

Roll No.

Total Printed Pages - 3

F - 3716

B. Sc. (Part - II) Examination, 2022

(New/Old Course)

Information Technology

Paper First

(Digital Circuits and Computer Hardware)

Time : Three Hours]

[Maximum Marks:50

Note: Answer all the five questions. One question from each unit is compulsory. All questions carry equal marks.

Unit - I

1. Convert the following :

(A) $(255)_{10} = ()_2$

(B) $(3FF)_{16} = ()_{10}$

P.T.O.

[2]

(C) $(3783.25)_{10} = ()_2$

(D) Multiply $(1100)_2$ by $(1010)_2$

(E) Divide $(10010)_2$ by $(110)_2$

OR

Plot and simplify the K-map for the following :

$F(A, B, C, D) = (0, 1, 2, 8, 9, 12, 13)$

$d(A, B, C, D) = (10, 11, 14, 15).$

Unit - II

2. Explain D flip flop and T flip flop with block diagram and truth table.

OR

Write short notes on :

(A) Encoder

(B) Shift Register

Unit - III

3. Explain Master Slave flip - flop.

F - 3716

[3]

OR

Explain TTL and CMOS integrated circuit.

Unit - IV

4. Explain Register Organization.

OR

Explain any 4 -Addressing mode with example.

Unit - V

5. Distinguish between RAM & ROM.

OR

Write short notes :

(A) Virtual memory.

(B) Cache Memory.