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**Question Paper Code:U2202**

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) Analyze the compression method uniquely Decodable codes and Prefix Codes and choose the best one for image compression. CO3- Ana (20)  
Or  
(b) Analyze the Information theory with different Models and compare the results for uniquely Decrypt codes and Prefix Codes and choose the best one. CO3- Ana (20)
2. (a) Using Burrows-Wheeler transform encode BANANA. CO2- App (20)  
Or  
(b) In detail explain Arithmetic Coding and encode "went." With probability  $e=0.3$ ,  $n=0.3$ ,  $t=0.2$ ,  $w=0.1$ ,  $.=0.1$ . CO2- App (20)
3. (a) Discuss the use of scalar and vector quantization theory in the field of data Compression. CO1- U (20)  
Or  
(b) Explain in detail about Multi resolution Approaches. CO1- U (20)
4. (a) Analyze MPEG advanced audio coding and Video Coding H.264 for different real time applications in video streaming, choose the best one. CO5- Ana (20)  
Or  
(b) Analyze Advanced Video Coding H.264 and Dolby AC3 with real time application for compression lossless properties in video streaming, choose the best one. CO5- Ana (20)

5. (a) Analyze the result of Deep Neural Network Based Video CO4- Ana (20)  
Compression with Convolutional Neural Network (CNN) based  
compression and choose the best one for image compression.

Or

(b) Analyze JPEG 2000 with the Multi-Layer Perceptron (MLP) based CO4- Ana (20)  
Compression and CNN and choose the best one.