



BCH-2312 Seat No. _____
M. Sc. (CA & IT) (Sem. IV) Examination
April/May - 2014
402 : Digital Electronics

Time : 3 Hours]

[Total Marks : 70

- 1 (a) Attempt any five : 10
- (1) $(756.603)_8 = (?)_{16}$.
 - (2) $(110101.11)_2 \div (101)_2 = (?)_2$.
 - (3) $(6B \in 9.E5)_{16} + (7CD5.FC)_{16} = (?)_{16}$
 - (4) Add (27.125) to (-79.625) using 12-bit 2's complement arithmetic.
 - (5) $(799.50)_{10} = (?)_{16}$
 - (6) Simplify $A + A\bar{B} + B$.
- (b) Explain BCD code with example. 5
- 2 Attempt any **three** : 15
- (1) Explain error detection and error correction code.
 - (2) Explain Half Adder and Full Adder.
 - (3) Explain types of Flip-Flop in detail.
 - (4) Prove that :
 - (i) $(A + B + C) \cdot \overline{(A + B + C)} = 0$
 - (ii) $A + \bar{A}B = A + B$
- 3 (a) Attempt any two : 10
- (1) What is sequential circuit ? Explain D-Latch with truth table and timing diagram.
 - (2) Explain types of RAM and ROM.
 - (3) Explain Decoder.

- (b) Attempt any **two**: **10**
- (1) Explain instruction format.
 - (2) What is instruction ? Explain types of addressing techniques.
 - (3) Explain register in detail.
- 4** (a) Attempt any **three** : **12**
- (1) Explain multiplexer.
 - (2) What is flag ? Explain types of flag.
 - (3) Explain logical micro operations.
 - (4) Explain arithmetic micro operations.
- (b) Attempt any **two** : **8**
- (1) Explain 8085 microprocessor architecture.
 - (2) Explain I/O instructions.
 - (3) Explain branch instructions.
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