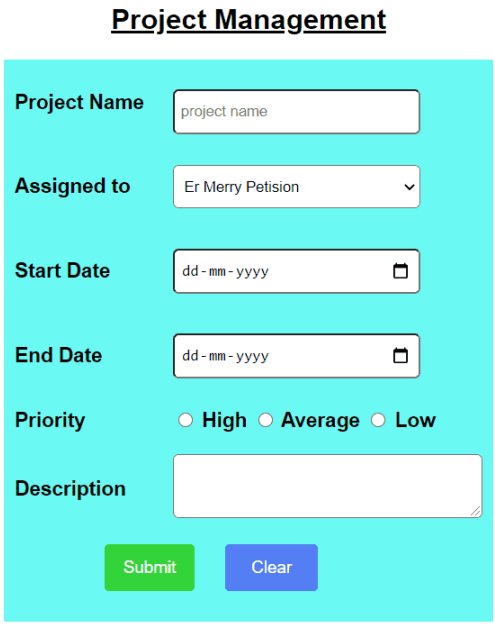
Savitribai Phule Pune University
T.Y.B.Sc.(Computer Science) Semester-V
(2019 Pattern)
Practical Examination in Web Technologies and Fundamentals of Data Science
Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Write the HTML code for generating the form as shown below. Apply the internal CSS to following form to change the font size of the heading to 6pt and change the color to red and also change the background color to yellow. [15]



Q.2 A) Write a Python program to create a Pie plot to get the frequency of the three species of the Iris data (Use iris.csv) [10]

B) Write a Python program to view basic statistical details of the data.(Use wineequality-red.csv) [5]

Viva [5]

Savitribai Phule Pune University
T.Y.B.Sc.(Computer Science) Semester-V
(2019 Pattern)
Practical Examination in Web Technologies and Fundamentals of Data Science
Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Create HTML5 page with following specifications [15]

i) Title should be about your City.
ii) Color the background by Pink color.
iii) Place your city name at the top of page in large text and in blue color.
iv) Add names of the landmarks in your city, each in different color, style and font
v) Add any image at the bottom. (Use inline CSS to format the web page)

Q.2 A) Write a Python program for Handling Missing Value. Replace missing value of salary, age column with mean of that column.(Use Data.csv file). [5]

Q.2 B) Write a Python program to generate a line plot of name Vs salary [5]

Q.2 C) Download the heights and weights dataset and load the dataset froma given csv file into a dataframe. Print the first, last 10 rows and random 20 rows also display shape of the dataset. [5]

Viva [5]

Slip-2

Savitribai Phule Pune University
T.Y.B.Sc.(Computer Science) Semester-V
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Practical Examination in Web Technologies and Fundamentals of Data Science
Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Write a program using html with following CSS specifications- [15]

i. The background colour of the company name should be in green.
ii. The text colour of the company name should be red.
iii. The heading should be large –with font "comic sans ms"
iv. The description of the company should be displayed in blue color in a paragraph.

Q.2 A)Write a Python program to create box plots to see how each feature i.e. Sepal Length, Sepal Width, Petal Length, Petal Width are distributed across the three species. (Use iris.csv dataset) [10]

Q.2 B) Write a Python program to view basic statistical details of the data (Use Heights and Weights Dataset) [5]

Viva [5]

Slip-3

Savitribai Phule Pune University
T.Y.B.Sc.(Computer Science) Semester-V
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Practical Examination in Web Technologies and Fundamentals of Data Science
Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1)Write a HTML code, which generate the following output [15]

List of Books			
Item No	Item Name	Price	
		Rs.	Paise
1	Programming in Python	500	50
2	Programming in Java	345	00

Q.2 A) Generate a random array of 50 integers and display them using a line chart, scatter plot, histogram and box plot. Apply appropriate color, labels and styling options. [10]

Q.2 B) Write a Python program to print the shape, number of rows-columns, data types, feature names and the description of the data(Use User_Data.csv) [5]

Viva [5]

Slip-4

Savitribai Phule Pune University

T.Y.B.Sc.(Computer Science) Semester-V
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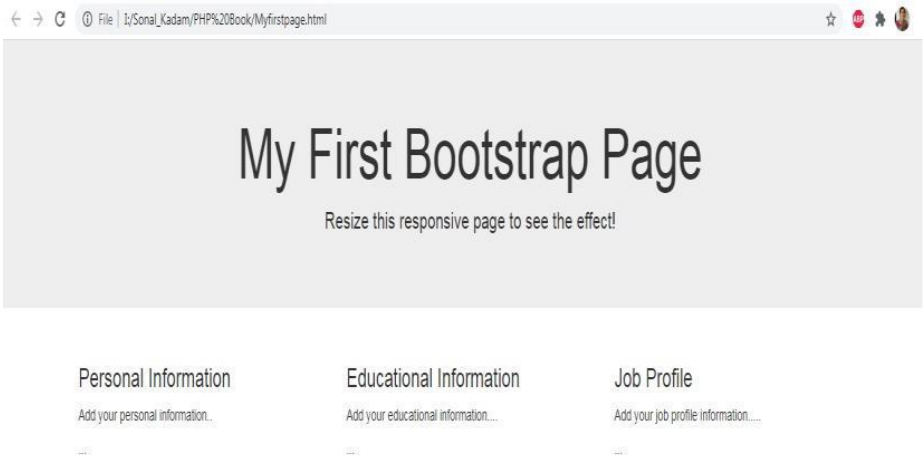
Practical Examination in Web Technologies and Fundamentals of Data Science
Course Code : CS-358 Type : DESC-II
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Create following Bootstrap Web Layout Design and change Title, add your personal information, educational information, job profile. [15]



Q.2 A) Generate a random array of 50 integers and display them using a line chart, scatter plot, histogram and box plot. Apply appropriate color, labels and styling options. [10]

Q.2 B) Write a Python program to print the shape, number of rows-columns, data types, feature names and the description of the data(Use User_Data.csv) [5]

Viva [5]

Slip-5

Savitribai Phule Pune University

T.Y.B.Sc.(Computer Science) Semester-V
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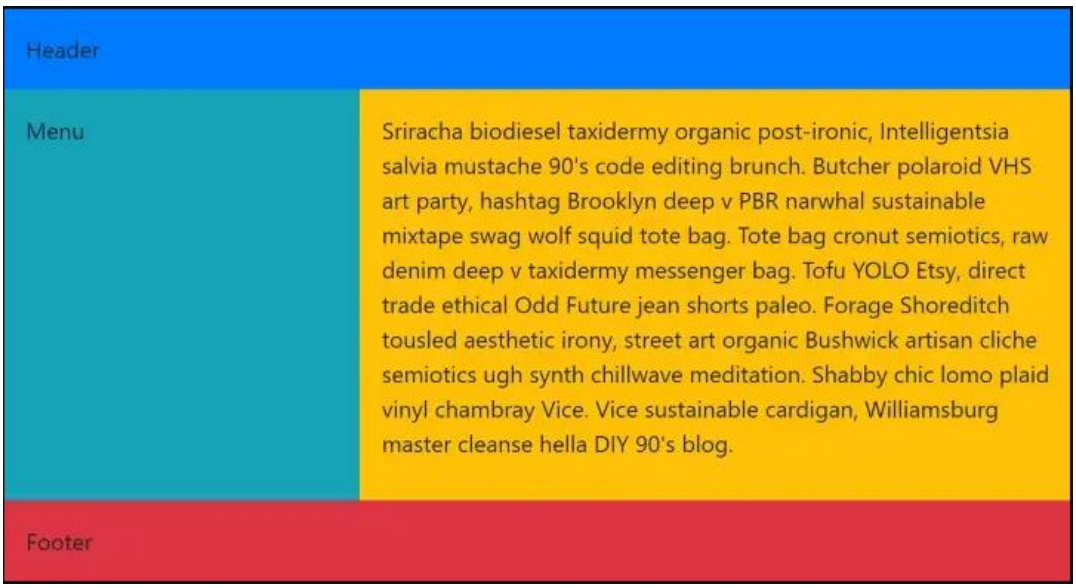
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Create following Bootstrap Web Layout Design and set Header background color Blue, add your College name, set Menu section background color green create menu About Us, In content section add college information, background color yellow, Footer section background color red, add address of college. [15]



Q.2 A) Write a Python program for Handling Missing Value. Replace missing value of salary, age column with mean of that column.(Use Data.csv file). [5]

Q.2 B) Write a Python program to generate a line plot of name Vs salary [5]

Q.2 C) Download the heights and weights dataset and load the dataset froma given csv file into a dataframe. Print the first, last 10 rows and random 20 rows also display shape of the dataset. [5]

Viva [5]

T.Y.B.Sc.(Computer Science) Semester-V
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Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Design HTML 5 Page Using CSS Which Displays the following Navigation Bar [15]

Q.2) Write a Python program to perform the following tasks :

a. Apply OneHot coding on Country column.

b. Apply Label encoding on purchased column

(Data.csv have two categorical column the country column, and the purchased column). [15]

Viva [5]

Slip-7

Savitribai Phule Pune University

T.Y.B.Sc.(Computer Science) Semester-V
(2019 Pattern)
Practical Examination in Web Technologies and Fundamentals of Data Science
Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Design an HTML 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. [15]

Q.2) Write a program in python to perform following task : [15]
Standardizing Data (transform them into a standard Gaussian distribution with a mean of 0 and a standard deviation of 1) (Use winequality-red.csv)

Viva [5]

Slip-8

Savitribai Phule Pune University

T.Y.B.Sc.(Computer Science) Semester-V
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Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Write a PHP script for the following: 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.
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.
c. Find the last word in the given string. [15]

Q.2 A) Generate a random array of 50 integers and display them using a line chart, scatter plot. Apply appropriate color, labels and styling options. [5]

Q.2 B) Create two lists, one representing subject names and the other representing marks obtained in those subjects. Display the data in a pie chart. [5]

Q.2 C) Write a program in python to perform following task (Use winequality-red.csv) [5]
Import Dataset and do the followings:
a) Describing the dataset
b) Shape of the dataset
c) Display first 3 rows from dataset

Viva [5]

Slip-9

Savitribai Phule Pune University

T.Y.B.Sc.(Computer Science) Semester-V
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Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Write a script to accept two integers(Use html form having 2 textboxes).
Write a PHP script to,
a. Find mod of the two numbers.
b. Find the power of first number raised to the second.
c. Find the sum of first n numbers (considering first number as n)
d. Find the factorial of second number.
(Write separate function for each of the above operations.) [15]

Q.2 A) Write a python program to Display column-wise mean, and median for SOCR-HeightWeight dataset. [10]

Q.2 B) Write a python program to compute sum of Manhattan distance between all pairs of points. [5]

Viva [5]

Slip-10

Savitribai Phule Pune University

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Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Create a button with different style (Secondary, Primary, Success, Error, Info, Warning, Danger) using BootStrap. [15]

Q.2 A) Write a Python program to create a Pie plot to get the frequency of the three species of the Iris data (Use iris.csv) [10]

B) Write a Python program to view basic statistical details of the data.(Use wineequality-red.csv) [5]

Viva [5]

Slip-11

Savitribai Phule Pune University

T.Y.B.Sc.(Computer Science) Semester-V
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Practical Examination in Web Technologies and Fundamentals of Data Science
Course Code : CS-358 Type : DESC-II
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Write a PHP script for the following: Design a form to accept two numbers from the user. Give options to choose the arithmetic operation (use radio buttons). Display the result on the next form. (Use the concept of function and default parameters. Use 'include' construct or require statement) [15]

Q.2 A) Generate a random array of 50 integers and display them using a line chart, scatter plot, histogram and box plot. Apply appropriate color, labels and styling options. [10]

Q.2 B) Write a Python program to create data frame containing column name, salary, department add 10 rows with some missing and duplicate values to the data frame. Also drop all null and empty values. Print the modified data frame. [5]

Viva [5]

Slip-12

T.Y.B.Sc.(Computer Science) Semester-V
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Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Write a PHP script to create a chess board using CSS on table cells. [15]

Q.2 A) Write a Python program to create a graph to find relationship between the petal length and petal width.(Use iris.csv dataset) [10]

Q.2 B) Write a Python program to find the maximum and minimum value of a given flattened array. [5]

Viva [5]

Slip-13

Savitribai Phule Pune University

T.Y.B.Sc.(Computer Science) Semester-V
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Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Create a container add row inside it and add 3 columns inside row using BootStrap. [15]

Q. 2 A) Write a Python NumPy program to compute the weighted average along the specified axis of a given flattened array. [10]

Q. 2 B) Write a Python program to view basic statistical details of the data (Use advertising.csv) [5]

Viva [5]

Slip-14

Savitribai Phule Pune University

T.Y.B.Sc.(Computer Science) Semester-V
(2019 Pattern)
Practical Examination in Web Technologies and Fundamentals of Data Science
Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Design a form to accept string from the user and perform the following operations

a. To select first 5 words from the string
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.
d. Remove the leading whitespaces from the given string.
e. Find the reverse of given string. [15]

Q.2 A) Generate a random array of 50 integers and display them using a line chart, scatter plot, histogram and box plot. Apply appropriate color, labels and styling options. [10]

Q.2 B) Create two lists, one representing subject names and the other representing marks obtained in those subjects. Display the data in a pie chart. [5]

Viva [5]

Slip-15

Savitribai Phule Pune University

T.Y.B.Sc.(Computer Science) Semester-V
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Course Code : CS-358 Type : DESC-II
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Write a PHP script for the following: Design a form to accept the marks of 5 different subjects of a student, having serial number, subject name & marks out of 100. Display the result in the tabular format which will have total, percentage and grade. Use only 3 text boxes.(Use array of form parameters) [15]

Q.2 A) Write a python program to create two lists, one representing subject names and the other representing marks obtained in those subjects. Display the data in a pie chart and bar chart. [10]

Q.2 B) Write a python program to create a data frame for students' information such as name, graduation percentage and age. Display average age of students, average of graduation percentage. [5]

Viva [5]

Slip-16

Savitribai Phule Pune University

T.Y.B.Sc.(Computer Science) Semester-V
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Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Write a PHP script to sort the following associative array :
array("Sagar"=>"31","Vicky"=>"41","Leena"=>"39","Ramesh"=>"40") in
a) ascending order sort by Value
b) ascending order sort by Key
c) descending order sorting by Value
d) descending order sorting by Key [15]

Q.2 A) Write a Python program to draw scatter plots to compare two features of the iris dataset [10]

Q.2 B) Write a Python program to create a data frame containing columns name, age , salary, department . Add 10 rows to the data frame. View the data frame. [5]

Viva [5]

Slip-17

Savitribai Phule Pune University

T.Y.B.Sc.(Computer Science) Semester-V
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Practical Examination in Web Technologies and Fundamentals of Data Science
Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Write a menu driven program to perform the following operations on an associative array

a. Reverse the order of each element's key-value pair.
b. Traverse the element in an array in random order.
c. Convert the array elements into individual variables.
d. Display the elements of an array along with key. [15]

Q.2 A) Write a Python program to create box plots to see how each feature i.e. Sepal Length, Sepal Width, Petal Length, Petal Width are distributed across the three species. (Use iris.csv dataset) [10]

Q.2 B) Use the heights and weights dataset and load the dataset from a given csv file into a dataframe. Print the first, last 5 rows and random 10 row [5]

Viva [5]

Slip-18

Savitribai Phule Pune University

T.Y.B.Sc.(Computer Science) Semester-V
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Practical Examination in Web Technologies and Fundamentals of Data Science
Course Code : CS-358 Type : DESC-II
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1)Write a PHP script to accept 2 strings from the user, the first string should be a sentence and second can be a word.

a. Delete a small part from first string after accepting position and number of characters to remove.

b. Insert the given small string in the given big string at specified position without removing any characters from the big string.

c. Replace some characters/ words from given big string with the given small string at specified position. [15]

Q.2) Write a Python program [15]

1. To create a dataframe containing columns name, age and percentage. Add 10 rows to the dataframe. View the dataframe.
2. To print the shape, number of rows-columns, data types, feature names and the description of the data
3. To Add 5 rows with duplicate values and missing values. Add a column 'remarks' with empty values. Display the data.

Viva [5]

Slip-19

Savitribai Phule Pune University

T.Y.B.Sc.(Computer Science) Semester-V
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Practical Examination in Web Technologies and Fundamentals of Data Science
Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Write a menu driven program to perform the following operations on associative arrays:
a) Split an array into chunks
b) Sort the array by values without changing the keys.
c) Filter the even elements from an array. [15]

Q.2 A) Generate a random array of 50 integers and display them using a line chart, scatter plot, histogram and box plot. Apply appropriate color, labels and styling options. [10]

Q.2 B) Add two outliers to the above data and display the box plot. [5]

Viva [5]

Slip-20

Savitribai Phule Pune University

T.Y.B.Sc.(Computer Science) Semester-V
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Practical Examination in Web Technologies and Fundamentals of Data Science
Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Create an array of 15 high temperatures, approximating the weather for a spring month, then find the average high temp, the five warmest high temps Display the result on the browser. [15]

Q.2 A) Import dataset “iris.csv”. Write a Python program to create a Bar plot to get the frequency of the three species of the Iris data. [10]

Q.2 B)Write a Python program to create a histogram of the three species of the Iris data. [5]

Viva [5]

Slip-21

Savitribai Phule Pune University

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Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Write a menu driven 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 [15]

Q.2) Dataset Name: winequality-red.csv [15]
Write a program in python to perform following tasks
a. Rescaling: Normalised the dataset using MinMaxScaler class
b. Standardizing Data (transform them into a standard Gaussian distribution with a mean of 0 and a standard deviation of 1)
c. Normalizing Data (rescale each observation to a length of 1 (a unit norm). For this, use the Normalizer class.)

Viva [5]

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Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Write a menu driven 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 [15]

Q.2) Dataset Name: winequality-red.csv [15]
Write a program in python to perform following task
a. Rescaling: Normalised the dataset using MinMaxScaler class
b. Standardizing Data (transform them into a standard Gaussian distribution with a mean of 0 and a standard deviation of 1)
c. Binarizing Data using we use the Binarizer class (Using a binary threshold, it is possible to transform our data by marking the values above it 1 and those equal to or below it, 0)

Viva [5]

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Duration : 3 hours Max. marks : 35

Q.1) Write a PHP program to read two file names from user and append content of first file into second file. [15]

Q.2 A) Import dataset "iris.csv". Write a Python program to create a Bar plot to get the frequency of the three species of the Iris data. [10]

Q.2 B) Write a Python program to create a histogram of the three species of the Iris data. [5]

Viva [5]

Slip-24

Savitribai Phule Pune University
T.Y.B.Sc.(Computer Science) Semester-V
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Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Write a menu driven program to perform various file operations. Accept filename from user. [15]
a) Display type of file.
b) Display last modification time of file
c) Display the size of file
d) Delete the file

Q.2 A) Generate a random array of 50 integers and display them using a line chart, scatter plot, histogram and box plot. Apply appropriate color, labels and styling options. [10]

Q.2 B) Create two lists, one representing subject names and the other representing marks obtained in those subjects. Display the data in a pie chart. [5]

Viva [5]

Slip-25

Savitribai Phule Pune University
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Duration : 3 hours Max. marks : 35

Q.1)Consider the following entities and their relationship. [15]
Doctor (doc_no, dname, address ,city ,area)
Hospital (hosp_no, hname, hcity)
Doctor-Hospital related with many-one relationship.
Create a RDB in 3NF for above and solve the following.
Using above database write a script in PHP to print the Doctor visiting to the Hospital in tabular format. Accept Hospital name from user.

Q.2 A) Generate a random array of 50 integers and display them using a line chart, scatter plot, histogram and box plot. Apply appropriate color, labels and styling options. [10]

2.Create two lists, one representing subject names and the other representing marks obtained in those subjects. Display the data in bar chart. [5]

Viva [5]

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Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Write a PHP program to read two file names from user and copy the content of first file into second file. [15]

Q.2) Create a dataset data.csv having two categorical column (the country column, and the purchased column). [15]
a. Apply OneHot coding on Country column.
b. Apply Label encoding on purchased column

Viva [5]

Slip-27

Savitribai Phule Pune University
T.Y.B.Sc.(Computer Science) Semester-V
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Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Write a program to read a flat file "student.dat", calculate the percentage and display the data from file in tabular format.(Student.dat file contains rollno, name, OS, WT, DS, Python, Java, CN) [15]

Q.2) Write a Python program [15]

1. To create a dataframe containing columns name, age and percentage. Add 10 rows to the dataframe. View the dataframe.
2. To print the shape, number of rows-columns, data types, feature names and the description of the data.
3. To view basic statistical details of the data.
4. To Add 5 rows with duplicate values and missing values. Add a column 'remarks' with empty values. Display the data.

Viva [5]

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Q.1) Consider the following entities and their relationships [15]
Event (eno , title , date)
Committee (cno , name, head , from_time ,to_time , status)
Event and Committee have many to many relationship. Write a php script to accept title of event and modify status committee as working.

Q.2) Create a dataset data.csv having two categorical column (the country column, and the purchased column). [15]
1. Apply OneHot coding on Country column.
2. Apply Label encoding on purchased column

Viva [5]

Slip-29

Savitribai Phule Pune University
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Course Code : CS-358 **Type : DESC-II**
Course Title : Practical course based on CS 353 and CS 354

Duration : 3 hours Max. marks : 35

Q.1) Consider the following entities and their relationships [15]
Student (Stud_id,name,class)
Competition (c_no,c_name,type)
Relationship between student and competition is many-many with attribute rank and year. Create a RDB in 3NF for the above and solve the following. Using above database write a script in PHP to accept a competition name from user and display information of student who has secured 1st rank in that competition.

Q.2) Write python program to [15]

a. Generate a random array of 50 integers and display them using a line chart, scatter plot, histogram and box plot. Apply appropriate color, labels and styling options.

b. Create two lists, one representing subject names and the other representing marks obtained in those subjects. Display the data in bar chart.

Viva [5]