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**BIELE-010**

# B.Tech. – VIEP – ELECTRONICS AND COMMUNICATION ENGINEERING (BTECVI)

## Term-End Examination

00266

## June, 2016

## BIELE-010 : SIGNAL COMPRESSION

*Time : 3 hours* *Maximum Marks : 70*

***Note :*** *Attempt any **seven** questions. All questions carry equal marks. Use of scientific calculator is allowed. Missing data may be suitably assumed.*

1. Discuss Huffman encoding procedure. Explain with the help of an example. *10*

2. Draw and explain the flow chart for Adaptive Huffman decoding algorithm. *10*

3. (a) What do you mean by modelling ? Write down the various advantages of modelling. *5*

   (b) Discuss Burrows-Wheeler Transform algorithm. *5*

4. Where do we use the dictionary techniques of encoding ? Also explain the various types of dictionary techniques. *10*

**5.** Explain the various Lossless Compression standards for files, text, images and faxes. *10*

**6.** (a) What is rate distortion function R(D) ? Write down its properties in brief. *5*

(b) What is quantization ? Explain additive noise model of a quantizer. *5*

**7.** What do you understand by Adaptive Quantizer ? Explain the various approaches to adopting the quantizer parameters. *10*

**8.** (a) Explain Continuous Wavelet Transform (CWT) and Discrete Wavelet Transform (DWT). Also write down their applications. *5*

(b) Draw and explain the block diagram of sub-band coding scheme. *5*

**9.** (a) Discuss discrete Walsh-Hadamard transform by using a suitable diagram. *5*

(b) What are the salient features of discrete cosine transform ? Also state its applications. *5*

**10.** Write short notes on any ***two*** of the following : *2×5=10*

(a) Golomb Codes

(b) Uniform and Non-uniform Quantization

(c) Video Compression Standards

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