Hall Ticket Number:

Code No. : 14128 (F)

VASAVI COLLEGE OF ENGINEERING *(Autonomous)*, HYDERABAD
B.E. (CBCS) IV-Semester Main Examinations, January-2021
Introduction to Scripting Languages
(Open Elective-II)

Time: 2 hours

Max. Marks: 60

Note: Answer any NINE questions from Part-A and any THREE from Part-B

Part-A (9 × 2 = 18 Marks)

Q. No.	Stem of the question	M	L	CO	PO
1.	Distinguish between the two modes of using the python interpreter.	2	1	1	1
2.	Write a python statement to read an email address and split it into domain name and id, also display the domain name and id in separate lines.	2	3	1	1

3.	Identify the illegal statement in the following block of code, and state the reason why:
	
	`import math`
	`i = 1`
	`while i <= 5:`
	`    n=input("Enter a number")`
	`    print(math.pow(n,2))`
	`    i += 1`
		2	2	2	2

4.	Is tuple mutable? Demonstrate the use of any two methods of tuple with an example.	2	1	2	1
5.	Define a python function **sumPro** which takes two numbers as arguments and returns their sum as well as product.	2	2	3	1
6.	Match the following statements with the in-built Exceptions that would be raised: i) '2' + 2 a) **ValueError** ii) int("ten") b) **TypeError**	2	2	3	2
7.	What is a module in python? Give an example.	2	1	4	1
8.	"An object of class A is made as the combination of objects of classes B and C", what is the relationship between the object of type class A and object of type class C?	2	2	4	2

9.	Given the contents of a text file **'myfile.txt'** as:
	`[10, 20, 30, 40]; "hello"; (15,16,17,18)`
	and a python file **'fileread.py'** with the code:
	`with open("myfile.txt","r") as file:`
	`    data=file.read()`
	`    val=list(data.split(';'))`
	What will be the **types** of val[0], val[1],val[2] ?
		2	3	5	2

10.	Name the module and the method used for serializing a python object to an external JSON file	2	1	5	1
11.	List any four applications of python.	2	1	1	1
12.	Differentiate between String and List.	2	2	2	1

Part-B (3 × 14 = 42 Marks)

13. a)	Illustrate with an example using command line arguments, the concept of Packing and Unpacking variables in python.	6	2	1	2
b)	Predict the output for each of the following statements:	8	3	1	2

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str = "Vasavi College of Engineering"
    i)    print("String : ", str[1:7:1])
    ii)   print("String : ", str[0:-1:2])
    iii)  print("String : ",str[-7:-1])
    iv)   print("String : ",str[-7:-2:2])
    v)    print("String : ",str[-2:-11:-2])
    vi)   print("String : ",str[::-1])
    vii)  print("String : ",str[:-1])
    viii) print("String : ",str[::])
```

14. a)	Illustrate the use of various iterative statements supported by python along with their syntax.	6	1	2	1
b)	Develop a python program which does the following tasks	8	3	2	3

    i) Creates a dictionary
    ii) Populates the dictionary with at least two key value pairs (assume that the keys are integers).
    iii) Performs any two valid operations (by calling methods) over the dictionary object.
    iv) Prints the contents of the dictionary.

15. a)	List the four different types of arguments supported by functions in python. Demonstrate the usage of each of them with appropriate examples.	6	2	3	1
b)	Write a function to accept an integer 'n' and return the factorial of n. Also, incorporate exception handling mechanism. If the user gives any other input apart from an integer as a value of n, the program must handle appropriate exception and print a message "enter only integer values".	8	3	3	3
16. a)	Distinguish between the Class and Instance attributes in python. Also, provide an example for each of them.	6	2	4	2
b)	A bank account can be classified into two categories i.e. Savings and Checking Account. Savings account has an interest rate associated with it and checking account has an overdraft limit associated with it.	8	3	4	3

An individual customer can have a savings account and a corporate customer can have a checking account.

Write a python script which captures the concept of above accounts and customers in terms of different classes and relationships between them.

			M	L	CO	PO
17.	a)	Demonstrate with examples the different modes available for opening files in python	7	2	5	2
	b)	With the help of an example demonstrate the process of pickling and unpickling of python objects.	7	2	5	2
18.	a)	Demonstrate the working of string comparison operators with examples for each.	6	2	1	2
	b)	Write a program that generates a set of prime numbers and another set of odd numbers. Demonstrate the result of union, intersection, difference, and symmetric difference operations on these sets.	8	3	2	3
19.		Answer any *two* of the following:				
	a)	List and briefly explain briefly about the different type conversion functions in python.	7	1	3	1
	b)	Create a python module named grades, the module must contain a function named calGrade which takes a list of marks as its argument, computes the grade based on the following logic and returns the grade if the average is <= 40 the grade is F if the average is > 40 and <= 60 grade is C if the average is > 60 and <= 70 grade is B if the average is > 70 the grade is A	7	3	4	3
	c)	Explain the process of String Encoding and decoding in python with the help of an example.	7	2	5	1

M: Marks;   L: Bloom's Taxonomy Level;   CO: Course Outcome;   PO: Programme Outcome

S. No.	Criteria for questions	Percentage
1	Fundamental knowledge (Level-1 & 2)	60
2	Knowledge on application and analysis (Level-3 & 4)	40
3	*Critical thinking and ability to design (Level-5 & 6) (*wherever applicable)	-

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