

**Duration: 3hrs**

**[Max Marks: 80]**

- N.B. : (1) Question No 1 is Compulsory.  
(2) Attempt any three questions out of the remaining five.  
(3) All questions carry equal marks.  
(4) Assume suitable data, if required and state it clearly.

- 1 Attempt any FOUR [20]
- a Explain guided and unguided media used in network communication. [05]
  - b Explain various LAN topologies with neat diagram. [05]
  - c You have an IP address 190.16.15.20/28. What is the class of address, also find first and last address of the block for given IP address. [05]
  - d Compare TCP and UDP. [05]
  - e Draw and explain SSH frame format. [05]
- 2 a Draw OSI layer model. Explain function of each layer of OSI model. [10]
- b List down ethernet devices, explain the functions of each device. [10]
- 3 a Explain classfull IP addresses. Justify why subnetting is required. [10]
- b Explain IPV4 header format also compare IPv4 with IPv6. [10]
- 4 a What is flow control? Explain sliding window technique with suitable example. [10]
- b Explain CSMA/CA with the help of flow diagram. [10]
- 5 a Explain TCP header with the help of suitable diagram & list the application of TCP. [10]
- b What are the different components of an e-mail system? What are the features of SMTP protocol. [10]
- 6 Write Short Note on any four. [20]
- a) Berkeley API
  - b) TELNET
  - c) Wireless LAN
  - d) Open loop congestion control
  - e) Domain Name System
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