Department of CSE

TUTORIAL PLAN

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Branch	Semester	Subject	Code	Session
CSE	3rd	Computer Architecture	CCS103	July-Dec.2025

Tutorial Sheet No. 1

Course-Content Covered:

Data types, Complements, Fixed point representation, IEEE 754 Floating point representation (32bit/64bit), Error detection and correction.

Question 1) Explain the following:

a) A number -13.25 is to be represented in IEEE 754 single precision. Analyze its bit pattern and explain how sign, exponent, and mantissa affect accuracy.

b) Compare the IEEE 754 double precision representation of 0.1 with its single precision form. Evaluate the error introduced in both cases.

Question 2) Explain the following:

a) A 4-bit data word 1011 is transmitted using Hamming code. A single-bit error occurs at position 5. Analyze how the receiver detects and corrects it.

b) A 7-bit Hamming codeword 1010101 is received as 1010111. Analyze the syndrome process and determine how the receiver detects and corrects the error.