

B. TECH.**THEORY EXAMINATION (SEM–VIII) 2016-17****DATA COMPRESSION****Time : 3 Hours****Max. Marks : 100****Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.****SECTION – A**

- 1. Attempt all parts of the following question: 10 x 2 = 20**
- (a) What do you understand by entropy ?
 - (b) What do you mean by loseless compression?
 - (c) Define data compression.
 - (d) Define compression ratio.
 - (e) Differentiate between Fidelity and quality.
 - (f) Discuss binary code.
 - (g) Discuss Huffman code
 - (h) Define distortion.
 - (i) Define the term PPM.
 - (j) Discuss Golomb coding.

SECTION – B

- 2. Attempt any five of the following questions: 5 x 10 = 50**
- (a) Explain rice coding and it's implementation.
 - (b) Explain minimum variance Huffman code.
 - (c) Explain encoding and decoding in LZW algorithm.
 - (d) Explain Adaptive Quantization.
 - (e) Explain prediction with partial match.
 - (f) Explain scalar & vector quantization.
 - (g) Explain modeling and coding with the help of example. What do you understand by prefix code?
 - (h) What are two observations on which Huffman procedure is based regarding optimum prefix code? What are the various applications of Huffman coding?

SECTION – C

- Attempt any two of the following questions: 2 x 15 = 30**
- 3.** What do you understand by adaptive quantization? Explain the various approaches to adapting the quantizer parameters.
 - 4.** What is Facsimile Enoding? Explain Run-Length coding technique used earlier for Facsimile.
 - 5.** What do you understand by Uniform quantizer? How uniform quantization of a uniformly distributed sources and uniform quantization of non-uniform sources is done?