**Shikshan Maharshi Dr. D.Y. Patil Shikshan Sanstha’s**

**Dr. D.Y. Patil Centre for Management and Research, Chikhali,Pune.**

**Python Programming**

**Course Code: IT-21L**

**Practical LAB Programs LIST**

**Index**

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| **Sr. No.** | **Programs** | **Submission Date & Sign of Faculty** |
| 1 | Write a Python Program ,   1. To check if a number is Positive, Negative or Zero 2. To find Factorial of a Number 3. To Print the Fibonacci sequence 4. To Print Multiplication Table 5. [Python Program to Check Armstrong Number](https://www.javatpoint.com/python-check-armstrong-number) (A number is called Armstrong number if it is equal to the sum of the cubes of its own digits. For example: 153 is an Armstrong number since 153 = 1\*1\*1 + 5\*5\*5 + 3\*3\*3.)   Use appropriate conditional constructs, looping constructs and function. |  |
| 2 | WAP to convert temperature of 10 cities into Fahrenheit using lambda and map function. |  |
| 3 | WAP to accept a list of numbers as an input. If input is greater than 3 then perform addition of even numbers. Make a use of map, reduce and lambda function. |  |
| 4 | WAP to create your own arithmetic module and perform arithmetic operations. |  |
| 5 | WAP to create Operator package and perform logical operations. |  |
| 6 | Write a generator function to perform sum of n even numbers. |  |
| 7 | WAP to implement multiple decorators or chaining decorators. |  |
| 8 | WAP to create abstract class and display the details. (Any suitable example) |  |
| 9 | WAP to implement encapsulation. (Any suitable example) |  |
| 10 | Python Program to Calculate the employee salary using Inheritance as Class A will have detail of the employee such as employee ID, Name, Designation, and Department. Class B will have Gross salary such as Basic Salary, DA, HRA,TA and Gross Salary. Class C will have Deduction Salary as Income tax and any other deduction. Class D will have Net Salary. |  |
| 11 | WAP to Implement function overloading and operator overloading. |  |
| 12 | WAP to develop simple web scraping application to scrap data from websites. Make a use of required regular expressions. |  |
| 13 | WAP to validate   1. E-mail id 2. Password 3. Mobile number 4. URL   Using regular expressions. |  |
| 14 | WAP to check the age as even or odd by rasing.   1. Built-in exception and 2. User defined Exception |  |
| 15 | Write a Python program to illustrate multithreading. |  |
| 16 | Write a program to,   1. Create a new file. 2. Append data 3. Read data   Use exception handling to handle IO Error |  |
| 17 | Create Hospital and doctor tables with following fields as- (use MongoDB database)  Hospital Table :-> (Hospital\_Id INT UNSIGNED NOT NULL,  Hospital\_Name TEXT NOT NULL, Bed\_Count INT,  PRIMARY KEY (Hospital\_Id)  Doctor table:-> (Doctor\_Id INT UNSIGNED NOT NULL,  Doctor\_Name TEXT NOT NULL, Hospital\_Id INT NOT NULL, Joining\_Date DATE NOT NULL, Speciality TEXT NULL,  Salary INT NULL, Experience INT NULL,  PRIMARY KEY (Doctor\_Id)  Executes following   1. Insert 10 records in both Hospital and doctor tables. Display all the records. 2. Fetch Hospital and Doctor Information using hospital Id and doctor Id. (Take a input from user for hospital id and doctor id and display the result accordingly.) 3. Fetch all doctors whose salary higher than the input amount and specialty is the same as the input specialty. 4. Update doctor experience in years. |  |
| 18 | Create a single dimensional array using numpy and executes following commands.   1. Type of array, dimension of array, shape of array, size of array. 2. Reshape array 3. flattern and transpose 4. Zeros 5. Ones 6. Linspace 7. random and 8. sum of array. |  |
| 19 | Create array A and array B using arange() and perform following operations.  Addition , Subtraction, Multiplication |  |
| 20 | WAP to Find out space and time utilized by list and array to solve same problem. |  |
| 21 | WAP to create a pandas series student and store details like student\_id, name, age, mobile and marks. |  |
| 22 | WAP to create a data frame student with fields stude\_id, name, class, marks in sub1,sub2,sub3,sub4,sub5, practical, project.   1. Convert data frame into CSV file 2. Load created CSV file 3. Calculate total and add new column using lambda function. 4. Calculate percentage 5. Fetch the students having percentage greater than equal to 70 |  |
| 23 | Read titanic.csv file and perform following,   1. Drop unwanted column 2. Encode Male as 1 and Female as 2 3. Find out the ratio of Male and Female 4. Treat missing values 5. Treat outliers if any 6. Rename columns 7. Plot a graph of Gender |  |
| 24 | Create lists holding weight and height respectively of 20 person and visualize the relationship using matplotlib and seaborn libraries. |  |
| 25 | Perform Covid-19 data Analysis. (Take current data of world) |  |

**Important Instructions:**

1. **Code should be hand written.**
2. **You can attach output screens.**