

Total No. of Questions : 4]

SEAT No. :

PA-26

[Total No. of Pages : 1

[5931]- 36

S.E. (Information Technology)

LOGIC DESIGN & COMPUTER ORGANIZATION

(2019 Pattern) (Semester - I) (214442)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates :

- 1) Attempt Q.1 or Q.2 and Q.3 or Q.4.
- 2) Figures to the right indicate full marks.

- Q1)** a) List and explain the characteristics of CMOS. [7]
b) Perform following operations using unsigned binary format [8]
i) $1011 + 1100$
ii) $1011 - 0110$

OR

- Q2)** a) Design 4-bit binary to gray code convertor. [7]
b) Simplify $f(A, B, C, D) = \sum m(0, 2, 5, 6, 7, 8, 10, 13, 14, 15)$ using k-map and draw it's logic diagram. [8]

- Q3)** a) Design Full Subtractor using basic gates. [7]
b) Differentiate multiplexor & Demultiplexor. [8]

OR

- Q4)** a) Design BCD adder using binary adder IC 7483. [7]
b) Implement following using IC 74138 Decoder [8]
 $y_0(A, B, C) = \sum m(0, 3, 4)$
 $y_1(A, B, C) = \sum m(0, 1, 7)$
 $y_2(A, B, C) = \sum m(0, 5, 6)$
 $y_3(A, B, C) = \sum m(1, 4, 7)$

