

**Q.P. Code : 13122**

**[Time: Three Hours]**

**[ Marks:80]**

Please check whether you have got the right question paper.

- N.B: 1. Question No 1 is compulsory.  
2. Attempt any three questions out of remaining questions.

- Q. 1** Answer **any four** from the following. **20**
- a) "Internet has a connectionless service at network layer." Is the statement true or false? Justify your answer.
  - b) Define framing and state reason for its need.
  - c) Differentiate between slotted ALOHA and Pure ALOHA.
  - d) Explain Go - Back - N ARQ.
  - e) Differentiate between a physical address and a logical address.
- Q. 2** a) What is OSI model? Give function and services of each layer. **10**  
b) Explain the different Guided transmission media in networking. **10**
- Q. 3** a) In an IPv4 packet, the value of HLEN is 1000 in binary. How many bytes of options are being carried by this packet? **04**  
b) Explain IP address and subnet mask. **06**  
c) Differentiate between UDP and TCP. **10**
- Q. 4** a) Explain Sliding Window protocol with neat diagram. **10**  
b) Explain CRC with example. **10**
- Q. 5** a) What is routing? Explain different categories of routing algorithms. **10**  
b) Draw and Explain TCP segment header. **10**
- Q. 6** Write short notes on the following (**any four**): **20**
- a) Networking using Windows and LINUX operating system
  - b) Mobile Telephone system
  - c) Hub, Switches, Router
  - d) Network topology
  - e) Communication satellite