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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -2 EXAMINATION- Oct 2019
B.Tech(CSE/IT) V Semester

COURSE CODE: 18B1WCI532 MAX. MARKS: 25
COURSE NAME: Data Compression
COURSE CREDITS: 2 MAX. TIME: 90 Min

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

Q.1. [7 Marks. Each part is one mark]

a) State the Kraft Mcmillan Inequality and its importance in data compression.
b) What are dictionary based compression algorithms?
c) What is prefix code?
d) How to compute the average length of a code?
e) What is scaler quantisation encoding?
f) What are objectives of a first stage compression algorithm.
g) How Arithmatic Coding overcomes Huffman's problems?

Q.2. [6 marks] Explain the Move to Front encoding algorithm. For an ordered sequence of legal symbols S={a,b,c,d,e,f}, encode the following sequence using move to front algorithm.

caaabcccaccf

Q.3. [6 marks] Explain the Lempel-Ziv 77 algorithm. For a window size of 6 and a look ahead buffer size of 4, find the LZ-77 encoding for the following sequence.

aacaacabcabaaac

Q.4. [6 marks] The source A generates symbols S={A0,A1,A2,A4}, with probability distribution given below, find symbol encoding using shanon-Fano algorithm.

Symbol	Probabilty
A0	0.4
A1	0.3
A2	0.15
A3	0.1
A4	0.05