4+4+4+6)**

**5.** (a) Discuss the architecture of X.25.
(b) Briefly explain multicast reverse path forwarding technique.
(c) Explain Virtual Private network and its types. Also describe its working.
(d) What is RSVP Protocol mechanism ? Also mention RSVP Host model used. **(3+4+5+6)**

**6.** (a) Explain the ATM reference model. Explain the various services it provides.
(b) Explain IP Addressing using classful and classless addresses.
(c) Explain ATM cell header format. **(6+6+6)**

**7.** (a) Describe multiprotocol label switching (MPLS)' working and operations.
(b) Differentiate between IGRP routing features and scalability features. **(9+9)**

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