22539

11920

3 Hours / 70 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following: **10**

a) Define AM and FM.

b) State the advantages of fiber optic cable.

c) Differentiate between simplex and full duplex communication. (Any two points)

d) State any four features of USB.

e) State the name of following IEEE standards :

(i) 802.3

(ii) 802.4

(iii) 802.5

(iv) 802.11

f) State any four applications of bluetooth.

g) State the advantages of fiber optic cable over conventional electrical cables.

Marks

2. Attempt any THREE of the following: **12**

a) Draw and explain block diagram of basic communication system.

b) With the help of neat sketch explain quantization process.

c) List different types of errors and error correction techniques in data communication.

d) Describe the construction of fiber optic cable with neat sketch.

3. Attempt any THREE of the following: **12**

a) Explain serial and parallel mode of communication.

b) Draw and explain block diagram of digital communication system.

c) Explain CRC with suitable example.

d) Compare LED and LASER Diode (four points)

e) Compare TCP and UDP. (Any four points)

4. Attempt any THREE of the following: **12**

a) For the bit sequence 10110001, draw FSK and PSK waveforms.

b) Explain twisted pair cable with a diagram. State it's types.

c) Compare bluetooth and USB. (Any four)

d) Explain FTP with neat sketch.

e) Describe the concept of wi-fi and wi-max.

Marks

5. Attempt any TWO of the following: **12**

a) Draw block diagram to generate PAM and explain with neat waveforms.

b) Draw the block diagram of PCM transmitter and explain. State any two advantages and two disadvantages of PCM.

c) Compare between OSI and TCP/IP model. (Any four points) State the functions of datalink layer and network layer in OSI.

6. Attempt any TWO of the following: **12**

a) Define guided and unguided media. Explain microwave communication.

b) Give different modes of propagation of light in fiber optic cable and explain any one in detail.

c) Draw the interfacing diagram and describe working principle of RS-232.

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