

[05 - 3213]

III/IV B.E. DEGREE EXAMINATION.

Second Semester

Electronics and Communication Engineering

COMPUTER NETWORK ENGINEERING

(Effective from the admitted batch of 2006-2007)

Time : Three hours

Maximum : 70 marks

Question No. 1 is compulsory.

Answer any FOUR from 2 to 8.

1. (a) List the Layers in OSI Reference model.
- (b) Write the IEEE 802.3 Frame.
- (c) Explain nyquist sampling theorem.
- (d) List the services integrated in broadband ISDN.
- (e) Write the types of Lan Topologies.
- (f) Write the functions of a repeater.
- (g) Define computer networks.

2. (a) Explain the design issues for various Network Layers.  
(b) Write the Applications of Computer Networks.
3. (a) Explain the different types of A/D converters.  
(b) Compare TDM and FDM.
4. (a) Explain Broadcasting, Multicasting and unicasting in Lans.  
(b) Compare pure aloha and reserve aloha protocols.
5. (a) Compare error detection and error correction.  
(b) Calculate the checksum for a frame 1101011011 using the generator  $G(x) = x^4 + x^3 + 1$ .
6. (a) Explain congestion control algorithm.  
(b) Compare UDP and TCP protocols.
7. (a) Explain the Design issues of Network Layer.  
(b) Explain the functions of Gateway and Routers.

8. Write short notes on any THREE :
  - (a) HDLC FRAME.
  - (b) Network Interface cards (NIC).
  - (c) IP Addressing.
  - (d) Polling.
  - (e) Burst Errors.