INDIAN SCHOOL AL WADI AL KABIR

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| **Class: XI Comp. Sci.** | **Department: Computer Science** | **Date of submission: 08/08/2023** |
| **Try all the programs on your PC** | **Holiday Homework** | **Note: Answer all these questions in the note book** |

1. Do the following :

1) (1 1 1 1)2 = ( \_\_\_\_\_\_\_\_\_\_\_\_) 10

2) (1 0 0 1 1 )2 = ( \_\_\_\_\_\_\_ )8

3) (265)8 = ( \_\_\_\_\_\_\_ )10

4) (ACB)16 = ( \_\_\_\_\_\_\_ )10

5) (B6C)16 = ( \_\_\_\_\_\_ )2

6) (11001101011010)2 = ( \_\_\_\_\_\_ )16

7) (675) 8 = ( \_\_\_\_\_\_\_\_\_\_\_\_\_) 16

8) (923)10 = ( \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) 8

9) (3454)10 = ( \_\_\_\_\_\_\_\_\_\_\_\_\_) 16

10) (BCD)16 = ( \_\_\_\_\_\_\_\_\_\_\_\_\_) 8

2. Prove using truth table:

a. X(X +Y) = X

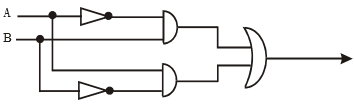
b. X + X’Y = X + Y

c. X+ YZ = ( X + Y ) ( X + Z)

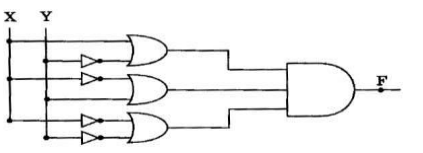
3. State and prove DeMorgans theorem.

4. Give the expression for the following circuits.

a.



b.



5. Draw the logic circuit for the Boolean expression:

i. F=AB’ +(CD)’

ii. F=A’B + AC’+BAC

6. Do the following:

1. Write a program to convert distance in Meters to Kilometer and Meter.

Hint: If Input Meters = 7840, then output = 7 KM and 840 M

1 KM = 1000 Meters

1. Write a program to calculate and Compound Interests.

A = P x (1+R/100)t

Compound Interest = A – Principal Amount

P – Principal Amount A – Amount R – Rate T – Time Span

1. Write a program to calculate the solutions for a Quadratic Equation.

d = b2 – 4 x a x c

Root1 = - b + Sqrt(d) / ( 2 x a)

Root2 = - b - Sqrt(d) / ( 2 x a)

1. Write a program to convert Kilometers into Miles.

Miles = Kilometers \* 0.621371

1. Write a program to calculate Celsius to Fahrenheit.

Fahrenheit = (Celsius x 1.8) + 32

6) Write a program to input a number and print its multiplication table.

7) Write a program to find the sum of first 20 odd numbers.