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BF—374—2016

FACULTY OF SCIENCE

B.Sc. (Second Year) (Third Semester) EXAMINATION

NOVEMBER/DECEMBER, 2016

COMPUTER SCIENCE

Paper VI

(Digital Electronics and 8085 Microprocessor)

(MCQ + Theory)

(Saturday, 3-12-2016)

Time : 2.00 p.m. to 4.00 p.m.

Time—2 Hours

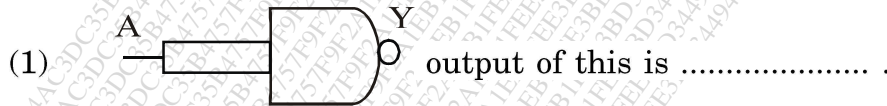
Maximum Marks—10+30=40

N.B. :— All questions are compulsory.

MCQ

10

1. Attempt the following.



- (A) $Y = A$ (B) $Y = \bar{A}$
(C) $Y = \bar{\bar{A}}$ (D) None of these

(2) is a universal gate.

- (A) NOT (B) AND
(C) NOR (D) None of these

(3) Race around condition is minimized in Flip-flop.

- (A) SR (B) Clocked SR
(C) JK (D) All of these

P.T.O.

- (4) $\bar{A} = \dots\dots\dots$
- (A) A (B) \bar{A}
 (C) 0 (D) 1
- (5) SOP stands for
- (A) Sum of product (B) Serial output
 (C) Both (A) and (B) (D) None of these
- (6) D-Flip-flop is a Flip-flop.
- (A) Don't care (B) Delay
 (C) Both (A) and (B) (D) None of these
- (7) Word length of 8085 microprocessor is bit.
- (A) 4 (B) 8
 (C) 16 (D) All of these
- (8) 8085 is pin IC.
- (A) 20 (B) 40
 (C) 16 (D) 32
- (9) contains address of next instruction.
- (A) Stack pointer (B) Program counter
 (C) Both (A) and (B) (D) None of these
- (10) \overline{RD} pin in 8085 microprocessor is active
- (A) Low (B) High
 (C) Middle (D) None of these

Theory

2. Explain NAND and NOR logic gates with truth table and circuit diagram. 10

Or

- (a) Explain de-Morgan's first and second law. 5
- (b) Explain concept of JK-Flip-flop. 5

3. Simplify the following logic function using K-MAT : 10

$$y = \bar{A}\bar{B}C + \bar{A}B\bar{C} + A\bar{B}\bar{C} + ABC + A\bar{B}C + \bar{A}B\bar{C}.$$

Or

- (a) Explain concept of quad and octate. 5
- (b) Explain D-Flip-flop in detail. 5
4. Explain pin diagram of 8085 microprocessor with description of all pins. 10

Or

- (a) Explain flag registers of 8085. 5
- (b) Explain LDA and SDA instructions. 5