

Assignment – 1 (Last date: 25/12/2021)

Long Questions

1. A file contains the following characters with the frequencies as shown. If Huffman Coding is used for data compression, determine-

a	10
e	15
i	12
o	3
u	4
s	13
t	1

- I. Huffman Code for each character
 - II. Average code length
 - III. Length of Huffman encoded message (in bits)
2. Explain Lossless image compression techniques?
 3. The geometric source of information A generates the symbols {A0, A1, A2 and A3} with the corresponding probabilities {0.4, 0.2, 0.2 and 0.2}. Encode the source symbols using binary encoder and Shannon-Fano encoder.

4. Explain the working of Shannon-Fano Algorithm.

Short Questions

1. What is Kraft's Inequality?
2. What is Entropy? Write down the formula to calculate entropy.
3. What is Instantaneous Codes?