

22437

22232

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Illustrate your answers with neat sketches wherever necessary.
 - (3) Figures to the right indicate full marks.
 - (4) Assume suitable data, if necessary.

Marks

1. Attempt any FIVE of the following :

10

- (a) Define the term Modulation.
- (b) State sampling theorem.
- (c) Define the term multiplexing.
- (d) List the application of Biotelemetry.
- (e) Define channel capacity.
- (f) State advantages of QPSK system.
- (g) State the necessity of sports physiology studies through application.

2. Attempt any THREE of the following :

12

- (a) State any four points to differentiate AM signal and FM signal.
- (b) Explain digital communication system with block diagram.
- (c) Explain the need of modem for data communication.
- (d) Compare FSK and PSK. (any 4 points)



- 3. Attempt any THREE of the following : 12**
- (a) Draw the circuit of simple diode detector and describe its working with waveforms.
 - (b) Differentiate between asynchronous and synchronous transmission.
 - (c) Explain superhetrodyne receiver with block diagram.
 - (d) State advantages and disadvantages of telemedicine.
- 4. Attempt any THREE of the following : 12**
- (a) State electrical characteristics of RS232 standard.
 - (b) State the concept of tele-surgery and tele-psychiatry.
 - (c) Draw block diagram of generation of PAM with appropriate waveform and explain it.
 - (d) Explain the term simplex and full duplex.
 - (e) Explain the operation of Multichannel biotelemetry system with neat block diagram.
- 5. Attempt any TWO of the following : 12**
- (a) Draw the block diagram of communication system and explain each block.
 - (b) Define Delta Modulation. Describe its strengths, limitations and application (each two).
 - (c) State and explain working principle of TDMA and state its strengths and limitations (each two).
- 6. Attempt any TWO of the following : 12**
- (a) State TCP/IP network model with neat sketch and explain any two layers.
 - (b) Explain FDM transmitter and FDM Receiver with block diagram.
 - (c) Draw block diagram of PCM transmitter and explain each block in detail.
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