ST. XAVIER'S SENIOR SECONDARY SCHOOL, DELHI – 110054

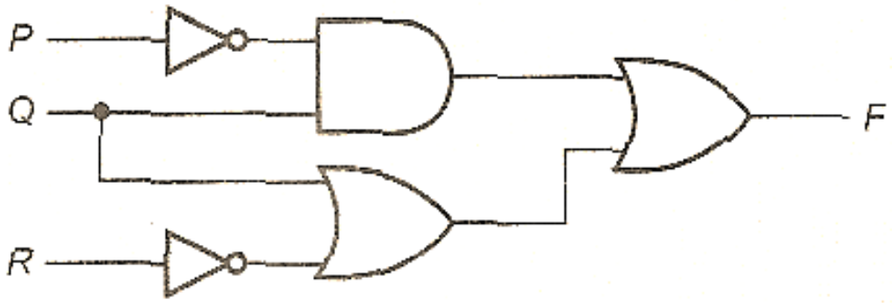
Class 12 Time : 1 hr.

24-7-2014 First Unit Test in COMPUTER SCIENCE M. Marks : 20

1. a) Verify the following using Boolean Laws [2]

X+Z=X+X'.Z+Y.Z

b) Obtain the Boolean Expression for the logic circuit shown below: [2]



c) Write the Sum of Product form of the function F(A, B, C) for the following truth table representation of F. [1]

A	B	C	F
0	0	0	0
0	0	1	0
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	1

d) Obtain the minimal form for the following Boolean expression using Karnaugh's Map: [3]
F (U, V, W, Z) = ∑ (0, 1, 2, 3, 6, 7, 8, 9, 10, 13, 15)

e) Obtain the minimal form for the following Boolean expression using Karnaugh's Map: [3]
H (U, V, W, Z) = π (0, 3, 5, 12, 13, 14)

2. a) Give a suitable example of a table with sample data and illustrate Primary and Alternate Keys in it.Consider the following tables CARDEN and CUSTOMER and answer (b) and (c) parts of thisquestion: [2]

Table: CARDEN

Ccode	CarName	Make	Color	Capacity	Charge
501	A-Star	Suzuki	RED	3	14
503	Indigo	Tata	SILVER	3	12
502	Innova	Toyota	WHITE	7	15
509	SX4	Suzuki	SILVER	4	14
510	C Class	Mercedes	RED	4	35
512	X6	BMW	BLUE	4	35

Table: CUSTOMER

CustCode	Cname	Ccode
1001	HemantSahu	501
1002	Raj Lal	509
1003	Feroza Shah	503
1004	Ketan Dhal	502

b) Write SQL commands for the following statements: [4]

I. To display the names of all the silver colored Cars.

II. To display name of car, make and capacity of cars in descending order of their seating capacity.

III. To display the highest charges at which a vehicle can be hired from CARDEN.

IV. To display the customer name and the corresponding name of the cars hired by them.

c) Give the output of the following SQL queries: [2]

I. SELECT COUNT (DISTINCT Make) FROM CARDEN;

II.SELECT MAX(Charges), MIN(Chagres) FROM CARDEN;

III.SELECT COUNT(*), Make FROM CARDEN;

IV.SELECT CarName FROM CARDEN WHERE Capacity = 4;

d) Write any one difference between data definition language and data manipulation language.[1]

-x-x-x-x-x-