Code No.: ETIT 312	**L**	**T**	**C**
Paper: Digital Communication – II	**3**	**1**	**4**

INSTRUCTIONS TO PAPER SETTERS: **MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from question no. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

UNIT – I

Information, channel capacity, The concept of amount of information, entropy, Information rate, Conditional and joint entropies. **[No. of Hrs.: 09]**

UNIT – II

Source coding: Noise less coding, Shannon's first fundamental theorem, Discrete memory less channel, Mutual information, Sources with finite memory, Markov sources, Shannon's second fundamental theorem on coding, Huffman coding, Lempel – Ziv algorithm, Shannon-Fano algorithm. **[No. of Hrs.: 13]**

UNIT - III

Channel coding : Error detecting codes, Hamming distance, Error correcting codes, Repitition codes, Linear block codes, binary cyclic codes, BCH codes, Reed-Soleman codes, Golay codes. **[No. of Hrs.: 11]**

UNIT - IV

Convolution Coding: Code tree, state diagram, Trellis diagram, Maximum-Likelihood decoding – Viterbi's algorithm, sequential decoding.

Network information theory, introduction to Cryptography **[No. of Hrs.: 11]**

TEXT BOOKS:

1. S. Haykins, "Digital Communications", Wiley, 2000.

REFERENCE BOOKS:

1. T M Gover, J M Thomos, "Elements of Information Theory", Wiley, 1999.
2. J G Proakis, " Digital Communications", Mc Graw Hill, 2001.