Digital Electronic

2K5-CS-2

E-5

Roll No .: 180405 100 2 @darsh

M.M. 100

10x2= 20 - 181

70A 90

Time: 3 Hrs.

Note:

- Part 'A' may be attempted in first 5 pages of Answer Sheet. भाग 'क' के सभी उत्तर, उत्तर-पुस्तिका के प्रथम पांच पृष्ठों में ही करने हैं।
- Part 'B' in rest of the Sheets of Answer Sheet. भाग 'ख' के उत्तर, उत्तर-पुस्तिका के अगले शेष पृष्ठों में लिखिये।
- Answers may be given in English or Hindi. 3. प्रश्नों के उत्तर अंग्रेजी अथवा हिन्दी में दीजिये।

Part 'A'

Attempt any ten questions: Sir

Convert (111)₂ into decimal number.

Write base of binary number. 411)

Convert (56B)₁₆ into octal number. (iii)

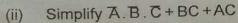
What do you mean by alpha numeric code? (iv)

Define negative logic. (V) · (vi)

- Define reflected code. (vii)
- (wiii) DCL stand for
- Write name of basic gates. (ix) What do you mean by edge triggered flip flop?
- (x) Write disadvantages of combinational logic circuits. (xi)
- Write advantages of K-map technique. (XII)
- (xiii) Define register.
- (xiv) Write types of A/D convertors.

Attempt any 5 of the following questions:

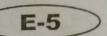
Design OR gate with help of NAND gates.



- Discuss error detection code with its applications. (iii)
- Explain K-map technique for minimization of a logic operation.

 $5 \times 4 = 2$

1/4



 $3 \times 20 = 60$

- Perform addition of two unsigned numbers with example.
- (vi) Convert (DAB)₁₆ into octal and binary numbers.
- Design a half subtractor and write its truth table.
 - (viii) Write various applications of A/D converters.

PART-B

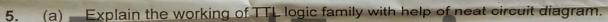
Attempt any 3 of the following questions:

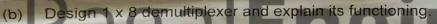


- Explain the working of SR flip-flop also write its truth table.
- Design a full adder circuit and explain its working.



- Simplify the following expression using K-map:
 - $f(A, B, C, D) = \sum (0, 1, 3, 5, 9, 11, 13, 15)$
- Design a 3 bit synchronous counter and explain its working. (p)







- Explain the working of CMOS logic family with help of neat circuit diagram. 6. (a)
 - Design a 8 bit down counter. (b)

- Explain the working of a parallel in parallel out shift register.
 - Explain working of any one type of D/A converter with neat diagram.