# St. Mary's School, Dwarka <br> Holiday Homework <br> Class XI <br> Subject: Computer Science (083) 

Q1. What is the value of the following expression in Python?
$2+4.00,2^{* *} 4.0$
a) $(6.0,16.0)$
b) $(6.00,16.00)$
c) $(6,16)$
d) $(6.00,16.0)$

Q2. What is the output of the code shown below?
$\operatorname{not}(3>4)$
$\operatorname{not}(1 \& 1)$
a) True

True
b) True

False
c) False

True
d) False

False
Q3. What will be displayed by print( $\operatorname{ord}\left({ }^{( } \mathrm{b}\right.$ ') $-\operatorname{ord}\left({ }^{( } \mathrm{a}\right.$ ')$)$ )?
a) 0
b) 1
c) -1
d) 2

Q4. Suppose J1 is $[3,4,5,20,5,25,1,3]$, what is J 1 after $\mathrm{J} 1 . \operatorname{pop}()$ ?
a) $[3,4,5,20,5,25,1]$
b) $[1,3,3,4,5,5,20,25]$
c) $[3,5,20,5,25,1,3]$
d) $[1,3,4,5,20,5,25]$

Q5. What is the output of the following code?
count $=\{ \}$
$\operatorname{count}[(1,2,4)]=5$
$\operatorname{count}[(4,2,1)]=7$
count $[(1,2)]=6$
count $[(4,2,1)]=2$
tot $=0$
for i in count:
tot=tot+count[i]
print(len(count)+tot)
Q6(a) Write the Boolean expression and draw the truth table for the following logic circuits:

(b).


Q7. Simplify: a) $Y\left(X^{\prime} Z+X Z^{\prime}\right)+X\left(Y Z+Y Z^{\prime}\right)$
b) $X^{\prime} Y Z^{\prime}+X^{\prime} Y Z^{\prime}+X Y^{\prime} Z^{\prime}+X Y Z^{\prime}$

Q8. Describe the following laws of Boolean Algebra:

- Annulment Law
- Idempotent Law
- Complement Law
- Double Negation Law

Q9. Explain the procedure: Break the line and change the sign.
Q10. Mr. Rehman is confused between Shareware and Open-Source software. Mention at least two points of differences to help him understand the same.

Q11. Explain the following Memory management techniques with respect to an operating system:
a) Partitioned Allocation
b) Segmented Allocation
Q. 12 Write programs in Python to do the following:
$2 \times 5=10$
a) To accept three distinct digits and prints all possible combinations from the digits
b) The program takes in the number of terms and finds the sum of series: $1+x^{\wedge} 2 / 2+x^{\wedge} 3 / 3+\ldots$ $x^{\wedge} n / n$.
c) to calculate the length of a string without using library functions.
d) to count the frequency of words appearing in a string using a dictionary
e) Find the shipping cost if the amount of the packet is less than or equal to 50 is $\$ 50$ or less than or equal to100 is $\$ 90$ or less than or equal to 150 is $\$ 125$ otherwise $\$ 200$ for above amount. Secondly if the country is Australia added shipping charges will be $\$ 200$ else $\$ 100$ for others

Q13. Write SQL query to create a table 'Bank_Customer' with the following structure:

| Field | Type | Constraint |
| :--- | :--- | :--- |
| Acc_no | Integer | Primary Key |
| Cust_Name | Varchar (20) | Not Null |
| Cust_Add | Varchar (20) |  |
| Cust-City | Varchar (20) |  |

Q14. Convert the following as directed:
a) $\quad(110011001)_{2}=()_{8}$
b) $\quad(3527)_{8}=()_{16}$

Q15. Define cyber troll and Digital footprints

