

Roll No

IT - 501

B.E. V Semester

Examination, December 2014

Data Communication

Time : Three Hours

Maximum Marks : 70

- Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.
ii) All parts of each question are to be attempted at one place.
iii) All questions carry equal marks..out of which partA and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.
iv) Except numericals, Derivation, Design and Drawing etc.

Unit. I

1. a) Name and explain the types of transmission impairments.
b) Distinguish between baseband and broadband transmission.
c) How can a composite signal be decomposed into its individual frequencies?
d) Explain the terms latency and propagation time. What is the propagation time if the distance between the two points is 12,000 km? Assume propagation speed to be 2.4×10^8 m/s in cable.

Or

What is bandwidth - delay product? Explain in detail. What is Jitter?

Unit - II

2. a) Explain the terms- simplex, half duplex and full duplex data transfer.
b) What are the different types of serial communications?
c) What does the term 'MODEM' stand for? What is the

function of a modem?

- d) Explain the different line coding schemes used in data communications.

Or

What is line configuration? What are the advantages of a multipoint connection over a point-to-point connection?

Unit. III

3. a) What is LATA? What are inter LATA and intra - LATA services?
b) What is multiplexing? Name and explain in brief the types of multiplexing.
c) Distinguish between synchronous and statistical TDM.
d) What is DSL technology? What are the various services provided by the telephone companies using DSL? Distinguish between a DSL modem and a DSLAM.

Or

What is SDH? How is it different from SONET?

Unit IV

4. a) Describe the need of switching. Define a switch.
b) What are the two approaches of packet switching?
c) What is an error? What are single and burst errors?
d) Draw and explain the architecture of ISDN.

Or

Enlist and explain the different services offered by ISDN.

Unit V

5. a) What are the criteria used to evaluate transmission media?
b) What is the major advantage of shielded twisted-pair over unshielded twisted pair?
c) Name the advantages of optical fiber over twisted-pair and coaxial cable.
d) Why is there a distance limit for terrestrial microwave? What factors do you need to calculate this limit? Or
What is NIC? What are cross connection and straight connection cables?