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**[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]