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Roll No. .....

EC–501

B. E. (Fifth Semester) EXAMINATION, Dec., 2011

(Electronics & Communication Engg. Branch)

VOICE COMMUNICATION

(EC–501)

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt any *five* questions. All questions carry equal marks.

1. (a) Draw the block diagram of Telephony system and explain function of each block in detail. 10

   (b) Explain how a caller is identified and what is local subscriber loop. 10

2. (a) How can a suppressor be designed such that the interdigit gap precedes the dialing pulses ? 10

   (b) In stronger exchanges, a call may be blocked, even though an appropriate path through the switch exists. Explain how this can happen. 10

3. (a) Define each of the following terms : 10
   Programs, procedure, processor, process, user, task, job and subroutine.

   (b) Deadlock may occur in a road traffic function. Illustrate this with the help of a diagram. 10

P. T. O.

4. (a) List and discuss at least *five* advantages of digital transmission of speech over analog transmission. 10

   (b) How much does the SQR of a uniform PCM encoder improve when one bit is added to the codeword ? 10

5. Determine the maximum and minimum delay that may be experienced by an input sample in a TTTT switch if the operating mode for all the switches is : 20

   (a) Phased mode

   (b) Time slotted mode

6. Write short notes on any *two* of the following : 20

   (a) Intersymbol interference

   (b) Code space redundancy

   (c) Coded mark inversion

   (d) Differential encoding

7. (a) Numbering plan in a telephone network must be independent of call routing ? Why ? Explain. 10

   (b) What are the differences between common control and direct control ? 10