

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. [www.rgpvonline.in](http://www.rgpvonline.in)
- 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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