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Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 43208 Roll No. [redacted]

B. Tech. Examination, 2024-25

(Even Semester)

PROGRAMMING CONCEPTS WITH PYTHON

Time : Three Hours] *[Maximum Marks : 60*

Note :– Attempt all questions.

SECTION–A

1. Attempt all parts of the following : 8×1=8

(a) What is a dictionary in Python? Give an example.

(b) Ekxplain the difference between 'append' and 'extend' in Python.

(c) What will be the output of the following code :

```
list = ['m', 'o', 'n', 'k', 'e', 'y']
print = ("@.join (list))
```

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(d) Name any two file access modes in Python.

(e) What is object-oriented programming in Python? Give an example.

(f) What do you mean by pow ( )?

(g) What will be the output of the following Python code :

```
def count 1 (s) :
    Vowels = "AEIOUaeiou"
    Count = 0
    for C in S :
        if c in vowels :
            count + = 1
    return count
print (count 1 ('1 love India'))
```

(h) What is IDE in Python? Name any two IDEs.

SECTION – B

2. Attempt any two parts of the following : 2×6=12

(a) Demonstrate five different built in functions used in the string. Write a program to check whether a string is a palindrome or not?

(b) What ar
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(d) Expl
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(b) What are logical and Boolean operators? List all logical and Boolean operators in Python and explain the use of these operations with suitable example.

(c) Illustrate through examples, how we can implement different type of inheritance in Python? Explain the static, instance and class method through example.

(d) Explain expression evaluation and float representation with example. Write a Python program for how to check if a given number is fibonacci number?

SECTION – C

Note :– Attempt all questions. Attempt any two parts from each questions. $8 \times 5 = 40$

3. (a) Discuss file I/O in Python. Explain exception handling with syntax.

(b) What do you mean by operator precedence and associativity? Explain.

(c) What is the significance of module in Python? What are the methods of importing a module? Explain with suitable example.

4. (a) Write short notes on the following :

(i) The programming cycle for Python

(ii) Type conversion

(b) Create a function min_max ( ) that takes n number as list argument and return the smallest and largest numbers.

(c) Explain for and while loops with a flow diagram, syntax and suitable example.

5. (a) Write Python program to swap two numbers without using intermediate variables.

(b) Explain the list comprehension with any suitable example. Write a program to accept the string which contain all vowels.

(c) Explain the continue, break and pass statement with a suitable example.

6. (a) Illustrate unpac
sequences with

(b) Write a program
entered number.

(c) Explain the co
Python. Write a
of numbers an
numbers in the

6. (a) Illustrate unpacking sequences and mutable sequences with example.

(b) Write a program to calculate the reverse of any entered number.

(c) Explain the concept of Lambda function in Python. Write a lambda function that takes a list of numbers and returns the sum of all the numbers in the list.

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