

SURENDRANATH COLLEGE
INTERNAL ASSESSMENT
SEMESTER-1, 2018-19
SUBJECT-Computer Science Hons. (CMS-A)
CC-1-1-TH (Digital Logic)

Time- 01 Hr.

Full Marks-30

CU Reg. No.-	SECTION-	ROLL NO.-
---------------------	-----------------	------------------

MARKS OBTAINED	Signature of Examiner- With date
MARKS CONVERTED TO 10	Approved by HOD- With date

*Your answer must fit within the provided space
You may use the last page of your answer booklet for ROUGH work*

Question Booklet < Total pages=13>

Answer question no. Q1 and any 4 from the rest (Q2 to Q9)

Q1. Answer any 4 questions out of 7 [Q1(a) to Q1(g)] .

4x1.5

(a) State the utility of 'Don't care' in K-map

(b) Explain the difference between combinational and sequential circuit

(c) Convert the hexadecimal number ABCD to binary.

(d) Convert the the number 2456 of base 8 to binary

(e) How will you find out the 2's complement of a binary number?

(f) What is the difference between Multiplexer and De-Multiplexer.

(g) State De-Morgan's theorem.

Q2. Answer any 4 questions out of 8 (Q2 to Q9)

Q2. Minimize the SOP expression $f(A,B,C)=A'C+A'B+AB'C+BC$ using K-Map.

Q3. Minimize the POS expression $f(W,X,Y,Z)=\pi(3,7,10,11,15)$ using K-Map.

Q4. Design a half adder using NOR gate

Q5. Design full subtractor using NAND gates.

Q6. Design a BCD to XS3 code converter.

Answer for Q6.continued

Q7. Realize $f(A,B,C)=\Sigma(1,3,5,6)$ using 8:1 MUX

Q8. Realize $f(A,B,C,D)=\Sigma(0,1,3,4,8,9,15)$ using 16:1 MUX

Q9. Design a full adder using DeMultiplexer

Rough-work