Semester-II
Course: B.Sc. (Hons) IT
Paper Code: BSIT-205
Nomenclature: Electronic Communication-II

Max. Marks: 40 + 10
Time: 3hrs.

UNIT –I

Digital Modulation Techniques: - FSK, PSK, DPSK, BPSK, QPSK, ASK, Similarity b/w BPSK& BFSK (qualitative analysis only)

UNIT-II

Error Control Coding:- Methods of Controlling Errors , Types of Errors , Types of Codes ,Matrix Description of Linear Block Codes , Error Detection and Error correction capabilities of Linear Block Codes, Single Error-Correcting Hamming Codes.

UNIT-III

Binary Cyclic Codes:- Algebraic Structure of Cyclic Codes, Encoding Using an (n-k) Bit Shift Register, Syndrome Calculation ,Error Detection and Error Correction.

UNIT –IV

Information Theory and Coding:- Discrete messages, The concept of amount of information, average information, entropy, information rate, Shanon-Fano coding, shanon's theorm, channel capacity, comparison of error rate in codes and uncoded transmission, Huffman coding, Shanon- Hartley theorem and its implications.

Reference Books:

1. Principle of Communication by Taub Schilling
2. Analog & Digital Communication Systems by K. Sam Shanmugham

Note:

1. Syllabus in each Theory Paper is divided in 4 units.
   I. A Student is required to attempt 5 questions in all.
   II. Question No 1 is compulsory, consisting of short answer type questions based on all the 4 units.
   III. Two questions will be set from each unit. A student is required to attempt one question from each unit.
   IV. All questions carry equal marks.
2. Use of simple calculator is permissible.
3. Instructions should be imparted using SI system of units. Familiarity with CGS system of units should also be ensured.
4. Distribution of Marks: 40+10*= 50.
   * Each question paper will be of 40 marks and 10 marks in each theory paper are awarded through internal assessment in each semester.
5. Work load – 3 periods per week per theory paper.