No. of Printed Pages : **2**

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) Discuss the different levels of addresses used by the internet.

(b) What are the advantages of using virtual paths ?

(c) Compare IPv4 and IPv6 with their header format.

(d) Why RTPs preferred over TCP and UDP for interactive communication ?

(e) What is count-to-infinity problem ?

(f) What are the key differences between pure ALOHA and slotted ALOHA ?

(g) Explain the UDP header in detail. **(7x4)**

2. (a) What are splitting algorithms ? Explain the tree splitting algorithm.

(b) Explain CSMA Protocols. Explain how collisions are handled in CSMA/CD. **(10+8)**

3. (a) How does ISA ensures QoS support ? What are the components of ISA ?

(b) An ATM network is designed to be able to transfer many different types of traffic simultaneously, including real-time flows such as voice, video and bursty TCP flows. Explain the different traffic services types provided by ATM. **(8+10)**

4. (a) What is the congestion control mechanism implemented by TCP ?

(b) Explain the sparse mode of the PIM protocol. **(9+9)**

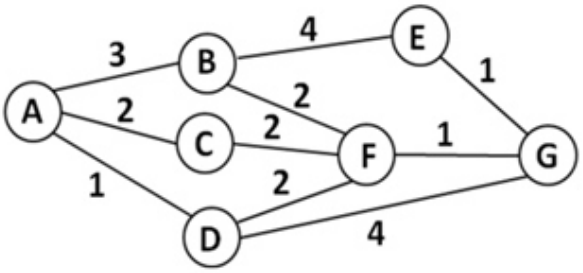
5. (a) Explain in detail the fields of IP datagram header.

(b) Explain the process of 3 way handshaking in TCP with suitable diagram.

(c) What is subnet mask and why are these used ? **(8+5+5)**

6. (a) Explain the mechanism for Remote Procedure Call.

(b) Explain the Link State Routing Algorithm. The network shown in figure below uses a Link State Routing protocol. Construct a Shortest Path Tree for node A, using Dijkstra's algorithm.



(9+9)

7. Write short notes on the followings :

(a) Silly Window Syndrome

(b) RTP packet format

(c) ATM Protocol Architecture **(6+6+6)**

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