BRAINWARE UNIVERSITY

Programme– Bachelor of Computer Applications

Course Name – Problem Solving using Computer

Course Code – BCSE010602

(Semester – 1)

Time allotted:3 Hours   **Full Marks : 70**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group –A

(Multiple Choice Type Question)   10 x 1 = 10

1.   *Choose the correct alternative from the following*

(i)   Find the correct output form the following code :-

barasat=[1,2,3,4]

len(barasat)

    a. 4
            b. 6

    c. 3
            d. None of these

(ii) Find the correct output:-

bca=(1,2)

bca[0] +=1

    a. Type Error
            b. Syntax error

    c. -2
            d. None of these

(iii)   Find the correct output.

```
d = lambda p: p * 2
t = lambda p: p * 3
x = 2
x = d(x)
x = t(x)
x = d(x)
print(x)
```

    a.   36   b.   24

    c.   48   d.   None of these

(iv)   RAM stands for:-

    a.   Read Only Memory   b.   Random Access Memory

    c.   Random Arithmetic Memory   d.   None of these

(v)   Which component of computer is considered as the brain of a computer?

    a.   Cache   b.   CPU

    c.   RAM   d.   None of these.

(vi)   Which of the following has the highest precedence in Python?

+,-,*,/,**, <,>

    a.   **   b.   /

    c.   +   d.   none of these

(vii)   Which of the following cannot be a variable?

    a.   __var__   b.   __var__

    c.   foo_1   d.   foo_1

(viii)   What is the output ?

str=”brainware”

str[:5]

    a.   brain   b.   ware

    e.   Syntax error   c.   None of these

(ix)   What is the return type of a function id in Python?

        a.   int.   b.   float

        e.   bool.   c.   char

(x)   What error occurs when the following is executed? Kolkata=Durgapur

        a.   Value Error   b.   NameError

        c.   Type Error   d.   None of these

Group – B

(Short Answer Type Questions)   3 x 5=15

Answer any *three* from the following

2.   (a) Explain the use of 'break' and 'continue' in python citing proper sample code.   3

    (b) What is lambda function and how is it used in Python?   2

3.   (a) Write a program in Python to print first n terms of Fibonacci series.   3

    (b) Draw a flow chart to add first 'n' natural numbers.   2

4.   (a) Differentiate between structural programming and object oriented programming.   3

    (b) State the differences between compilers and interpreters.   2

5.   (a) Write a program in Python to illustrate matrix multiplication using lists.   4

    (b) How a list in Python is different from a String?   1

6.   (a) What is the use of Lambda function in Python? Give example.   2

    (b) Draw a flowchart to find largest among 3 numbers.   3

Group – C

(Long Answer Type Questions)   3x 15 = 45

Answer any *three* from the following

7. (a) Discuss the iterative statements available in Python using sample code.   5

    (b) Write a program in python to reverse a string and then check if it is palindrome or not using 2 functions.   7

    (c) Discuss the differences between hardware and software.   3

8. (a) What is the use of function in Python programming? Explain.   5

    (b) Draw a flowchart to print the nos form 1 ton. (range given by the user)   5

    (c) What is the use of input () function? Give example.   2

    (d) Write a function to find the value of one number raised to another number (x^y).   3

9. (a) What are the properties of an algorithm?   4

    (b) Write a program to reverse a list using for loop.   4

    (c) Draw flowchart to calculate the simple interest using the formula I=(P*R*T)/100.   5

    (d) What is multiple inheritance? Explain using examples.   2

10. (a) Discuss the decision making statements available in Python using sample code.   5

    (b) Write a program in python to find the largest value between 3 numbers using nested if statements.   5

    (c) What are the various types of operators available in Python   5

11. (a) Explain the memory hierarchy of a computer.   6

    (b) "Everything in python is an object". Discuss.   3

    (c) Write short notes on:

        (i) Translator
        (ii) Programming Language
        (iii) Booting

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