



Data Communications (1110)

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answer sheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Attempt **any two** from each unit.
5. Draw diagram wherever necessary.
6. Assume suitable data if necessary.

UNIT - I

1. a) Identify the five components of a data communication system. **10**
b) Explain the following layers of OSI Model. **10**
c) A sine wave is offset $\frac{1}{6}$ cycle with respect to time 0. What is its phase in degrees and radians. **10**

UNIT - II

2. a) What is modem & Explain the role of Modem in Communication System. **10**
b) Explain the line coding schemes with suitable example in detail. **10**
c) Explain in detail **10**
i) FSK ii) ASK

UNIT - III

3. a) Explain TDM with neat diagram. **10**
b) Explain circuit switching and packet switching. **10**
c) Write a short note on **10**
i) Co - axial Cable
ii) Fiber - optic Cable.

UNIT - IV

4. a) Explain various error detection techniques in brief. **10**
- b) With suitable eg, explain CRC error correction techniques. **10**
- c) Explain stop & wait ARQ protocol. **10**

UNIT - V

5. a) Explain CSMA / CD protocol. **10**
- b) Explain with neat diagram & frame format. **10**
- i) $x \cdot 21$ & $x \cdot 25$ protocols
- ii) HDLC & SDLC protocols
- c) Write short note on **10**
- i) Traditional Ethernet
- ii) Gigabit Ethernet
