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## CS - 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 part A 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) Define digital signal. 2
- b) Define the term frequency and period of a signal. 2
- c) Define line coding. What are its characteristics? 3
- d) Draw components of data communication system and state function of each component. 7

Or

What are modes of data transmission? Explain with examples. 7

#### Unit - II

2. a) What are the advantages of TDM over FDM? 2
- b) Define synchronous TDM. 2
- c) What is direct sequence spread spectrum? 3
- d) What is the difference between message switching and packet switching? 7

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Or

What is ISDN? Explain in details with neat diagram. 7

### Unit - III

3. a) Define: 2  
i) RJ-45 ii) RJ-11 2  
b) What is the key advantage of BNC connector? 2  
c) List out the difference between active hubs and passive hubs. 3  
d) What are types of bridge? Explain with example. 7

Or

What is Null Model? Explain in detail with diagram. 7

### Unit - IV

4. a) Define: 2  
i) Guided media 2  
ii) Unguided media 3  
b) Define ADSL. 7  
c) What are the characteristics of Base-band signal? 7  
d) What is electromagnetic signal? Explain its advantages. 7

Or

What are the advantages of fibre optic cable over coaxial cable? 7

### Unit - V

5. a) How do you identify errors in the signal? 2  
b) List out the methods available for error detection. 2  
c) Define flow integrity error. 3  
d) What is CRC? Explain CRC with example. 7

Or

What is interleaved codes? Explain interleaved codes with example. 7

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