

M.Sc. 4th Semester Examination, 2010

ELECTRONICS

(*Computer Networking*)

PAPER—EL-2202

[Theory]

Full Marks : 40

Time : 2 hours

Answer Q. No. 1 and any three from the rest

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

1. Answer any five questions : 2 x 5

(a) State and explain the Nyquist theorem.

(b) Compare between bit rate and band rate.

(c) What is parallel transmission?

(d) What is the advantage of using mail gateway?

(e) What is an ethernet?

(f) Find the class of the following IP address :

70. 12. 100. 128.

2. (a) What is FDDI?

(b) What is CDDI ?

(c) How many time registers are there to control circulation of the token? Name them.

(d) Define the time registers in the FDDI.

2 + 1 + 1 + 6

3. Why does TCP/IP model used in the Internet have lesser number of layers than the OSI architecture? Compare the functions of the different layers in the two architectures.

2 + 8

4. (a) What is topology? How many topologies are there? Define them with diagram.
- (b) What is the difference between repeater and router? (2+1+4)+3

5. What is parity check for error detection? Show with proper example that "two-dimensional parity" check is better than one dimensional parity check. Why do you need to undergo fragmentation and reassembly of the packets? 4 + 4 + 2

6. Write briefly short notes on any *four* of the following: $2\frac{1}{2} \times 4$

- (i) VAN (Value Added Network)
 - (ii) Home location register
 - (iii) DDS (Digital Data Service)
 - (iv) Switched/56 service
 - (v) PSTN.
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