

MES's Abasaheb Garware College (Autonomous)  
Department of Computer Science  
**S.Y.B.C.A. (Science) Sem-IV Practical Examination**  
**Subject - CA-254-MJP: Computer Science Laboratory**  
**Time: 3hrs** **Max. Marks: 25M**

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Q. 1 Design a HTML form to accept two numbers and arithmetic operation to be performed from the user. Write a PHP script to perform arithmetic operations on the operands given by the user and display the result of the operation. **[10M]**

Q. 2 a. Write a program to display the following pattern. Accept number of lines as input and print pattern accordingly using loop.

```
2   4   6   8
2   4   6
2   4
2
```

**[07M]**

b. Write a python program to check if a string is a Palindrome or not. **[05M]**

Q. 3 Viva **[03M]**

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Q. 1 Write a PHP script to sort the associative array as follows:

Sample array("Anita"=>"31","Omkar"=>"41","Ramesh"=>"39","Divya"=>"40")

- |                                      |                                    |
|--------------------------------------|------------------------------------|
| a) ascending order sort by value     | b) ascending order sort by Key     |
| c) descending order sorting by Value | d) descending order sorting by Key |
- [10M]**

Q. 2 a. Write a Python program to count the character frequency in a string.

Sample String: google.com Expected Result : {'o': 3, 'g': 2, '.': 1, 'e': 1, 'l': 1, 'm': 1, 'c': 1}

**[07M]**

Q.2 b. Write a Python program to find the length, maximum and the minimum value of a set. **[05M]**

Q. 3 Viva **[03M]**

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Q. 1 2 Design a HTML form to accept height and breadth of a rectangle from the user. Write a PHP script to calculate the area and perimeter of a rectangle for the given input. **[10M]**

Q. 2 a. Write a Python program to combine two dictionary adding values for common keys. Sample Dictionary:

d1={'a':100,'b':200,'c':300}

d2={'a':300,'b':200,'d':400}

Sample output: d3={'a': 400, 'b': 400, 'd': 400, 'c': 300} **[07M]**

Q. 2 b. Write an anonymous function to calculate area of square. **[05 M]**

Q. 3 Viva **[03M]**

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Q. 1 Write a PHP script for the following: Design a form to accept the details of 5 different items, such as item code, item name, units sold, rate. Display the bill in the tabular format. Use only 4 text boxes. **[10M]**

Q. 2 a. Create a function showEmployee() in such a way that it should accept employee name, and it's salary and display both, and if the salary is missing in function call it should show it as 9000. **[07M]**

Q. 2 b. Write a Python Program to Calculate the Average of Numbers in a Given List. **[05M]**

Q. 3 Viva **[03M]**

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- Q. 1 Design a HTML form to accept two numbers from the user and write php script to display multiplication table of first number till the value of second number in a tabular format. **[10M]**
- Q. 2 a. Write a program which prints Fibonacci series of a number. **[07M]**
- Q. 2 b. Write a Python function to multiply all the numbers in a list. **[05M]**
- Q. 3 Viva **[03M]**

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- Q. 1 Design a HTML form to accept a number from the user and write a php script to check whether accepted number is prime or not. **[10M]**
- Q. 2 a. Write a Python program to count the occurrences of each word in a given sentence. **[08M]**
- Q. 2 b. Write a Python program to unpack a tuple in several variables. **[04M]**
- Q. 3 Viva **[03M]**

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Q. 1 Design a form having a text box and a drop-down list containing any 3 separators (e.g. #, |, %, @, ! or comma) accept a strings from the user and also a separator. Write a php script for the following:

- a) Split the string into separate words using the given separator.
- b) Replace all the occurrences of separator in the given string with some other separator.

**[12M]**

Q. 2 Write a Python to create a base class Person with the attributes name and age, and a method introduce(). Create a derived class Student that inherits from Person, adding an additional attribute grade. Override the introduce() method in Student to include the grade in the introduction message.

**[10M]**

Q. 3 Viva

**[03M]**

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Q. 1 Design a HTML form to accept a number from the user and write a php script for the following:

- a) Find factorial of a given number using recursive function.
- b) Display the sum of digits of a given number.

**[12M]**

Q. 2 Write a Python to Create a class BankAccount with Private attributes balance and account\_holder. Getter and setter methods for balance and account\_holder. A method deposit() to add money to the account and a withdraw() method to subtract money from the account. Ensure that the balance does not go below zero.

**[10M]**

Q. 3 Viva

**[03M]**

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Q. 1 Design a form to accept two strings from the user. Write a php script for the following:

- a) Find whether the small string appears at the start of the large string.
- b) Find the position of the small string in the big string.
- c) Compare both the string for first n characters, also the comparison should not be case sensitive. **[12M]**

Q. 2 Write a Python to create a base class Person with a method greet() that returns a general greeting message. Create a derived class Employee that overrides the greet() method to include the employee's role in the greeting message. **[10M]**

Q. 3 Viva **[03M]**

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Q. 1 Design a HTML form to accept two numbers from the user as a range. Write a php script to display prime numbers between the given range. **[10M]**

Q. 2 Create a base class Shape with an abstract method area(). Create two derived classes: Circle (with radius) and Rectangle (with length and width). Each derived class should override the area() method to calculate the area for their respective shapes. **[12M]**

Q. 3 Viva **[03M]**

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Q. 1 Write a program in php to perform the following operations on associative arrays:  
Sample array("Avani"=>"31","Advika"=>"41","Anvi"=>"39","Om"=>"40")

- a) Split an array into chunks
- b) Filter the odd elements from an array. **[12M]**

Q. 2 Write a Python program to find the sum of all prime numbers till 'n'. **[10M]**

Q. 3 Viva **[03M]**

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Q. 1 Design a HTML form accept number from the user. Write a php script to check given number is Armstrong or not. **[10M]**

Q. 2 a. Write a Python program to sort a dictionary by key. **[07M]**

Q. 2 b. Write a NumPy program to test whether all elements in an array evaluate to True. **[05M]**

Q. 3 Viva **[05M]**

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Q. 1 Write a program in php for the following:

- a) Accept the array from the user & inserts a new item in an array at given position
- b) search an element in an array **[10M]**

Q. 2 a. Write a Python program to sum all the items in a dictionary. **[07M]**  
Sample Dictionary: my\_dict={'data1':100,'data2':-54,'data3':247} , Expected Result: 293

Q. 2 b. Write a Python function to check whether a number is in a given range. **[05M]**

Q. 3 Viva **[03M]**

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Q. 1 Design a HTML form to accept two numbers from the user as a range. Write a php script to display prime numbers between the given range. **[10M]**

Q. 2 a. Write a NumPy program to create a 3x3 matrix with values ranging from 2 to 10. **[08M]**

Q. 2 b. Write a Python program to convert a tuple to a string. **[04M]**

Q. 3 Viva **[03M]**

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Q. 1 Design a HTML form to accept a string. Write a php script for the following:

a) Display the reverse of the string.

b) Pad the given string with from left and right both the sides. **[10M]**

Q. 2 a. Write a Python program to remove a key from a dictionary. **[07M]**

Q. 2 b. Write an anonymous function to calculate area of square. **[05M]**

Q. 3 Viva **[03M]**

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Q. 1 Write a php program to perform the following queue related operations:

a) Insert an element in queue

b) Delete an element from queue

c) Display the contents of queue **[12M]**

Q. 2 Write a Python program to print list after removing ODD numbers. **[10M]**

Q. 3 Viva **[03M]**



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Q. 1 Write a php program to perform the following stack related operations:

- a) Insert an element in stack
- b) Delete an element from stack
- c) Display the contents of stack **[12M]**

Q. 2 Write a Python program to perform different set operations. **[10M]**

Q. 3 Viva **[03M]**

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Q. 1 Design a form to accept a string. Write a php script for the following:

- a) Find the length of given string without using built in functions.
- b) Convert the given string to lowercase and then to Title case.
- c) Pad the given string with "\*" from left and right both the sides. **[10M]**

Q. 2 a. Write a NumPy program to convert a list of numeric values into a one-dimensional NumPy array **[07M]**

Q. 2 b. Write a Python program to filter even numbers from list of integers using Lambda **[05M]**

Q. 4 Viva **[03M]**

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- Q. 1 Design a HTML form to accept a number. Write a php function that checks whether if a year is leap year or not. **[10M]**
- Q. 2 a. Write a recursive function to find factorial of a given number. **[08M]**
- Q. 2 b. Write a Python function to check whether a number is in a given range. **[04M]**
- Q. 3 Viva **[03M]**

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- Q. 1 Design a HTML form to accept a number 'n' from the user and write a PHP scrip to find the addition and average of first 'n' numbers. **[10M]**
- Q. 2 a. Write a program which finds the sum of digits of a number. **[07M]**
- Q. 2 b. Write a Python program to calculate the Length of a String without using a Library function. **[05M]**
- Q. 3 Viva **[03M]**

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- Q. 1 Design a HTML form to accept a number Write a php function to generate Fibonacci series for the given number [10M]
- Q. 2 Write a Python program to check number is palindrome or not. [10M]
- Q. 3 Viva [03M]

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- Q. 1 Design the HTML form to accept a string. Write a php script for the following:
- a) Count the total number of vowels from the string.
  - b) Remove the leading whitespaces from the given string.
  - c) Find the reverse of given string. [12M]
- Q.2 Write a Python program to calculate the number of Digits and Letters in a string. [10M]
- Q. 3 Viva [03M]

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Q.1 Write a program in php to perform file operations. Accept filename from user.

- a) Display type of file and size of file.
- b) Display last access time of file. **[12 M]**

Q. 2 Write a Python program to remove the characters which have odd index values of a given string. **[10 M]**

Q. 3 Viva **[03 M]**

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Q. 1 Write a program in php to read a flat file "product.dat", which contains details of 5 different product suchas Product code, Product Name, Unit sold, and Rate. Display the Bill in tabular format. **[12M]**

Q. 2 a. Write a recursive function to calculate the sum of numbers from 0 to n. **[05M]**

Q. 2 b. Write a lambda function to find maximum number among 2 numbers. **[05M]**

Q. 3 Viva **[03 M]**