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Question Paper Code: U2202S

M.E. DEGREE EXAMINATION, APRIL 2024

Second Semester

Communication Systems

21PCM202- DATA COMPRESSION

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) Given the eight symbols A, B, C, D, E, F, G, and H with probabilities $1/30$, $1/30$, $1/30$, $2/30$, $3/30$, $5/30$, $5/30$, and $12/30$, draw three different Huffman trees with heights 5 and 6 for these symbols and calculate the average code size for each tree. CO2- App (20)
Or
(b) Encode and decode the character A-17,B-12,C-12,D-27,E-32 using Huffman coding CO2- App (20)
2. (a) Explain the Dictionary techniques with the basic algorithm. CO1- U (20)
Or
(b) Briefly explain the result of the escape symbol with the Exclusion principle in encoding CO1- U (20)
3. (a) Analyze the use of Structured Vector with non-structured vector Quantize in the field of data compression in different images and choose the best one for measure the image. CO3- Ana (20)
Or
(b) Compare and contrast the result of Adaptive Quantization and Non uniform Quantization for an image and choose the best one for compression for pixel values 256×256 . CO3- Ana (20)

4. (a) Analyze the Advance method of Dolby AC3 (Dolby Digital) audio coding in MP3 songs and compare the H.264 for video streaming in a real time application CO2- App (20)
- Or
- (b) Analyze the Advanced Video Coding and Packet Video coding in MP3 songs and compare the H.264 for video streaming in a real time application CO2- App (20)
5. (a) Explain the Multi-Layer Perceptron (MLP) based Compression. CO1- U (20)
- Or
- (b) Explain the principles of Dee Coder. CO1- U (20)