

Roll No .....

**IT - 501****B.E. V Semester**

Examination, June 2016

**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 composite signals.  
 b) Describe the bandwidth of a channel.  
 c) Explain the Shannon capacity.  
 d) Differentiate the analog and digital signals.

OR

Describe the baseband and broadband transmission.

**Unit - II**

2. a) What is the unipolar encoding?  
 b) Explain the simplex, half duplex and full duplex with suitable example.  
 c) Give the differences between synchronous and asynchronous transmissions.  
 d) Describe the line configuration with point-to-point and point-to-multipoint.

OR

Explain the parallel and serial transmission with different parameters.

**Unit - III**

3. a) Define network topology.  
 b) What is the modem standard?  
 c) Briefly describe the digital subscribers line.  
 d) What do you understand by multiplexing and describe the frequency division multiplexing.

OR

Explain the pulse code modulation.

**Unit - IV**

4. a) Write down the types of error.  
 b) What is the vertical redundancy check?  
 c) Write a short note on ISDN.  
 d) Give the importance of switching techniques and explain the circuit switching.

OR

Explain ISDN services and protocols.

**Unit - V**

5. a) Define guided and unguided media.  
 b) What do you understand by radiowaves and microwaves?  
 c) What is the Network Interface Card?  
 d) Describe the different types of twisted pair.

OR

Explain the cable standard category 5, 6 and 7 cross connection.

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