Roll No .....

EC - 501

B.E. V Semester

Examination, June 2015

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 questions 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) What do you understand by call process tones and signals?
   b) Discuss working of cordless telephone?
   c) How caller identification is being performed?
   d) How crosstalk is prevented in telephone system. Explain it with circuit arrangements.

   OR

   Discuss the working of telephone handset with suitable circuit diagram.

Unit - II

2. a) What do you understand by local loop circuits.
   b) Discuss telephone switching hierarchy?
   c) What is T-1 digital carrier system.
   d) Draw block diagram and related wave forms for time division multiplexing.

OR

Draw circuit arrangements for frequency division multiplexing. Mention advantages of frequency division multiplexing.

Unit - III

3. a) What do you understand by statistical TDM?
   b) Discuss FDM Hierarchy.
   c) What is composite baseband signal?
   d) Draw circuit block diagram of codes. Explain its requirement in voice communication. What is combo chip?

   OR

   Discuss in detail DWDM terminal multiplexers. What is intermediate line repeater? Why optical add-drop multiplexer is needed in optical communication?

Unit - IV

4. a) What is purpose of transport layer in computer network?
   b) What do you understand by datagram?
   c) Discuss Shannon's capacity theorem and its applications.
   d) Discuss with suitable diagram the concept of DTE and DCE interface? Why is it needed in data communication.

   OR

   Draw the block diagram for digital to digital encoding and explain its working.

Unit - V

5. a) What do you understand by redundancy?
   b) Discuss error correction codes?
   c) What are the errors encounter in data communication. Discuss each one in detail.
   d) What is virtual circuit packet switching?

   OR

   Compare all switching techniques and mention advantages of each type of switching.

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