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**Question Paper Code: 52923**

M.E. DEGREE EXAMINATION, JUNE 2016

Elective

Communication Systems

15PCM505 - DATA COMPRESSION

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 20 = 100 Marks)

1. (a) What is need for the compression in a typical communication environment? Briefly explain any four compression techniques. (20)

Or

- (b) Explain vector quantization procedure with the help of a diagram. What are the advantages of vector quantization? (20)

2. (a) Explain an adoptive Huffman coding algorithm with the help of diagram. Derive the code word AARDV using adoptive Huffman coding algorithm. (20)

Or

- (b) Give syntax steps of LZW compression and decompression algorithm. Explain compression and decompression with the help of an example. (20)

3. (a) What is companded quantization technique? Explain with the help of a block diagram for log companded quantization. (20)

Or

- (b) Explain the functioning of code excited linear prediction (CELP) analysis model with the help of a block diagram. (20)
4. (a) What are the problems that can be addressed by JPEG 2000 standards? Briefly explain the main steps of JPEG2000 image compression. (20)

Or

- (b) What is embedded zero-tree wavelet (EZW) coder algorithm? Explain the procedure of 10-band wavelet decomposition using EZW coder algorithm. (20)
5. (a) Briefly explain complete procedure for motion compensation for MPEG-4 standard with the help of suitable diagrams. (20)

Or

- (b) Briefly explain about H.261 video compression standard. What are video formats supported by it. Give frame sequence of H.261. (20)
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