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(Following Paper ID and Roll No. to be filled in your Answer Book)

Paper ID : 110757 Roll No. | | | | | | | | | | |

B.Tech.

(SEM. VII) THEORY EXAMINATION, 2015-16

DATA COMPRESSION

[Time : 3 hours] **[Total Marks : 100]**

Note: Attempt questions from all Sections as per directions.

Section-A

1. Attempt **all** parts of this section. Answer in brief. (10x2=20)

   (a) What is data compression?

   (b) Discuss dynamic Markov compression with suitable example.

   (c) Differentiate between lossy and lossless compression.

   (d) Explain the predictive coding techniques in data compression.

   (e) Differentiate between LZ77 and LZ78 data compression techniques.

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(f) Write advantages of vector quantization over scalar quantization.

(g) How the Linde-Buzo-Gray algorithm works?

(h) Compare and contrast JPEG and MPEG.

(i) What benefits are offered by compression schemes in designing systems?

(j) What are the advantages of using specialized multimedia servers?

Section-B

Attempt **any five** questions. (5x10=50)

2. Why we need data compression? Explain compression and reconstruction with the help of block diagram.

3. Differentiate between static length and variable length coding schemes. Explain with the help of examples.

4. Based upon the requirements of reconstruction how data comprission techniques are broadly classified. Explain these classifications in brief.

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5. What are the measures of performance of data compression algorithms?

6. What is average information? What are the properties used in measurement of average information.

7. Discuss generic compression scheme with the hepl of block diagram. What are the distortion criteria for Lossy coding?

8. Explain uniform and non-uniform quantization with further classifications.

9. Explain the procedure for the adaptive Huffman codding and encoding algorithm flowchart.

Section-C

Attempt **any two** questions. (2×15=30)

10. What do you understand by Markov model? Discuss the role markov models in text compression.

11. Explain minimum variance Huffman code and encoding procedure with suitable example.

12. What is quantization? Explain additive noise of a quantizer. Differentiate between scalar quantization and vector quantization. What are the advantages of vector quantization over scalar quantization?

—x—

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