KANPURINSTITUTEOFTECHNOLOGY

(An Autonomous Institute of AKTU, Lucknow)
A-1,UPSIDC Industrial Area, Rooma,Kanpur-208001 (U.P.)India

EVEN SEM SUMMATIVEEXAM ,AY: 2024-25	PROGRAM: B.Tech.	ROLLNO: 24650131001
SUBJECTCODE: CSI2010	BRANCH: CS, IT, AIML	SECTION:
SUBJECTNAME: BASICS OF PYTHON PROGRAMMING	SEMESTER :II	FACULTYNAME :

Time: 2hrs **Total Marks: 30**

Note: Attempt all Sections.

Attempt all questions for CO1

Attempt all questions	02 x 01=02	BL
1a.	How to use f-strings in Python Explain by program.	K2
1b.	List Four key features of Python that make it easy to learn for beginners.	K1

Attempt any one question	01x 04=04	BL
2a.	Write a program that checks whether two variables refer to the same object.	K2
	OR	
	Explain Membership operator with Example.	
2b.	Explain bitwise operator with Example.	K3
	OR	
	Declare a variable age and assign it the value 25. Then declare another variable name and assign it the string "Alice". Write the Python code to do this and print both values on the same line.	

Attempt all questions for CO2

Attempt all questions	02 x 01=02	BL
3a.	Write Python code that handles a ZeroDivisionError when dividing two numbers entered by the user.	K3
3b.	Explain the difference between a local variable and a global variable by program.	K2

Attempt any one question	01x 04=04	BL
4a.	How would you use a lambda function with filter() to get odd and even numbers from a list?	K3
	OR	
	How can write and read data with CSV File in python demonstrate by program.	
4b.	Write a Python program to append the string "New line" to an existing file notes.txt.	K2
	OR	
	Demonstrate the use of try-except-finally block in File handling by program.	

Attempt all questions for CO3

Attempt all questions	02 x 01=02	BL
5a.	What is the difference bw input.split() method and input () explain by program.	K2
5b.	WAP How can you input 50 elements in SET by User .	K3

Attempt any one question	01x 04=04	BL

6a.	Given a string "PythonProgramming", write code to:
	• Print the first 6 characters.
	• Print the string in reverse.
	• Print every second character
	• Print last 4 character
	
	OR
	
	J = {
	'person1': {'name': 'Kamal', 'age': 25},
	'person2': {'name': 'Ravi', 'age': 30}
	}
	
	WAP for Add new dictionary person3 in above where name is Rakesh and age is 28.
		K3

6b.	Given a dictionary of fruits and their quantities, use dictionary methods to: 1. Get a list of all keys. 2. Get a list of all values. 3. Check if 'apple' is a key in the dictionary. 4. Remove 'banana' from the dictionary. **OR** A = {1, 2, 3, 4, 5} B = {4, 5, 6, 7} Write a program to: (i)Find the union of A and B. (ii)Find the intersection of A and B. (iii)Find the difference between A and B. (iv)Check if A is a subset of B.	K3

Attempt all questions for CO4

Attempt all questions	02 x 01=02	BL
		K2
7a. Write a Python class called Person with attributes name and age. Add a method greet() that prints "Hello, my name is {name}."		
7b. Demonstrate inheritance by creating a class Person and a subclass Student that adds an attribute student_id.		K3

Attempt any one question	01x 04=04	BL
		K2
8a. Write a class BankAccount with a private attribute __balance. Add methods deposit() and withdraw(). **OR** Use Python's abc module to create an abstract class Appliance with an abstract method turn_on(). Create a subclass WashingMachine that implements turn_on().		
8b. Explain the difference between class methods, and static methods with examples in a single class. **OR** Create a base class Shape with a method area(). Create subclasses Rectangle and Circle that override area() with correct calculations. Demonstrate calling area() polymorphically.		K2

Attempt all questions for CO5

Attempt all questions	02 x 01=02	BL
		K6
9a. What is Re and RegEX in python .Explain any four function of re module.		
9b. Create a module that contains a function to convert Celsius to Fahrenheit. Import it and use it to convert 3 different values.		K6

Attempt any one question	01x 04=04	BL
		K6
10a. Design a GUI app with two entry fields to input numbers and a button that adds them and shows the result in a label. **OR** Make a Tkinter app with a listbox and a button. When the button is clicked, show the selected item of listbox.		
10b. Create a basic Flask app with route: / (home page) and display "Hello KIT Kanpur" Message and Explain working of program line by line. **OR** Create a package named calculator with two modules: basic.py for basic operations and advanced.py for power and square root functions. Use them in a main program and Explain interaction of modules and package.		K6