22336

21819

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

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 : **10**

(a) Define :

(i) Serial communication

(ii) Parallel communication

(b) State need of multiplexing.

(c) List different types of network topologies.

(d) Draw PIN configuration of RJ-II connector.

(e) List the type of profibus.

(f) Draw client-server network.

(g) Draw MODBUS message frame.

2. Attempt any THREE : **12**

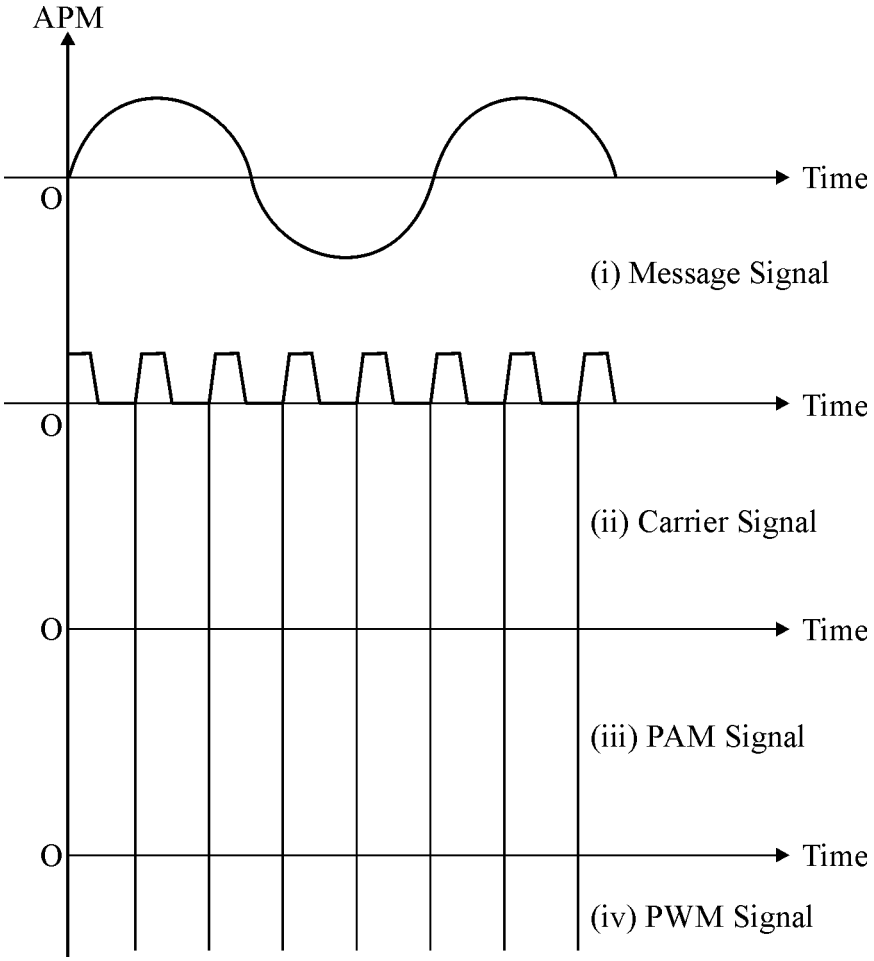
(a) Compare :

Half-full duplex communication modes on basis of

(i) defination

(ii) application

(b) Define PAM and PWM. Draw its wave form for given message and carries signal shown in figure.



(c) With neat waveform explain polar NRZ format of line coding.

(d) Describe the exchange of information using ISO-OSI reference model.

3. Attempt any THREE : **12**

(a) Sketch ASK & FSK signal for following data stream :

Data stream : 10110101

(b) Explain the principle of light propagation in optical fiber.

(c) Construct mesh & star network for node.

(d) Explain Peer to Peer and client server system using its architecture diagram.

4. Attempt any THREE : **12**

(a) Classify different transmission media. Explain any one in brief.

(b) Draw layer architecture of foundation field bus. Explain each layer in brief.

(c) State common problems which occurs in MODBUS network protocol.

(d) Draw a HART based digital multi-drop network for seven node showing all basic component.

(e) List any three connector that can used in co-axial cable connection with suitable diagram.

5. Attempt any TWO : **12**

(a) (i) Define TDM and state its one application.

(ii) Draw block diagram of TDM to show multiplexing of 3 signal A, B and C.

(b) Differentiate ISO-OSI and TCP-IP reference model on given points :

(i) Structure of OSI and TCP

(ii) Number of layers used in each

(iii) Developed by

(c) Construct practical optical receiver using avalanche photo diode. Also, explain it in brief.

6. Attempt any TWO : **12**

(a) State types of noise found in communication system. Explain any two type of noise in brief.

(b) Describe the features of devicenet protocol.

(c) Describe the process of sending data bits using RS 132 standard.
