

KATHMANDU UNIVERSITY

Second Internal

Level: UNG/CM

Year: II

Time: 60 Mins

Course: EEG 202

Semester: I

F.M.: 16

---

*Attempt any four questions. [4Q. x 4 = 16]*

1. Using the Tabulation reduction method, minimize the given combinational output function  $F(W, X, Y, Z) = \sum(0,1,3,4,5,7,10,13,14,15)$ .
2. Explain the Adder-subtraction circuit.
3. Implement the function  $F(A, B, C, D) = \sum(1, 3, 4, 11, 12, 13, 14, 15)$  using the 8:1 MUX.
4. Implement the following multiple output combinational logic circuit using a 4 line-to-16-line decoder.

$$F_1 = \sum m(0, 1, 4, 7, 12, 14, 15)$$

$$F_2 = \sum m(1, 3, 6, 9, 12)$$

$$F_3 = \sum m(1, 3, 5)$$

$$F_4 = \sum m(2, 3, 7, 8, 10)$$

5. Show how the PLA circuit can be programmed to implement the 3-bit binary-to-gray conversion.

\*\*\*\*\*Best of Luck\*\*\*\*\*