

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026****First Semester****Master of Computer Applications****PMCT2403 – PYTHON PROGRAMMING****Regulations - 2024****Duration: 3 Hrs.****Maximum: 100 Marks****PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

Q.No	Questions	BTL	CO	Marks
1.	What is comment statement? How do we use comment statement in python with example.	L1	1	2
2.	What will happen if a continue statement is used in a loop without any conditional check? Infer it.	L1	1	2
3.	Consider the List= ['a','b','c','d','e','f']. Find the following a)List[1:3] b)List[:4]	L1	2	2
4.	What is the use of __int__.py file?	L1	2	2
5.	Which method is used to read the contents of a file which is already created?	L1	3	2
6.	Explain what happens when an exception is not handled in Python.	L2	3	2
7.	Write a Python program to create a module for basic statistical operations “mean” using NumPy, and then import it in another program to process a dataset.	L2	4	2
8.	How does web2py differ from Django and Flask in terms of deployment and built-in features.	L1	4	2
9.	In a Banking Application, customer details like accountNumber and balance are declared as private inside the BankAccount class. They can only be accessed or updated using public methods like deposit() and withdraw(). Identify the OOP concept does this scenario represent and infer it.	L2	5	2
10.	Consider the statement. Statement 1: A bank wants to update the interest rate for all accounts at once. The Bank class has a method set_interest_rate(cls, rate) that updates the class variable interest_rate. Statement 2: The bank also has a method validate_account_number(acc_num) that checks if an account number has exactly 10 digits. This method does not access any class or instance variables. Which statements represent the class and static method and justify the reason.	L2	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11. a	Develop a Python program to calculate the following expressions for given values of x, y and z result1 = x + y * z result2 = (x + y) * z result3 = x ** y / z - y and explain how operator precedence affects the output for the above given results.	L3	1	16
Or				
b i	A shop gives a discount to the first 10 customers. Develop a program using a while loop to display “Discount Applied” for the first 10 customers and use break to stop after the 10th.	L3	1	8
ii	A class records attendance for students, but if an absent student is found, a warning is issued. Sample output for 5 student: Student 1: Marked Present Student 2: Warning: Student absent Student 3: Marked Present Student 4: Marked Present Student 5: Warning: Student absent Develop a python code based on the above sample output.	L3	1	8
12. a	A university database system stores student academic records using tuples. Student1=("S101", "Mahesh", ("Math", 85), ("Science", 90), ("English", 78)) student2 = ("S102", "Divya", ("Math", 92), ("Science", 88), ("English", 81)) student3 = ("S103", "Arun", ("Math", 76), ("Science", 84), ("English", 89)) The administrator wants to perform the following tuple operations: (i)Retrieve the name of student2. (ii)From student1 extract only the subject and marks. (iii)Merge the tuple student1 and student2 into single tuple “student detail”. (iv)From student3, extract only the last two subject details. (v) After graduation, delete the tuple student3. Develop a python code for the above tuple operation.	L6	2	16
Or				
b	Consider the student table	L6	2	16

Name	RollNo
Hari	15
Ram	22
Vishal	29
Krish	20
Sam	25

(i) Create a dictionary named "student" and store all the 5 student names and roll number listed in the above table student.

(ii) Print the roll number of the student whose name is Vishal.

(iii) Change the roll number of the student "Krish" from 20 to 21 in the created dictionary named student.

(iv) Add the student with name "Arun" and RollNo 13 and display the updated student dictionary. Ensure if the student RollNo already exists, it should not overwrite but display a message "Student already exists".

Develop a python code for the above dictionary operation.

13. a A stationery store maintains an inventory of products in a text file named "inventory.txt". Each line in the file contains the following information: L3 3 16

Product Id	Product name	Quantity
101	Pen	50
102	Notebook	30
103	Pencil	100

Develop a python program to read and write the inventory .txt file and perform the following operation

- Display all products with their quantities.
- Allow the user to add a new product along with the existing ones.
- Update the Quantity of the existing product (product 101) to a new value.

Or

- b Develop a python code to illustrate the various exceptions handling with suitable example. L3 3 16

14. a You are given a CSV file sales_data.csv containing monthly sales data for three products over five months: L4 4 16

Month	Product_A	Product_B	Product_C
January	120	150	100
February	130	160	90
March	125	155	95
April	140	170	110
May	135	165	105

Develop a python code to calculate the total sales for each month and create a bar chart to visualize the total sales per month and highlight highest total sales month.

Or

b	A company wants to develop a web application to manage its product inventory. Each product has a name, category, price, and stock quantity. The company also wants to track monthly sales for each product and generate reports showing the best-selling products. Analyze the requirements and design a Django project structure, including the necessary apps, models, and relationships.	L4	4	16
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15.	a	Illustrate the various type of inheritance with suitable example.	L2	5	16
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Or

b	i	An online banking system has multiple account types: SavingsAccount, CurrentAccount, and FixedDeposit. 1. Each account type has a method calculate_interest() that computes interest differently. 2. The system stores sensitive customer data like account_number, balance, and password as private attributes, which can only be accessed through public methods like deposit(), withdraw(), and get_balance(). 3. The bank wants a single function display_interest(account) to display interest for any type of account without knowing its exact type.	L2	5	8
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Compare and contrast encapsulation and polymorphism in the banking system scenario. Highlight the key differences in their implementation, purpose, and advantages in system design.

ii	Illustrate how private attributes and public methods are used to protect customer data in the banking system.	L2	5	8
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