B.Sc. RNLKWC-/C2T/22

2022
BCA (Hons)
B.Sc. First Semester End Examination - 2022
PAPER - C2T
Computer fundamdntal and Digtal Electronics

Full Marks : 40   *Time : 2 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.
Illustrate the answers wherever necessary.

Group-A

1. **Answer any five questions :**   5×2=10

a) What is Digital Computer?

b) What do you mean by application software? Give an example.

(2)

c) What are the Software and Hardware?

d) What is linker and loader?

e) What is the advantage of 2's Complement?

f) What is the limitation S-R Flip-Flop?

g) What is bus in computer system?

h) Convert $(12)_{10}=(?)_2$

2. **Answer any four question.**   **5×4=20**

a) Differentiate between RAM and ROM.   5

b) What is sequential circuit? Discuss about half substractor.

2+3

c) Construct circuit from the followint expression using universal gate -

(3)

(i) $X.Y + \overline{X}\,\overline{Y}$

(ii) $\overline{AB} + (\overline{A}+B)$ $2\frac{1}{2}+2\frac{1}{2}$

d) Design the logic circuit of 8×3 Encoder with truth table.

e) Using 7's complement, find –

$(7605)_8 - (100)_8=(?)_8$

And write down the procedure.

f) Design XOR and XNOR gate using NAND gate. $2\frac{1}{2}+2\frac{1}{2}$

3. Answer any one question –   10×1=10

a) Find the Boolean expression of

$F(A,B,C,D)=\Sigma(2,3,5,7,9,14,15)$.

Design the logic circuit and true table of J-K Flip-Flop. What are the Master-Slave Flip-Flop?   3+5+2

b) Write short note (any two) :   5+5

    (i) Big data

    (ii) Cloud computing

    (iii) Bluetooth

    (iv) Embedded System

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