HALF YEARLY EXAMINATION : 2023-24

Class - XI (CBSE)

Subject - Computer Science (083)

Time : 3 hrs. M.M.: 70

General Instructions :

- *Please check this question paper contains 35 questions.*
- *The paper is divided into 4 Sections - A, B, C, D and E.*
- *Section A, consists of 18 questions (1 to 18). Each question carries 1 mark.*
- *Section B, consists of 7 questions (19 to 25). Each question carries 2 marks.*
- *Section C, consists of 5 questions (26 to 30). Each question carries 3 marks.*
- *Section D, consists of 3 questions (31 to 33). Each question carries 5 marks.*
- *Section E, consists of 2 questions (34 to 35). Each question carries 4 marks.*
- *All programming questions are to be answered using Python Language only.*

SECTION - A

Q.1- Which of the following is not an output device?

a. Dot Matrix Printer b. VDU

c. Plotter d. Mouse

Q.2- The SIM card is used to ____ .

a. connect with the base station b. convert signals into digital form

c. process an app d. connect with battery

Q.3- Which of the following supervises the activities of a computer system?

a. Operating system b. Supervisor

c. Instructor d. Reviewer

Q.4- The software responsible to shift a program from the secondary storage device to the main memory is :

a. Compiler b. Assembler c. Linker d. Loader

Q.5- The value of 2^0 is ____ .

Q.6- MSB stands for ____ .

Q.7- The binary equivalent of a hexadecimal digit 12(C) is represented by ____ .

a. 1010 b. 1011 c. 1101 d. 1100

Q.8- Which of the following is the Boolean expression of an OR gate?

a. A.B b. A + B c. A'. B' d. A'B + AB'

Q.9- Which of the following gates will always result in the output high (1) for odd number of high (1) signals in the input bit pattern?

a. NOR gate b. NANDgate c. AND gate d. XOR gate

Q.10- Identify the law used for given relation : A + B = B + A

a. Associative law b. Distributive law

c. Commutative law d. Idempotent law

Q.11- Which is the default Python command prompt?

a. <<< b. << c. >>>> d. >>>

Q.12- If a = 5, b = 3.5 then what will be the return data type for (a + b)?

a. int b. float c. int or float d. None of these

Q.13- Which of the following is a relational operator in Python?

a. = b. // c. == d. None of these

Q.14- The ____ data type allows only True/False values.

a. Bool b. boolean c. float d. None of these

Q.15- What will be the output of the following code: a = 2 + 2/2

a. 2 b. 3 c. 4 d. 1

Contd.....2-

Q.16 What will be the return value for round(24.5)?

a. 24.0 b. 24 c. 25 d. 25.0

Q.17 and Q.18 both questions are Assertion and Reason based. Pick an appropriate statement from the options given below:

a. Both A and R are true and R is the correct explanation of A.
b. Both A and R are true and R is not the correct explanation of A.
c. A is true but R is False.
d. A is False but R is True.
e. Both A and R are false

Q.17- ***Assertion :*** In Python the input( ) function will always accept the values entered from the Keyboard as an integer.

Reason : To accept a float value or a string value you need to specify the data type along with the input( ) function otherwise it will return an error.

Q.18- ***Assertion :*** Python language provides three logical operators. They are and, or and not.

Reason : These operators yield True or False depending upon the outcome of different conditions. For example logical and operator is used to combine two or more conditional expressions such that it results in True if all conditions are True.

SECTION - B

Q.19- Predict the output :

```
if(a <= 100) :
    c = a * 2
if(a <= 200):
    c = a * 4
if(a >= 600):
    c = a * 10
```

a. When a = 199
b. When a = 650

Q.20- Predict the output :

```
m, n, p = 3, 5, 4
if(m == n and n != p):
    print(m * n)
    print(n % p)
if(m != n and n == p):
    print(m + n)
    print(m - n)
```

Q.21- Find out the errors and rewrite the following snippets:-

```
a = 15
b = 32
if(a <= b)
    print(a)
else:
    PRINT(a + b)
if(a >= b):
    print(a * a)
else:
    print((a + b)*(a - b))
```


Contd.....3-

Q.22- Distinguish between Bug and Debug.

Q.23- Write the Python expressions for the following :

a. $a^2 + bc + c^3$

b. $2(lb + bh + lh)$

Q.24- Define Utility Software.

Q.25- Write a Python code to input temperature in Celsius and convert it into Fahrenheit.

SECTION - C

Q.26- Write a Python code to enter three 3 integers numbers a, b and c. Further enter the value of a control variable n(1 or 2). Display the sum or products of the number a, b and c for the given value of n as 1 or 2 respectively. In case the value of n is entered any other number then an error message "Invalid Choice" must be displayed.

Q.27- Explain different types of error in Python.

Q.28- Draw a flowchart to input a number and print its multiplication table.

Q.29- What is 'Type Casting'? Explain it with an example.

Q.30- Draw logic circuit diagram for the following expression :

A' . C + A' . B + A . B' . C' + B . C

SECTION - D

Q.31- Define universal gate.

Q.32- Explain the use of following functions with suitable code :

a. input( )

b. pow( )

Q.33- Write a python code to input year and check whether it's a leap year or not.

SECTION - E

Q.34- Do as directed:-

a. $(1306)_8$ to $(\ )_{10}$

b. $(DBC)_{16}$ to $(\ )_8$

c. $(4507)_{10}$ to $(\ )_2$

d. $(11011011)_2$ to $(\ )_{16}$

Q.35- What are control statements? Write a Python code to input a number and check whether it is Even or Odd.

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