Total No. of Questions :5] *[Total No. of Printed Pages : 2*

Roll No .....

EC - 501

B.E. V Semester

Examination, June 2016

Voice and 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) Describe a local subscriber loop.
   b) How caller identification is being performed?
   c) What are the basic call procedure?
   d) List the essential components used in a standard telephone set. Show them with the help of a block diagram. Briefly explain these components.

   OR

   Explain various types of voice frequency circuit arrangements.

Unit - II

2. a) What is local office telephone exchange?
   b) What is T-1 digital carrier system?
   c) Discuss telephone switching hierarchy.
   d) With an example describe a telephone numbering plan.

   OR

   What is common channel signaling system number 7 (SS7)? Give its network functions.

Unit - III

3. a) Define multiplexing. What are different types of multiplexing?
   b) What is composite baseband signal?
   c) What do you mean by frame synchronization?
   d) Compare between bit interleaving and word interleaving.

   OR

   With the help of example, explain line encoding in detail.

Unit - IV

4. a) What do you mean by protocol and standard?
   b) What is guided and unguided transmission media?
   c) What is the purpose of data link layer in computer network?
   d) Explain and prove Shannon's capacity theorem.

   OR

   Describe DTE-DCE interface.

Unit - V

5. a) Differentiate between error detection and error correction.
   b) What are different types of error?
   c) What is vertical redundancy checking?
   d) Explain message switching. Compare it with circuit and packet switching.

   OR

   Compare the processes of virtual and datagram switching.

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