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B. E. (Fourth Semester) Examination, April-May 2020

(New Scheme)

(IT Branch)

**TELECOM SWITCHING & COMPUTER
NETWORKS**

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) of each question is compulsory and carries 2 marks. Attempt any two from (b), (c) and (d) which carry 7 marks each.

Unit-I

1. (a) What is PSTN? 2
- (b) What is Multiplexing? Explain different types of multiplexing. 7

- (c) Explain major components of telephone system. 7
- (d) Explain briefly B-ISDN. List the services that are provided by B-ISDN. 7

Unit-II

- 2. (a) What is MAN? 2
- (b) Describe the three HDLC station types. What is the basic difference between bit-oriented and character oriented protocol? 7
- (c) Explain the functions of each layer of the OSI model. 7
- (d) What types of topologies are used in computer network? What are the advantages and disadvantages of each topology? 7

Unit-III

- 3. (a) What is ALOHA? 2
- (b) What are the advantages of using UDP over TCP? Explain TCP/IP services and its header format. 7

- (c) What are the different networking and inter-networking devices? At which layer these devices are being operated and which protocol is being used at this layer. 7
- (d) Compare standard Ethernet, fast Ethernet and gigabit Ethernet on the basis of access method, addressing, frame format and data rates. 7

Unit-IV

- 4. (a) What is PNNI? 2
- (b) List the frame types of X.25 and give their functions. 7
- (c) Explain the architecture and application of ATM. 7
- (d) Explain frame relay. 7

Unit-V

- 5. (a) What is Cryptography? 2
- (b) What are the two categories of encryption/decryption methods? Differentiate between these categories. 7

[4]

- (c) If $p = 7, q = 17$ then encrypt a plain text "hi" by using RSA algorithm. 7
- (d) Write short notes on digital signature and certification authority. 7