The Bombay Salesian Society's
Don Bosco Institute of Technology
Department of Electronics and Telecommunication Engineering

Subject: Digital Communication

Question Bank – IA1

2 Marks Questions

1. Explain the advantages and disadvantages of digital communication systems.
2. Define and explain significance of entropy, amount of information, information rate, and channel capacity.
3. Compare channel coding and source coding.
4. What is the significance of Shannon Hartley theorem? When is it used?
5. Write the properties of information.
6. State and explain source coding theorem.
7. Write algorithms for Shannon fano and Huffman codes.
8. What are the various types of error control methods? Show classification with examples.
9. Compare FEC and ARQ techniques.
10. What is meant by Baseband transmission? Explain its significance in a DCS.
11. What are line codes? Give a classification of line codes.
12. For a given binary stream draw the various types of line codes.
13. Explain HRC and VRC methods of error detection with examples.
14. Explain Source Coding and Channel Coding.

5 Marks Questions

1. Draw and explain the block diagram of digital communication systems
2. Derive the condition for maximum entropy of a source .How does entropy vary with probability.
3. State Shannon Hartley Theorem. Determine the channel capacity if the bandwidth is infinite.
4. Explain the working of Stop and Wait ARQ technique with a neat diagram.
5. Explain the working of Go-Back–N ARQ Technique with a neat diagram.
6. Explain the working of Selective Repeat ARQ Technique with a neat diagram.
7. Discuss the various types of error detection codes.
8. What is line code? What parameters need to be considered for selecting a line code for a specific application?

Note: Numerical problems similar to whatever is done in class will be asked.

Prepared By-

Namita Agarwal
(Faculty Incharge)