U.S.N.

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

August 2023 Semester End Make-Up Examinations

Programme: B.E.   Semester: I
Branch: Common to all Branches   Duration: 3 hrs.
Course Code: 22CS1ESPYP   Max Marks: 100
Course: Introduction to Python Programming   Date: 17.08.2023

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
              2. Missing data, if any, may be suitably assumed.

UNIT - I

1 a) What is a variable? Discuss the rules of declaring a variable in python.   4

   b) With the help of conditional statement, write a python code to check whether   4
       the number entered from the terminal is even or odd.

   c) Analyze the python code given below and predict the output.   6
       num = 0
       while num <= 4:
        print('Inside the loop')
        num = num + 1
       else:print ('It has come out')

   d) Write a python program to check whether the number from the terminal is   6
       positive, zero, unity or negative.

UNIT - II

2 a) Define String. How can you access individual characters in a string? Explain   4
       the same with the help of an example.

   b) Demonstrate with Python code how to convert the given string to lower case   4
       and upper case. Consider the following example:
       my_string= "This is Bengaluru, the garden city and IT capital of India".

   c) Write a program to find the summation, subtraction, multiplication of all the   6
       items in the list given below.
       my_list = [8, 9, 12, 16]

   d) Write a code that takes two equal-sized lists separately, and replaces the   6
       elements of each list, and prints them.

UNIT - III

3   a)   What is tuple in python and how do you create it? Give an example   **4**

     b)   Write a program to check whether an element exists within a tuple. User   **8** should be able input the tuple and the element to check from the terminal.

     c)   Create a dictionary called grading_scale and maps the grades of the student,   **8** such that the marks are on a scale of 0-100, and that the grades are on the S,A,B,C,D,E,F scale with 50 as the passing marks. The program should be able to take the student name and marks scored as input from the terminal.

OR

4   a)   Discuss the steps involved to declare and call a function in python. Explain the   **4** same through an example.

     b)   Write a function that takes the list containing odd and even integers and create   **8** a separate list for even and odd integers.

     c)   Write a function to check if given number entered from the terminal is power   **8** of 2 or not.

UNIT - IV

5   a)   What is multiple inheritance in Object oriented programming? Explain the   **6** same with the help of an example.

     b)   Write a code to create a class 'Circle' that should accept the radius as input and   **6** calculates the area, perimeter and display the results.

     c)   Develop a Python program to create a class Player with member variables   **8** name and matches_played. Derive a sub class Batsman from Player. Batsman has a member variable runs_scored. Create a Batsman object. Calculate and display the average runs scored by the Batsman

OR

6   a)   How are exceptions handled in python? Discuss any three types of exceptions   **6** with example.

     b)   Write a python program to find the square root of a given number and raise an   **6** exception if the number is found to be negative.

     c)   Write a python program that accepts two numbers from the user and performs   **8** their division. It should raise an exception for division by zero error, Value error and finally block if the both the values are zero.

UNIT - V

7 a) Discuss the importance of regular expression in python. What are   8
        metacharacters and how are they used to define a regular expression pattern?
        Illustrate any two meta characters used to evaluate regular expression with
        examples.

   b) Using regular expressions write a python code to accept a string and extract   6
        the days, months and year from it. (Hint: date format DD/MM/YYYY)

   c) Write a python code to read the file and split the lines into words. The code   6
        should be able to raise an exception if the file doesn't exist.

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