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180853/170853

5th Sem / Comp
Subject:- Computer Programming Using Python

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory
(10x1=10)

- Q.1 What does the expression '3>2 and 5<8' evaluate to?
a) True b) False
c) Error d) None
- Q.2 What is the purpose of a "docstring" in Python?
a) To specify the documentation of a function or module
b) To create a new instance of a class
c) To declare a variable with dynamic typing
d) To indicate a comment in the code
- Q.3 Python is a _____
a) A software
b) A high-level programming language
c) A debugging tool
d) A programming tool
- Q.4 Which of the following is not valid python data type?
a) Integar b) String
c) Dictionary d) Loop
- Q.5 What will be the output of the following code snippet?
my_list=[1, 2, 3, 4, 5]
print(my_list[2:4])
a) [2, 3] b) [3, 4]
c) [2, 3, 4] d) [3]

- Q.6 What does the 'len()' function in Python do?
a) It returns the total number of elements in a list.
b) It returns the sum of all elements in a list.
c) It returns the largest element in a list.
d) It returns the smallest element in a list.
- Q.7 Which of the following statements is true about Python's 'if' statement?
a) It can only check for equality between two values
b) It can only be used to make decisions in a program
c) It can be used to perform different actions based on conditions.
d) It can only be used inside a loop.
- Q.8 What is the output of the following code snippet?
x=5
y=2
result=x ** y
print(result)
a) 7 b) 10
c) 25 d) 32
- Q.9 In Python, what is the purpose of the 'elif' statement?
a) It is used to end the execution of a program.
b) It is used to catch and handle exception.
c) It is used to specify an alternative condition to be tested if the 'if' condition is False.
d) It is used to define a loop.
- Q.10 Which of the following is a valid way to comment out a single line in Python?
a) // This is a comment
b) /* This is a comment */
c) # This is a comment
d) <!-- This is a comment -->

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SECTION-B

Note: Objective type questions. All questions are compulsory.
(10x1=10)

- Q.11 What is the purpose of a python dictionary?
- Q.12 What does the term "PEP 8" refers to in Python programming?
- Q.13 What is the purpose of "range()" function in Python?
- Q.14 What is the purpose of "import" statement in Python?
- Q.15 How do you define function in Python?
- Q.16 What is a variable in Python?
- Q.17 Which functions are used to open and read a file in Python?
- Q.18 What does "Append()" method do in Python.
- Q.19 Explain the role of the "return" statement in a function.
- Q.20 What is virtual environment in Python?

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Explain the concept of OOP in Python.
- Q.22 Write a Python function that takes a list of numbers as input and returns the sum of all even numbers in the list.
- Q.23 Describe the purpose and usage of list comprehensions in Python. Provide example.
- Q.24 Explain the concept of exception handling in Python.
- Q.25 What is the purpose of "lambda" function in Python? Provide an example.
- Q.26 Create a Python dictionary containing information about a book, including "title" and "author". Write code to add a new key-value pair.
- Q.27 Explain the difference between set and dictionary in Python? Provide example of each.

- Q.28 Define a function in Python that takes two arguments 'a' and 'b' and returns the sum of their square.
- Q.29 What is nested list? How to access the items of a nested list. Demonstrate with example.
- Q.30 Write the difference between for loop and while loop. Write their syntax and scenario where each type of loop is more suitable.
- Q.31 Explain the term mutable and immutable in the context of Python objects. Provide examples of mutable and immutable data types in python.
- Q.32 Describe the use of "With" statement in python and how it is used to manage resources like files.
- Q.33 Describe the purpose of the "map", "filter" and "reduce" functions in Python.
- Q.34 Write the purpose of "if", "elif" and "else" statement in Python. Provide example.
- Q.35 What is the garbage collector? How Python garbage collector works?

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Define classes and objects in Python. Demonstrate the use of _____ init _____() function for a class.
- Q.37 Explain the following built-in functions for file handling with their syntax.
open() file() seek() tell() read()
- Q.38 What is the use of "math" module in python? How to use math module in Python programming. Write any five methods from "math" module with their description.