

## 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) List some applications specific to UDP.
  - b) How is IPV6 an enhanced version of IPV4?
  - c) What is the difference between reverse path forwarding and reverse path broadcasting?
  - d) What are the different types of TCP timers?
  - e) What do the splitting algorithms do?
  - f) What is MPLS? List its various applications.
  - g) What is the difference between the elastic and inelastic internet traffic?

**(7x4)**
  
2.
  - a) Discuss various congestion control mechanisms used by different networks.
  - b) What are the different types of ATM services?

**(9+9)**
  
3.
  - a) What are the different extension headers in IPv6?
  - b) Describe silly window syndrome. Discuss the possible solutions to it.

**(9+9)**
  
4.
  - a) Discuss various components and protocols of the Session Initiation Protocol (SIP).
  - b) What components does an Integrated Service Architecture (ISA) have?

**(9+9)**
  
5.
  - a) Explain in detail the leaky bucket algorithm.
  - b) How does asynchronous TDM works? What measures are taken to synchronize the sender and the receiver?

**(9+9)**
  
6.
  - a) Why is Differentiated Services (DS) considered more efficient in providing QoS in IP networks? Which field of IP header supports DS and how?
  - b) Describe the functions of each layer of the OSI model. How does data changes its form at each layer?

**(9+9)**
  
7. Describe the following in brief:
  - a) RSVP
  - b) Reverse path multicasting
  - c) Header Error Control

**(3x6)**