2019

Part – II

COMPUTER SCIENCE

(Honours)

Paper – V

(Practical)

(Set – I)

Full Marks – 50

Time : 4 Hours

*The figures in the right-hand margin indicate marks.
Candidates are required to give their answers in
their own words as far as practicable.*

Unit – II

GROUP – A

[Digital Electronics]   20×1

1. Design a circuit that implements 3-bit X-OR and 3-bit X-NOR gate. Show their outputs.

2. Design a 1×8 De - MUX using NAND gats.

P.T.O.

3. Implement F= ABC + A$\overline{B}$C + AB$\overline{C}$ + $\overline{A}$B$\overline{C}$ using NOR gats only.

4. Design a code coverter circuit that covert a 4-bit number to its equivatent Gray code.

5. Design a J-K flip flop using NAND gates.

6. Design a D flip flop using NOR gates.

7. Design a MOD -8 counter using J-K flip/flops.

8. Design a 4-bit circular right shift register.

9. Design a 2-bit magnitude compartor circuit.

10. Design a full adder circuit using logic gates.

GROUP – B

[Microprocessor & Interfacing]

Microprocessor   12×1

1. Write an 8085 ALP to find maximum of three numbers.

2. Write an 8085 ALP to sort three number present in $F000_H$ - $F002_H$ in ascending order.

3. Write an 8085 ALP to find number of 0,s in c-register.

4. Write an 8085 ALP to count number of even numbers among the 8-bit numbers present in memory locations $D000_H - D0009_H$.

5. Write an 8085 ALP to move a memary block from $DA00_H - DA13_H$ to $DA20_H - DA33_H$.

6. Write an 8085 ALP to find Excess – 3 code of the 8-bit number present in memory location $F000_H$.

7. Write an 8085 ALP to increment all the memory contents in memory location range $F200_H - F210_H$.

8. Write an 8085 ALP to display 0 – 9 after a gap of roughly 1 second time.

Interfacing with 8255   8×1=8

1. Write an 8085 ALP to display "100."

2. Write an 8085 ALP to display "DEER".

3. Write an 8085 ALP to display "hello'.

4. Write an 8085 ALP to generate a square wave and display it.

Viva-voce : 5 Marks

Practical Note Book : 5 Marks

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