



C-09-EC-305

3237

BOARD DIPLOMA EXAMINATION, (C-09)

MARCH / APRIL - 2019

DECE - III SEMESTER EXAMINATION

DIGITAL ELECTRONICS

Time : 3 Hours]

[Total Marks : 80

PART - A

3×10=30

- Instructions :**
- (1) Answer **ALL** questions.
 - (2) Each question carries **THREE** marks.
 - (3) Answer should be brief and straight to the point.

- 1 List the characteristics of digital logic family.
- 2 What are Universal gates.
- 3 Convert the following decimal numbers into Octal :
(A) 543.26_{10} (B) 163_{10} (C) 12.34_{10}
- 4 What is the function of a 4×1 multiplexer.
- 5 What is the function of a adder circuit.
- 6 Write about level triggering and edge triggering.
- 7 What is a Flip flop ?
- 8 Draw a level clocked T-Flip Flop.
- 9 Write any three differences between EEPROM and UV PROM.
- 10 Explain the terms Resolution and Accuracy.

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[Contd...

PART - B

10×5=50

- Instructions :**
- (1) Answer any **FIVE** questions.
 - (2) Each question carries **TEN** marks.
 - (3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

- 11 (a) Draw the Sum of Products circuit for the equation 5

$$Y = \bar{A}\bar{B}\bar{C} + \bar{A}B\bar{C} + A\bar{B}\bar{C} + AB\bar{C}$$

- (b) Write Boolean expressions of sum of minterms from the following Truth table and simplify 5

Inputs			Output
A	B	C	X
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	1
1	1	0	1
1	1	1	0

- 12 (a) Convert each of the following binary numbers into Gray code 6

(i) 1011 (ii) 1101 (iii) 110001

- (b) Convert each of the following gray code numbers into binary 4

(i) 1101 (ii) 11001

- 13 Draw a two bit digital comparator circuit and explain.
- 14 Draw the block diagram of a serial adder & explain.
- 15 With a neat diagram explain the operation of shift right register.
- 16 Draw and explain the working of Asynchronous decade counter.
- 17 (a) Write short notes on memory modules in computer. **6**
(b) Explain the terms Resolution and accuracy. **4**
- 18 Describe the successive approximation method of A/D converter with a block diagram
