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A-162

B.C.A. EXAMINATION, Dec. 2017

(First Semester)

(Old Scheme) (Re-appear Only)

(BCA)

BCA-103

DIGITAL ELECTRONICS

Time : 3 *Hours*] [*Maximum Marks :* 100

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Section. Answer to the point. Please ensure that you have been supplied correct and complete question paper, no complaint in this regard will be entertained after the completion of examination.

1. (a) Convert 8787 in Decimal to its Octal Equivalent. **4×5=20**

(b) Draw truth table for XNOR rate.

(c) Simplify the Boolean expression :

((X' + Y). Z)'

(d) Draw the truth table for SR Flip-Flop.

(e) Draw the circuit for Half Substractor.

Section A

2. Convert 62626 in decimal to its binary equivalent and then convert the binary number so obtained into its gray equivalent and then convert the gray number into its 8421-BCD equivalent and finally the BCD number to its Hexadecimal equivalent. **20**

3. State and prove De-Morgan's Theorems. **20**

Section B

4. Simplify the Boolean function using K-maps method : **20**

F(X, Y, Z) = (X + Y).(Y' + Z).(Z' + X)

5. Draw the circuit for Decimal to BCD code converter. **20**

Section C

6. Write short notes on the following :

(a) Master Slave JK Flipflop **10**

(b) RAM. **10**

7. Draw and explain the circuit for synchronous Ring Counter. **20**

8. Write short notes on the following :

(a) T Flip-flop **10**

(b) D Flip-flop. **10**