Total No. of Questions—8]   [Total No. of Printed Pages—3

<table>
<tr><td>Seat No.</td><td></td></tr>
</table>

[5152]-579

S.E. (I.T.) (II Sem.) EXAMINATION, 2017
FOUNDATIONS OF COMMUNICATION & COMPUTER NETWORK
(2015 PATTERN)

Time : Two Hours   Maximum Marks : 50

N.B. :— (*i*) Answer Question Nos. **1** *or* **2**, **3** *or* **4**, **5** *or* **6**, **7** *or* **8**.

(*ii*) Figures to the right indicate full marks.

(*iii*) Assume suitable data, if necessary.

1. (*a*) Explain with examples different addressing schemes used in TCP/IP.   [6]

    (*b*) Draw a neat waveform for amplitude modulation :   [6]

    (*i*) Modulating signal

    (*ii*) Carrier signal

    (*iii*) Amplitude modulated signal.

Or

2. (*a*) Calculate the maximum bit rate of Channel having bandwidth 1200 Hz if :   [6]

    (*i*) S/N ratio is 0 dB

    (*ii*) S/N ratio is 20 dB.

P.T.O.

(b) Explain the difference between Phase modulation and frequency modulation. [6]

3. (a) Explain the following shift keying Techniques with suitable examples : [7]

(i) ASK

(ii) FSK

(iii) PSK.

(b) What is CRC ? Generate the CRC code for message 1101010101. Given generator Polynomial $g(x) = x^4 + x^2 + 1$. [6]

Or

4. (a) Draw and explain PCM and DM. [7]

(b) Explain in detail Go-Back-N and Selective Repeat ARQ System. [6]

5. (a) Explain CSMA and CSMA/CD. Also comment on the efficiency of each. [6]

(b) Explain FDMA, TDMA and CDMA in detail. [6]

Or

6. (a) Explain FDM and statistical TDM. [6]

(b) Discuss CSMA/CA random access technique. How collision avoidance is achieved in this technique ? [6]

7. (*a*) Discuss Fast Ethernet technology in brief. State its specification. [6]

(*b*) Compare and contrast circuit switched network with packet switched network. [7]

Or

8. (*a*) Explain circuit switched network with three phases. [6]

(*b*) Explain the frame format for IEEE 802.3. [7]