Printed Page:-	Subject Code:- ACSE0202
	Roll. No:
NOIDA INSTITUTE OF ENGINEERING	AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Af	filiated to AKTU, Lucknow)
В.Т	ech
SEM: II - THEORY EXA	MINATION (2021 - 2022)
Subject: Problem Solving	g using Advanced Python
Time: 3 Hours	Max. Marks: 100
General Instructions:	
1. The question paper comprises three sections, A, B, at	nd C. You are expected to answer them as directed.
2. Section A - Question No- 1 is 1 marker & Question N	No- 2 carries 2 mark each.
3. Section B - Question No-3 is based on external choice	e carrying 6 marks each.
4. Section C - Questions No. 4-8 are within unit choice	questions carrying 10 marks each.
5. No sheet should be left blank. Any written material a	fter a blank sheet will not be evaluated/checked.
SECTION	A 20
1. Attempt all parts:-	
1-a. Which of the following statement/s is False's	? (CO1) 1
(a) Object is the instance of a class	
(b) Instance variable belongs to class	S
(c) Class variable belong to class	
(d) All are true	
1-b. To access the document string of a class, cla	ass attribute used is: (CO1)
(a)doc	
(b)name	
(c)dict	
(d)main	
1-c. What type of inheritance is illustrated in the	following Python code? (CO2)
classA():	
pass	
class B(A):	
pass	
class C(B):	

```
pass
                   (a) Multi-level inheritance
                   (b) Multiple inheritance
                   (c) Hierarchical inheritance
                   (d) Single-level inheritance
           What will be the output of the following Python code?
1-d.
                                                                           (CO2)
                                                                                                                 1
           class A:
                def one(self):
                   return self.two()
                def two(self):
                   return'A'
           class B(A):
                def two(self):
                   return'B'
           obj2=B()
           print(obj2.two())
                   (a) A
                   (b) An exception is thrown
                   (c) A B
                   (d) B
           What will be the output of the following Python code? (CO3)
1-e.
                                                                                                                 1
           1s=[-2, 4]
           m=map(lambda x:x*2, ls)
           print(m)
                   (a) [-4, 16]
                   (b) Address of m
                   (c) Error
                   (d) [-4, 8]
1-f.
           What is the output of the code shown below? (CO3)
                                                                                                                 1
           g = (i \text{ for } i \text{ in } range(5))
           type(g)
                   (a) class <'loop'>
                   (b) class < 'iteration'>
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	(c) class < range >				
	(d) class <'generator'>				
1-g.	To delete any widget from the screen which function we use ? (CO4)		1		
	(a) stop()				
	(b) delete()				
	(c) destroy()				
	(d) break()				
1-h.	Which of the following is clickable in GUI programming? (CO4)		1		
	(a) Button				
	(b) Checkbutton				
	(c) Lable				
	(d) 1 and 2				
1-i.	Correct syntax of the reshape() function in Numpy array python is? (CO5)		1		
	(a) array.reshape(shape)				
	(b) reshape(shape,array)				
	(c) reshape(array,shape)				
	(d) reshape(shape)				
1-j.	Which of the following is/are ways to create data frames? (CO5)		1		
	(a) create by using list of dictionary				
	(b) create by using dictionary with list				
	(c) create by using series				
	(d) All of the mentioned				
2. Atten	npt all parts:-				
2.a.	Discuss the use of isinstance() function with example. (CO1)		2		
2.b.	What is the use ofinit () method in Python? (CO2)		2		
2.c.	Find all of the numbers from 1–1000 that are divisible by 8 using list comprehension. (CO3)				
2.d.	How to set the min and max height or width of a Frame in Tkinter? (CO4)		2		
2.e.	What is meaning of axis=0 and axis=1? (CO5)		2		
	SECTION B	30			
3. Answ	ver any <u>five</u> of the following:-				

3-a.	What are the object oriented programming concept ? Explain (CO1)	6					
3-b.	Write short note on dunder methods. (CO1)						
3-c.	What is instance method? Give syntax of instance method with and without parameters. (CO2)						
3-d.	What is function polymorphism in python? Explain it with example. (CO2)	6					
3.e.	What is iterator ?Also write a program that generate an iterator to print odd numbers from 1-20. (CO3)						
3.f.	Write a Python GUI program to create a button Remove and a label Hello using tkinter module. Remove button should delete the label on click. (CO4)	6					
3.g.	Create a dictionary with keys: Name, Department, City. Convert this dictionary into DataFrame. Rename column City as District ? (CO5)	6					
	SECTION C 50						
4. Answer	r any one of the following:-						
4-a.	Explainlt() ,eq(),ne(),ge() andgt() by implementing a class. (CO1)	10					
4-b.	Create a Python class named Rectangle constructed by a length and width. Also. Define a method called area which will compute the area of a rectangle. (CO1)	10					
5. Answer	r any one of the following:-						
5-a.	What is Inheritance? How code reusability is achieved using inheritance? Explain with the help of a program. (CO2)	10					
5-b.	What is use of abstract class? Explain rules of abstract class. (CO2)	10					
6. Answer	r any one of the following:-						
6-a.	What do decorators do in Python? Where are Python decorators used? How do you decorate a class in Python? (CO3)	10					
6-b.	Describe the role of generators with its advantages. Write a program to illustrate the use of generator by creating a generator that reverses a string. (CO3)	10					
7. Answei	r any one of the following:-						
7-a.	Write a program to display a menu on the menu bar. Write a program to display a pop-up dialog box. (CO4)	10					
7-b.	Write a Python GUI program to create a Text widget using tkinter module. Insert a string at the beginning then insert a string into the current text. Delete the first and last character of the text. (CO4)	10					

8.	Answer	any	<u>one</u>	of t	the	follo	wing:-
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8-a. Explain any five sub-modules of scipy. (CO5)
8-b. Why should one use NumPy arrays instead of nested Python lists? (CO5)
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