

**GURU NANAK INSTITUTE OF TECHNOLOGY**

An Autonomous Institute under MAKAUT

2020-2021

**PYTHON PROGRAMMING****MCAE502B****TIME ALLOTTED:3Hours****FULL MARKS:70***The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable***GROUP – A****(Multiple Choice Type Questions)**Answer any *ten* from the following, choosing the correct alternative of each question: **10×1=10**

		<b>Marks</b>	<b>CO No.</b>
1(i)	What will be the output of the following Python code snippet if x=1? x<<2 a)8 b)1 c)2 d) 4	1	CO1
1(ii)	The _____ symbol along with the name of the decorator function can be placed above the definition of the function to be decorated works as an alternate way for decorating a function. a) # b) \$ c) @ d) &	1	CO2
1(iii)	What will be the output of the following Python code? x = "abcdef" while i in x: print(i, end=" ") a)abcdef b)abcdef c)iiiiii d) error	1	CO1
1(iv)	What will be the output of the following Python code? x = 'abcd' for i in x: print(i) x.upper() a)aBCD b)abcd c)ABCD d) error	1	CO1

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|---------|---|---|-----|
| 1(v)    | What arithmetic operators cannot be used with strings?<br>a) +<br>b) *<br>c) –<br>d) All of the mentioned   | 1 | CO2 |
| 1(vi)   | To concatenate two strings to a third what statements are applicable?<br>a) s3 = s1 . s2<br>b) s3 = s1.add(s2)<br>c) s3 = s1.__add__(s2)<br>d) s3 = s1 * s2                             | 1 | CO3 |
| 1(vii)  | The format function, when applied on a string returns _____<br>a) Error<br>b) int<br>c) bool<br>d) str  | 1 | CO3 |
| 1(viii) | Suppose list1 is [2, 33, 222, 14, 25], What is list1[:-1]?<br>a) [2, 33, 222, 14]<br>b) Error<br>c) 25<br>d) [25, 14, 222, 33, 2]   | 1 | CO1 |
| 1(ix)   | Suppose d = {"john":40, "peter":45}, to delete the entry for "john" what command do we use?<br>a) d.delete("john":40)<br>b) d.delete("john")<br>c) del d["john"]<br>d) del d("john":40) | 1 | CO2 |
| 1(x)    | Identify the package manager for Python packages, or modules.<br>a) Matplotlib<br>b) PIP<br>c) It.show()<br>d) python package   | 1 | CO2 |
| 1.(xi)  | _____ exceptions are raised as a result of an error in opening a particular file.<br>a) ValueError<br>b) TypeError<br>c) ImportError<br>d) IOError                                      | 1 | CO2 |
| 1.(xii) | When is the finally block executed?<br>a) when there is no exception<br>b) when there is an exception<br>c) only if some condition that has been specified is satisfied<br>d) always    | 1 | CO3 |

**GROUP – B**  
**(Short Answer Type Questions)**  
 (Answer any *three* of the following)

		<b>3 x 5 = 15</b>	
		<b>Marks</b>	<b>CO No.</b>
2. a)	What is a Lambda function?	2	CO2
2. b)	Explain filter(),map() and reduce() functions in brief.	3	CO2
3.	Using loops print the following pattern: Ppppp Pppp Ppp Pp P	5	CO1
4.a)	What are the advantages that NumPy arrays offer over (nested)python lists?	3	CO3
4.b)	What is the key difference between lists and tuples?	2	CO2
5.	How to inverse a matrix using NumPy. Discuss with program.	5	CO3
6.	Write a program to compute calculator using Tkinter GUI.	5	CO3

**GROUP – C**  
**(Long Answer Type Questions)**  
 (Answer any *three* of the following)

		<b>3 x 15 = 45</b>	
		<b>Marks</b>	<b>CO No.</b>
7. a)	Write a note on the usage of the module tkinter.	5	CO3
7. b)	Explain any six tkinter widgets.	5	CO3
7. c)	Write a tkinter program to design a gui window that has a label of background color green and foreground color white	5	CO3
8.a)	Demonstrate the process of grouping widgets with the frame type.	8	CO3
8.b)	write a python program to read a word and print the number of letters, vowels and percentage of vowels in the word using dictionary.	7	CO2
9.a)	write a python program for the following file operations Press1: open file in read mode Press 2: open file in write mode Press 3: current position of file pointer Press 4: Reposition the pointer at the beginning	6	CO3
9.b)	What is pickling and how is it different from unpickling?	4	CO2
9.c)	How to merge one dictionary with the other?	3	CO1
9.d)	What is slicing in python?	2	CO2
10.a)	Write a python program to display all the prime numbers within a range of 50.	6	CO2
10.b)	Write a python program print First 10 natural numbers using while loop.	6	CO2
10.c)	Describe if-elif-else with proper example.	3	CO2
11.a)	How to make http request in python? Demonstrate with program.	8	CO3
11.b)	How to compute the cross product of two given vectors using NumPy?	7	CO3