Savitribai Phule Pune University

S.Y. B.C.A (Science)

Semester – III

C.B.C.S 2019 Pattern

BCA234

(Data Structure Laboratory)

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to search an element by using binary search method. **(10)**

Q.2) Write a C program to implement static stack of integer with operations: **(20)**

- Push ()
- Pop ()
- Empty ()

OR

Q2. Write a C program to accept the vertices and edges for a graph and store it as an adjacency list and display it. **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to sort n elements using Bubble Sort. **(10)**

Q.2) Write a C menu driven program to implement doubly linked list of integers with following Operations: **(20)**

- Create
- Delete
- Insert
- Display

OR

Q.2) Write a C program to create binary search tree (BST) of integer numbers and display its in-order traversal.
(20)

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to sort n numbers using insertion sort integers. **(10)**

Q.2) Write a C program to find intersection of two linked list. **(20)**

OR

Q.2) Write a C program to accept an infix expression and convert it into postfix form. **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to search an element using linear search method. **(10)**

Q.2) Write a C program to accept the vertices and edges for a graph and store it as an adjacency list and display the same. **(20)**

OR

Q.2) Write a C menu driven program to implement singly circular linked list of integers with Following operations: **(20)**

- Create
- Insert
- Delete
- Display

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to create and display singly linked list. **(10)**

Q.2) Write a C program to create BST and display its preorder , in-order traversal. **(20)**

OR

Q.2) Write a c program to evaluate postfix expression using stack. **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to reverse a string using Stack . **(10)**

Q.2) Write a C program to read the data from the file "employee.txt" which contains empno and empname and sort the data on names alphabetically (use strcmp) using Bubble Sort.
. **(20)**

OR

Q.2) Write a C program to implement binary search tree of integers with following operations:

1. Add a function to insert a new element in the tree
2. Add a function to count non-leaf nodes.
3. Add a function to count leaf nodes.

. **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to find the length of singly linked list **(10)**

Q.2) Write a C program to implement binary search tree of integers with following operations:

1. Inserting a new element
2. Searching an element
3. Creating a mirror of the tree.

(20)

OR

Q.2) Write a C program to implement dynamic implementation of stack of integers with followingoperation:

a) push()
b) pop ()
c) isempty()
d) isfull()
e) display ()

. **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to create and display doubly linked list. **(10)**

Q.2) Write a C program to concatenate two singly linked list. **(20)**

OR

Q.2) Write a C program to read the data from the file "person.txt" which contains person no and person age and sort the data on age in ascending order using insertion Sort.
. **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to reverse a singly linked list. **(10)**

Q.2) Write a menu driven program using C for implementation of singly linked list. Menu should have the following options – **(20)**

1. Create.
2. Display.
3. Search specific element in list and display appropriate Message.
4. Delete specific element

OR

Q.2) Write a menu driven C program for dynamic implementation of Queue for integers.**(20)**

-Insert

-Delete

-Display

.

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

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S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to read a directed graph as adjacency matrix and display in-degree and out-degree of each node. **(10)**

Q.2) Write a menu driven program using C for implementation of doubly circular linked list. Menu should have the following options –

1. Create.

2. Display.

3. Delete a node at given position. **(20)**

OR

Q.2) Write a 'C' program to create BST and display tree level wise. **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to sort n elements using QuickSort. **(10)**

Q.2) Write a C program to implement dynamic stack of integer with operations: **(20)**

- Push ()
- Pop ()
- IsEmpty ()
- Isfull(0

OR

Q2. Create Binary Search Tree of integers and display its in-order and post order. **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to accept two polynomials and display the addition of polynomials.**(10)**

Q.2) Write a C program to implement static implementation of Circular Queue with operations:

- Insert ()
- Delete ()
- Empty () **(20)**

OR

Q2. Write a C program to traverse graph by using DFS. **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a program to sort n elements using Merge Sort. **(10)**

Q.2) Write a C program to implement static implementation of Linear Queue with operations:

- Insert ()
- Delete ()
- Empty ()

(20)

OR

Q2. Write a C program to find union of two singly linked lists of integers. **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

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S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to search an element using binary search method using recursion. **(10)**

Q.2) Write a C program to create BST and implement following operations:

- Display in-order traversal
- To count leaf nodes
- To count total no of nodes

(20)

OR

Q2. Write a C program to traverse graph by using BFS. **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a C program to sort n numbers using merge sort. **(10)**

Q.2) Write a C program to implement Dynamic Implementation of Queue with following operations:

- Insert
- Delete
- Empty

(20)

OR

Q2. Write a C program to convert infix expression into Postfix. **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to sort an integer array using a recursive binary search method. **(10)**

Q.2) Write a C program to implement dynamic implementation of circularqueue with following operations:

- Insert
- Delete
- IsEmpty
- Isfull

(20)

OR

Q2. Write a C program to convert infix expression into Postfix. **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

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S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to sort an array of structure using bubblesort method. Consider an array of structure Employee with details: emp_id, Name, Address. Sort on emp_id and display the employee details. **(10)**

Q.2) Write a C program to check whether an expression has correct pairs of parentheses, using Stack. **(20)**

OR

Q2. Write a C program to create a binary search tree and display using in-order traversal. **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to display the city code of the corresponding city name using linear search method. The structure is:

```
struct city
        {
int city_code;
char name[30];
        }
```

(10)

Q.2) Write a C program to implement dynamic implementation of queue with following operations: **(20)**

Insert
Delete
Empty

OR

Q2. Write C program to construct a graph using adjacency matrix and display its adjacency list **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to create and display singly Linked List. **(10)**

Q.2) Write a C program to implement dynamic implementation of stack with following operations:

- Push
- Pop
- IsEmpty
- Isfull **(20)**

OR

Q2. Write a C program to display addition of two polynomials using singly linked list. **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 234: (Data Structure Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a C program to sort an array using insertion sort method.. **(10)**

Q.2) Write a C program to construct a binary search tree and traverse using pre-order traversal. **(20)**

OR

Q2. Write a C program to evaluate a postfix expression. **(20)**

Q.3) External Viva **(05)**

Q.4) Internal Evaluation **(15)**

Savitribai Phule Pune University

S.Y. B.C.A (Science)

Semester – III

C.B.C.S 2019 Pattern

BCA235

(Database Management Systems II Laboratory)

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Q.1) Create the following database in 3NF using PostgresSQL. [Total Marks: 10]
Consider the following Bank database which maintains information about its branches, customers and their loan applications.

Branch (Bid integer, brname varchar (30), brcity varchar (10))
Customer (Cno integer, cname varchar (20), caddr varchar (35), city varchar (15))
Loan_application (Lno integer, l_amt_required money, lamtapproved money, l_date date)

Relationship:

Branch, Customer, Loan_application are related with ternary relationship as follows:
Ternary (Bid, Cno, Lno)

Constraints: Primary key, l_amt_required should be greater than zero.

Create a View: **[10]**

1. To display names of customers for the 'Pimpri' branch.
2. To display names of customers who have taken loan from the branch in the same city theylive.

Q.2) Using above database solve following questions: **[Total Marks: 20]**

1. Write a trigger which will execute when you update customer number from customer table. Display message "You can't change existing customer number". **[10]**

2. Write a stored function to accept branch name as an input parameter and display loan information of that branch. **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Q.1) Create the following database in 3NF using PostgresSQL. **[Total Marks: 10]**

Consider the following Bank database which maintains information about its branches, customers and their loan applications.

Branch (Bid integer, brname varchar (30), brcity varchar (10))

Customer (Cno integer, cname varchar (20), caddr varchar (35), city varchar (15))

Loan_application (Lno integer, l_amt_required money, lamtapproved money, l_date date)

Relationship:

Branch, Customer, Loan_application are related with ternary relationship as follows:

Ternary (Bid, Cno, Lno)

Constraints: Primary key, l_amt_required should be greater than zero.

Create a View: **[10]**

1. To display customer details who have applied for a loan of 5, 00,000.
2. To display loan details from the 'Aundh' branch.

Q.2) Using above database solve following questions: [**Total Marks: 20]**

1. Write a trigger to validate the loan amount approved. It must be less than or equal to loan amount required. Display appropriate message. **[10]**

2. Write a stored function to count number of customers of particular branch. (Accept branch name as an input parameter). Display message for invalid branch name. **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

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S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Q1) Create the following database in 3NF using PostgresSQL. **[Total Marks: 10]**

Consider the following Bank database which maintains information about its branches, customers and their loan applications.

Branch (Bid integer, brname varchar (30), brcity varchar (10))

Customer (Cno integer, cname varchar (20), caddr varchar (35), city varchar (15))

Loan_application (Lno integer, l_amt_required money, lamtapproved money, l_date date)

Relationship:

Branch, Customer, Loan_application are related with ternary relationship as follows:

Ternary (Bid, Cno, Lno)

Constraints: Primary key, l_amt_required should be greater than zero.

Create a View: **[10]**

1. To display the names of customers who required loan > 2,00,000.
2. To display the branch wise name of customers.

Q.2) Using above database solve following questions: **[Total Marks: 20]**

1. Write a trigger before inserting record of customer in customer table. If the customer number is less than or equal to zero then display the appropriate error message. **[10]**

2. Write a cursor to display customer details along with their approved loan amount.**[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

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BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Q1) Create the following database in 3NF using PostgresSQL. [Total Marks: 10]

Consider the following database of Bus-Transport System. Many buses run on one route. Drivers are allotted to buses shift-wise.

Bus (Bus_no int , capacity int , depot_name varchar (20))

Route (Route_no int, source varchar (20), destination varchar (20), no_of_stations int)

Driver (Driver_no int, driver_name varchar (20), license_no int, address varchar (20),age int , salary float)

Relationship:

Bus and Route related with many to one relationship.

Bus and Driver related with many to many relationship with descriptive attributes, Shift – it can be 1 (Morning) or 2 (Evening) and Date_of_duty_allotted.

Constraints: Primary key, license_no must be unique, Bus capacity should not be null.

Create a View: **[10]**

1. To display driver details working in Morning shift.
2. To display driver details having salary > 20,000.

Q.2) Using above database solve following questions: **[Total Marks: 20]**

1. Write a trigger before inserting the driver record in driver table, if the age is not between 18 and 35, then display error message 'Invalid input'. **[10]**

2. Write a stored function to display details of buses running on route_no = '_'. (Accept route_no as an input parameter.) **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

Savitribai Phule Pune University

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BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Q.1) Create the following database in 3NF using PostgresSQL. **[Total Marks: 10]**

Consider the following database of Bus-Transport System. Many buses run on one route. Drivers are allotted to the buses shift-wise.

Bus (Bus_no int , capacity int , depot_name varchar(20))

Route (Route_no int, source varchar(20), destination varchar (20), no_of_stations int)

Driver (Driver_no int , driver_name varchar(20), license_no int, address varchar (20),age int , salary float)

Relationship:

Bus and Route related with many to one relationship.

Bus and Driver related with many to many relationship with descriptive attributes, Shift – it can be 1 (Morning) or 2 (Evening) and Date_of_duty_allotted.

Constraints: Primary key, license_no must be unique, Bus capacity should not be null.

Create a View [**10]**

1. To display details of Bus_no 102 along with details of all drivers who have driven that bus.
2. To display the route details on which buses of capacity 30 runs.

Q.2) Using above database solve following questions: **[Total Marks: 20]**

1. Write a trigger before inserting the driver record in driver table, if the salary is less than or equal to zero, then return the error message 'Invalid Salary'. **[10]**

2. Write a function using cursor to display all the dates on which a driver has driven a bus (Accept the driver name as an input parameter) **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

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BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Create the following database in 3NF using PostgresSQL. [Total Marks: 10]

Q1) Consider the following database of Bus-Transport System. Many buses run on one route. Driversare allotted to the buses shift-wise.

Bus (Bus_no int , capacity int , depot_name varchar (20))

Route (Route_no int, source varchar (20), destination varchar(20), no_of_stations int)

Driver (Driver_no int , driver_name varchar(20), license_no int, address varchar(20), age int , salary float)

Relationship:

Bus and Route related with many to one relationship.

Bus and Driver related with many to many relationship with descriptive attributes, Shift – it can be 1 (Morning) or 2 (Evening) and Date_of_duty_allotted.

Constraints: Primary key, license_no must be unique, Bus capacity should not be null.

Create a View: [**10]**

1. To display driver names working in both shifts.
2. To display route details on which Bus_no 101 is running.

Q.2) Using above database solve following questions: **[Total Marks: 20]**

1. Write a trigger after deleting the bus record which has capacity < 20. Display the appropriate message. **[10]**

2. Write a cursor to display details of buses running on route_no = 1. **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

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Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Create the following database in 3NF using PostgresSQL. [Total Marks: 10]

Q1) Consider a Railway Reservation System for passengers. The bogie capacity of all the bogies of atrain is same.

Train (Train_no int, train_name varchar (20), depart_time time , arrival_time time, source_stn varchar (20),dest_stn varchar (20), no_of_res_bogies int ,bogie_capacity int)

Passenger (Passenger_id int, passenger_name varchar (20), address varchar (30), age int, gender char)

Relationship:

Train _Passenger: M-M relationship named ticket with descriptive attributes as follows:

Ticket (Train_no int, Passenger_id int, Ticket_no int ,bogie_no int, no_of_berths int,tdate date, ticket_amt decimal (7, 2), ticket_status char)

Constraints: Primary key, ticket_status can be 'W' (waiting) or 'C' (confirmed).

Create a View: **[10]**

1. To display names of ‘Shatabdi Express’ passengers whose ticket status is waiting on 02-03-2022.
2. To display first three bookings for 'Rajdhani Express' on 04-05-2021.

Q.2) Using above database solve following questions: [Total Marks: 20]

1. Write a trigger to restrict the bogie capacity of any train to 25. [**10]**

2. Write a function using cursor to display train wise confirmed bookings on 19-04-2022. [**10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

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Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Create the following database in 3NF using PostgresSQL. [Total Marks: 10]

Q1) Consider a Railway Reservation System for passengers. The bogie capacity of all the bogies of atrain is same.

Train (Train_no int, train_name varchar (20), depart_time time , arrival_time time, source_stn varchar (20),dest_stn varchar (20), no_of_res_bogies int ,bogie_capacity int)

Passenger (Passenger_id int, passenger_name varchar (20), address varchar (30), age int, gender char)

Relationship:

Train _Passenger: M-M relationship named ticket with descriptive attributes as follows:

Ticket (Train_no int, Passenger_id int, Ticket_no int, bogie_no int, no_of_berths int,tdate date, ticket_amt decimal (7, 2), ticket_status char)

Constraints: Primary key, ticket_status can be 'W' (waiting) or 'C' (confirmed).

Create a View [**10]**

1. To display names of ‘Shatabdi Express’ passengers whose ticket status is confirmed on 02-03-2022.
2. To display count of confirmed bookings of ‘Rajdhani Express’ on 01-01-2022.

.

Q.2) Using above database solve following questions: [Total Marks: 20]

1. Write a trigger after inserting the age in passenger table to display the message “Age above5 years will be charged the full fare” if the passenger's age is above 5 years**.** **[10]**

2. Write a stored function to display train wise bookings on 02-05-2020 whose ticket status is waiting. **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

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Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Create the following database in 3NF using PostgresSQL. [Total Marks: 10]

Q1) Consider the following Project-Employee database, which is managed by a company and storesthe details of projects assigned to employees.

Project (Pno int, pname varchar (30), ptype varchar (20), duration integer)

Employee (Eno integer, ename varchar (20), qualification char (15), joining_date date)

Relationship:

Project-Employee related with many-to-many relationship, with descriptive attributes as start_date_of_Project, no_of_hours_worked.

Constraints: Primary key, pname should not be null.

Create a View: **[10]**

1. To display the project name, project type, and project start date, sorted by project start date.
2. To display details of employees working on 'Robotics' project.

Q.2) Using above database solve following questions: [Total Marks: 20]

1. Write a trigger before inserting the duration into the project table and make sure that the duration is always greater than zero. Display appropriate message. **[10]**
2. Write function using cursor to accept project name as an input parameter and display names of employees working on that project. **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Create the following database in 3NF using PostgresSQL. [Total Marks: 10]

Q.1) Q1) Consider the following Project-Employee database, which is managed by a company and storesthe details of projects assigned to employees.

Project (Pno int, pname varchar (30), ptype varchar (20), duration integer)

Employee (Eno integer, ename varchar (20), qualification char (15), joining_date date)

Relationship:

Project-Employee related with many-to-many relationship, with descriptive attributes as start_date_of_Project, no_of_hours_worked.

Constraints: Primary key, pname should not be null.

Create a View: **[10]**

1. To display employee details and it should be sorted by employee's joining date.
2. To display employee and project details where employees worked less than 100 hours.

Q.2) Using above database solve following questions: [Total Marks: 20]

1. Write a trigger before inserting joining date into employee table, check joining date should be always less than current date. Display appropriate message. **[10]**

2. Write a stored function to accept project name as an input parameter and returns the number of employees working on that project. Raise an exception for an invalid project name. **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Create the following database in 3NF using PostgresSQL. [Total Marks: 10]

Q1) Consider the following Project-Employee database, which is managed by a company and storesthe details of projects assigned to employees.

Project (Pno int, pname varchar (30), ptype varchar (20), duration integer)

Employee (Eno integer, ename varchar (20), qualification char (15), joining_date date)

Relationship:

Project-Employee related with many-to-many relationships, with descriptive attributes as start_date_of_Project, no_of_hours_worked.

Constraints: Primary key, pname should not be null.

Create a View: **[10]**

1. To display employee details working on 'ERP' Project.
2. To display employee and project details where employees worked more than 100 hours.

Q.2) Using above database solve following questions: [Total Marks: 20]

1. Write a trigger after deleting Project record from Project table. Display the message "Project record is being deleted". **[10]**

2. Write a function to find the number of employees whose date of joining is before 03-10-2022. **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Create the following database in 3NF using PostgresSQL. [Total Marks: 10]

Q1) Consider the following Student-Teacher database maintained by a college. It also gives information of the subject taught by teachers.

Student (Sno integer, sname varchar (20), sclass varchar (10), saddr varchar(30))

Teacher (Tno integer, tname varchar (20), qualification char (15), experience integer)

Relationship:

Student-Teacher related with many to many relationship with descriptive attribute subject.

Constraints: Primary Key, student and teacher name should not be null.

Create a View: **[10]**

1. To display student names who are taught by most experienced teacher.
2. To display subjects taught by each teacher.

Q.2) Using above database solve following questions: [Total marks: 20]

1. Write a trigger before inserting the student record. If the sno is less than or equal to zero, then display the message 'Invalid student number'. **[10]**

2. Write a stored function to count the number of students studying a subject named '_' (Accept the subject's name as an input parameter). Display error message for invalid subject name. **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Create the following database in 3NF using PostgresSQL. [Total Marks: 10]

Q.1) Q1) Consider the following Student-Teacher database maintained by a college. It also gives information of the subject taught by the teachers.

Student (Sno integer, sname varchar (20), sclass varchar (10), saddr varchar(30))

Teacher (Tno integer, tname varchar (20), qualification char (15), experience integer)

Relationship:

Student-Teacher related with many to many relationship with descriptive attribute subject.

Constraints: Primary Key, student and teacher name should not be null.

Create a View: **[10]**

1. To display teacher details having qualification as 'Ph.D.'.
2. To display student details living in 'Pune'.

Q.2) Using above database solve following questions: [Total Marks: 20]

1. Write a trigger before inserting experience into a teacher table; experience should be minimum 5 years. Display appropriate message. **[10]**

2. Write a cursor to list the details of the teachers who are teaching to a student named '___'. (Accept student name as an input parameter). **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Create the following database in 3NF using PostgresSQL. [Total Marks: 10]

Q1) Consider the following Student-Teacher database maintained by a college. It also gives information of the subject taught by the teachers.

Student (Sno integer, sname varchar (20), sclass varchar (10), saddr varchar (30))

Teacher (Tno integer, tname varchar (20), qualification char (15), experience integer)

Relationship:

Student-Teacher related with many to many relationship with descriptive attribute subject.

Constraints: Primary Key, student and teacher name should not be null.

Create a View: **[10]**

1. To display details of teachers having experience > 5 years.
2. To display details of teachers whose name start with the letter 'S'.

Q.2) Using above database solve following questions: **[Total Marks: 20]**

1. Write a trigger before update a student's class from student table. Display appropriate message. **[10]**

2. Write a function to count the number of teachers who are teaching to a student named' _____'. (Accept student name as an input parameter). **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Create the following database in 3NF using PostgresSQL. [Total Marks: 10]

Q1) Consider the following Student –Marks database
Student (Rollno integer, sname varchar(30), city varchar(50), class varchar(10))
Subject (Scode varchar(10), subject_name varchar(20))

Relationship:
Student-Subject related with many-to-many relationship with attributes marks_scored.

Constraints: Primary key, sname should not be null.

Create a View **[10]**
1. To display names of students class 'FYBCA'.
2. To display students name, subject and marks who has scored more than 90 marks.

Q.2) Using above database solve following questions: [Total Marks: 20]
1. Write a trigger before inserting Rollno into Student table. Display error message if entered Rollno less than equal to zero. [**10]**
2. Write a function using cursor, to calculate total marks of each student and display it. **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Create the following database in 3NF using PostgresSQL. [Total Marks: 10]

Q1) Consider the following Student –Marks database.
Student (Rollno integer, sname varchar(30), city varchar(50), class varchar(10))
Subject (Scode varchar(10), subject_name varchar(20))

Relationship:
Student-Subject related with many-to-many relationship with attributes marks_scored.

Constraints: Primary key, sname should not be null.

Create a View [**10]**

1. To display the students name who scored more than 80 marks in 'DBMS' Subject.
2. To display student details of class 'TYBCA'.

Q.2) Using above database solve following questions: [Total Marks: 20]

1. Write a trigger after deleting a student record from the student table. Display the message "student record is being deleted". **[10]**

2. Write a stored function to accept student name as an input parameter and display their subject information. **[10]**

Q.3) External Viva [05]

Q.4) Internal Evaluation [15]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Create the following database in 3NF using PostgresSQL. [Total Marks: 10]

Q1) Consider the following Student –Marks database
Student (Rollno integer, sname varchar (30), city varchar (50), class varchar (10))
Subject (Scode varchar (10), subject_name varchar (20))

Relationship:
Student-Subject related with many-to-many relationship with attributes marks_scored.

Constraints: Primary key, sname should not be null.

Create a View:

1. To display details of students whose name starts with the letter 'A'. **[10]**
2. To display details of students who has scored less than 40 marks.

Q.2) Using above database solves following: **[Total Marks: 20]**

1. Write a trigger to ensure that the marks entered for a student with respect to a subject is never < 0 and greater than 100. **[10]**
2. Write a stored function to accept city as an input parameter and display student details. **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Create the following database in 3NF using PostgresSQL. [Total Marks: 10]

Q1) Consider the following database of Movie_Actor_Producer.

Movie (m_name varchar (25), release_year integer, budget money)

Actor (a_name char (30), city varchar(30))

Producer (producer_id integer, pname char (30), p_address varchar (30))

Relationship:

Movie and Actor related with many-to-many relationship with descriptive attributes role and charges. Producer and Movie related with many-to-many relationship.

Constraints: Primary key, release_year should not be null.

Create a View [**10]**

1. To display actor names who lives in 'Mumbai'.
2. To display actors information in each movie.

Q.2) Using above database solve following questions: **[Total Marks: 20]**

1. Write a trigger before inserting budget into a movie table. Budget should be minimum 60 lakh. Display appropriate message. **[10]**

2. Write a stored function to accept producer name as an input parameter and display count of movies that producer has produced. **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Create the following database in 3NF using PostgresSQL. [Total Marks: 10]

Q1) Consider the following database of Movie_Actor_Producer.
Movie (m_name varchar (25), release_year integer, budget money)
Actor (a_name char (30), city varchar(30))
Producer (producer_id integer, pname char (30), p_address varchar (30))

Relationship:

Movie and Actor related with many-to-many relationship with descriptive attributes role and charges. Producer and Movie related with many-to-many relationship.

Constraints: Primary key, release_year should not be null.

Create a View: **[10]**

1. To display actor details acted in movie 'Sholey'.
2. To display producer name who have produced more than two movies.

Q.2) Using above database solve following questions: **[Total Marks: 20]**

1. Write a trigger before inserting charges into relationship table. Charges should not be more than 30 lakh. Display appropriate message. **[10]**
2. Write a stored function to accept actor name as an input parameter and display names of movies in which that actor has acted. Display error message for an invalid actor name. **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 235: s(Database Management Systems II Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Note: - 1. Read the questions carefully and insert data in the database accordingly.
2. Insert sufficient number of records in the database.
3. No query should generate empty output.
4. For count queries output should be more than 2 records. (If asked)

Q.1) Create the following database in 3NF using PostgresSQL. **[Total Marks: 10]**

Consider the following database of Movie_Actor_Producer. **Movie** (m_name varchar (25), release_year integer, budget money)**Actor** (a_name char (30), city varchar(30))
Producer (producer_id integer, pname char (30), p_address varchar (30))

Relationship:

Movie and Actor related with many-to-many relationship with descriptive attributes role and charges. Producer and Movie related with many-to-many relationship.

Constraints: Primary key, release_year should not be null.

Create a View: **[10]**

1. To display movie names produced by 'Mr. Subhash Ghai'.
2. To display actor names who do not live in Mumbai or Pune city.

Q.2) Using above database solve following questions: **[Total Marks: 20]**

1. Write a trigger before inserting record into movie table; check release_year should not be greater than current year. Display appropriate message. **[10]**

2. Write a cursor using function to list movie-wise charges of 'Amitabh Bachchan'. **[10]**

Q.3) External Viva **[05]**

Q.4) Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A (Science)

Semester – III

C.B.C.S 2019 Pattern

BCA236

(Computer Networks and Web Programming Laboratory)

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Execute the following commands. Also write its use. [10 Marks]

a) Ping
b) Who
c) hostname
d) Traceroute
e) Netstat

Q2. Write the HTML code to display list of any three car companies. For each company display list car models as ordered list. Display car model as hyperlink. On click of car model it should display an image of that car in another window.
(Create separate HTML page for each car model which will display an image.)
[20 Marks]

OR

Q2. Write a JavaScript program for accepting name and mobile number from user and perform following validation: [20 Marks]

a) Check all fields should not contain a null value
b) Check name field contains only alphabets
c) Mobile No. field should be of 10 digits long.

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

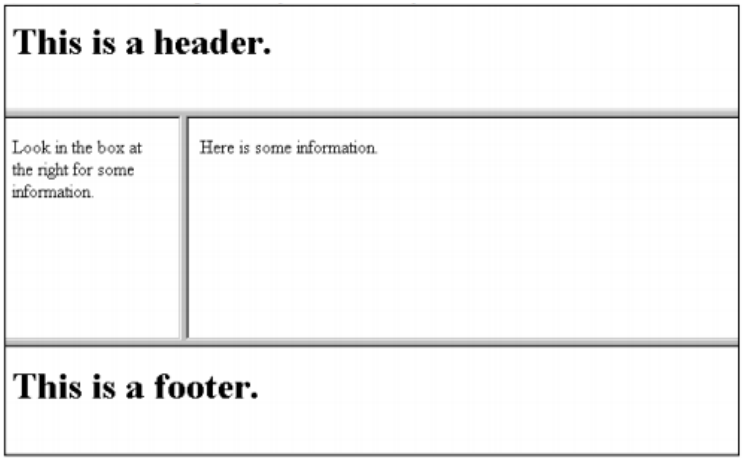
S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write HTML code to display the rainbow color names using Ordered List. Modify the code to display each color name with the same color of rainbow using font tag. Apply page background color as black. [10 Marks]

Q2. Write HTML code to generate the following output: [20 Marks]



OR

Q2. Write a JavaScript code to calculate maximum, minimum, sum and average of numbers in an array. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write HTML code for the following: [10 Marks]

a) Display following polynomial expression:
15X^4 + **9**X^3 + **4**X^2 + **2**X + **4** = 0
Display coefficient in Bold.

b) Display the text message as "S.Y.B.C.A. (Science)" at center with different heading styles in different colors.

Q2. Write HTML code to divide the frame into different sections as shown below and add appropriate html files to each frame. [20 Marks]

<table>
<tr><td colspan="3">First Frame : Name and Address</td></tr>
<tr><td colspan="2">Second Frame
Bulleted list of qualifications</td><td>Third Frame
Links to Favourite sites</td></tr>
<tr><td>Fourth Frame
Scrolling Message</td><td>Fifth Frame
Blinking reminders</td><td>Sixth Frame
image</td></tr>
</table>

OR

Q2. Write a JavaScript program to display a Multiplication table in tabular format using function. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

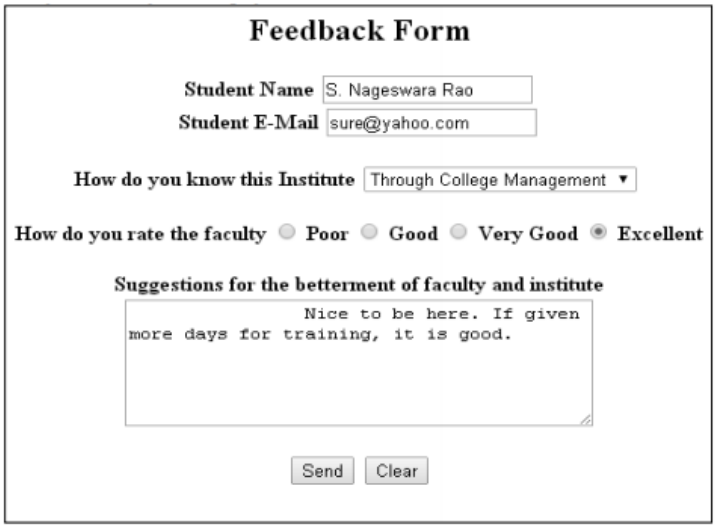
BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1. Create HTML page with following specifications [10 Marks]

a) Title should be about myCity
b) Place your City name at the top of the page in large text and in blue color
c) Add names of landmarks in your city each in a different color, style and typefaced.
d) One of the landmark, your college name should be blinking.
e) Add scrolling text with a message of your choice.

Q2. Write HTML code to generate the following output: [20 Marks]



OR

Q2. Write a JavaScript function to validate email-id using regular expression. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

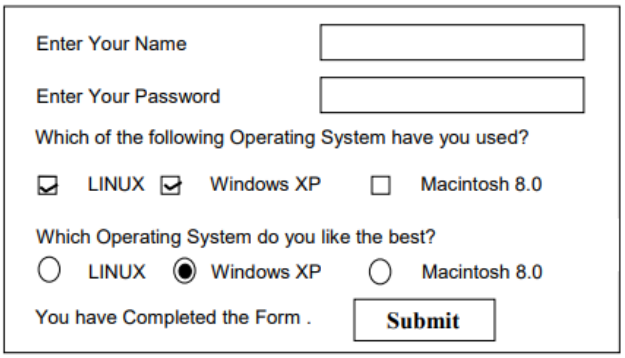
S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Create HTML page with all the different text styles (bold, italic and underlined) and its combinations onseparate lines. State style of each line in its text. [10 Marks]

Q2. Write HTML code to generate the following output: [20 Marks]



OR

Q2. Write a JavaScript program to print the reverse of a number. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

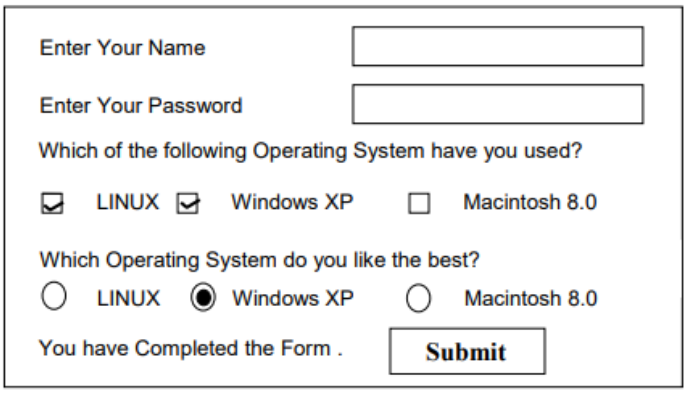
BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1 Create HTML page with following specifications: [10 Marks]

a) The Background colour should be green.
b) The text colour should be red.
c) The heading should be large in size as 'My Assignment'.
d) Display a horizontal line after heading.
e) Display your name in Bold, address in Italics and year as S.Y

Q2. Write HTML code to generate the following output: [20 Marks]



OR

Q2. Write a JavaScript program to accept a number from user and display that number in words (e.g. 226 Two Two Six) [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

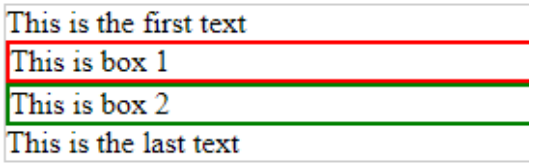
Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

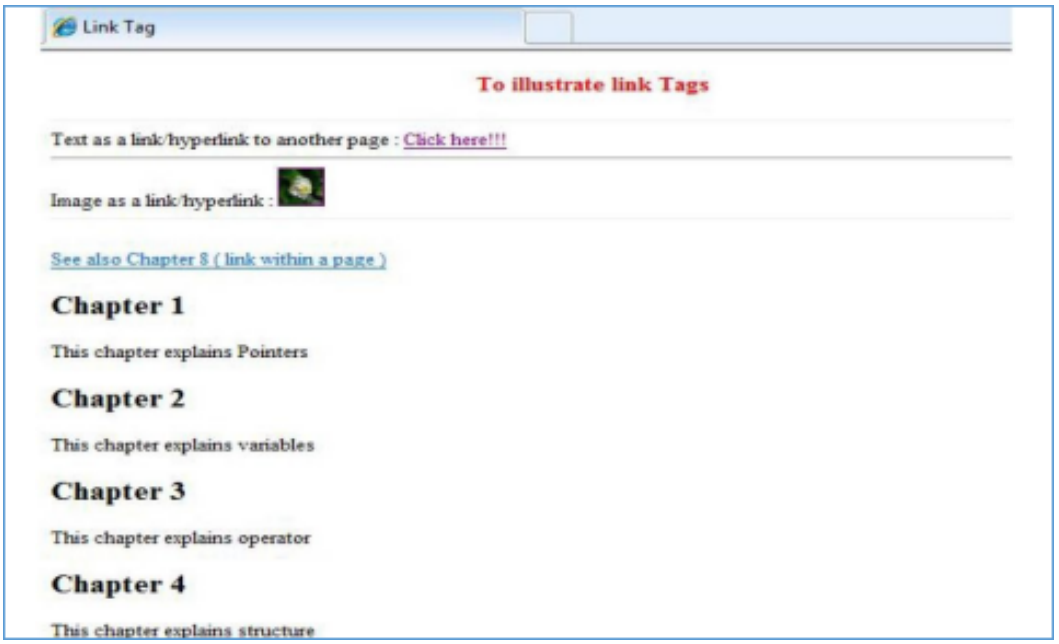
BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write HTML script with internal CSS to display following screen: [10 Marks]



Q2. Write HTML script to generate following screen: [20 Marks]
(On clinking on the hyperlink, display separate HTML page)



OR

Q2. Write a JavaScript program to print factorial of a given number. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1 Execute the following commands. Also write its use. [10 Marks]

a) Netstat
b) nmap
c) nslookup
d) Ping
e) Who

Q2. Write HTML code to generate the following output and display each element of list in different size, color & font. Use internal CSS to format the list. [20 Marks]

- Non flowering plants
  - Fern
  - Spore
- Flowering plants
  - Lilly
  - Rose
    1. Red Rose
    2. Pink Rose

OR

Q2. Write a JavaScript program to compare the values of password and confirmed password field and display message accordingly. Also perform the validation to check any of the field should not be empty. [20 Marks]

User Login

User Name:

Password .

Confirmed Password :

Submit

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write HTML code to generate the following output: [10 Marks]

SYBCA (Science) Subjects

I. Data Structures
- Algorithms and analysis of algorithms
- Static and dynamic data structures

II. Database Management Systems II
- Advanced SQL features and procedural SQL
- Concurrency control and crash recovery

III. Computer Networks
- Protocols at various layers in the protocolstacks
- Techniques for framing, error control, flow control and routing

Q2. Create HTML page giving information about celebrating Dussehra in your country. Use various tags in HTML to give it a pleasant look. It should be having following links. Create separate HTML page for each link and display the respective information.
a) Information why it is celebrated
b) When it is celebrated [20 Marks]
c) What you do on this day

OR

Q2. Write a JavaScript code to greet the user according to the current timing. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

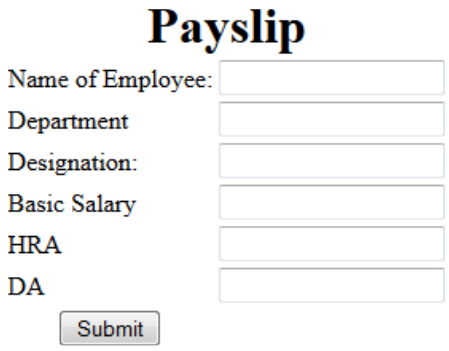
Q1. Create HTML page with following specifications: [10 Marks]

a) Title should be about MYCOLLEGE.
b) Put the windows logo image in the background.
c) Place your college name at the top of the page in large text followed by address in smaller size.
d) Add scrolling text with message of your choice.

Q2. Write HTML code to display day wise SYBCA time table in tabular format. [20 Marks]

OR

Q2. Write a JavaScript program to read employee details using HTML tags. Calculate and display net salary of an employee. [20 Marks]



Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Execute the following commands. Also write its use. [10 Marks]

a) Ping
b) Who
c) hostname
d) Traceroute
e) Netstat

Q2 Write HTML code to generate the following output. Add two more colors in following table. [20 Marks]

HTML Colors

Color	Name	hexadecimal	RGB value
	Salmon	FA8072	250-128-114
	Gold	FFD700	250-215-0

OR

Q2. Write a menu driven program using JavaScript to find square root, power and absolute value of a given number and validate them. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1 Execute the following commands. Also write its use. [10 Marks]

a) Netstat
b) nmap
c) nslookup
d) Ping
e) Who

Q2. Write HTML code to generate the following output: [20 Marks]

Company wise Profit

Company Name	Year	Profit (In Crore)
Infosys	2018	6520
	2019	7250
	2020	7962
Wipro	2018	1803
	2019	1953
	2020	2529
Cognizant	2018	5420
	2019	5863
	2020	6293

OR

Q2. Write a JavaScript Program to read a number from user, store its factors into the array and display that array. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write HTML code to display names of html text formatting tags and output in tabular format. [10Marks]

Tag name	Output
b	**Bold**
I	*Italic*
U	<u>Underline</u>

Q2. Write HTML code to generate the following output and display each element of list in different size, color & font. Use external CSS to format the list. [20 Marks]

- Non flowering plants
  - Fern
  - Spore
- Flowering plants
  - Lilly
  - Rose
    1. Red Rose
    2. Pink Rose

OR

Q2. Write a JavaScript function to validate email-id using regular expression. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Create HTML page with all the different text styles (bold, italic and underlined) and its combinations onseparate lines. State style of each line in its text. [10 Marks]

Q2. Write HTML code to display Product and its subtypes in tabular format. Add more products ofyour choice in following table. [20Marks]

Sr. No	Product Name	Product subtypes
1	Pulses	• Toor daal • Moong daal • Udad daal
2	Everest Masala	• Sambhar masala • Pavbhaji masala • Kichen king masala

OR

Q2. Write a JavaScript program for accepting name and mobile number from user and perform following validation: [20 Marks]

a) Check all fields should not contain a null value
b) Check name field contains only alphabets
c) Mobile No. field should be of 10 digits long.

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

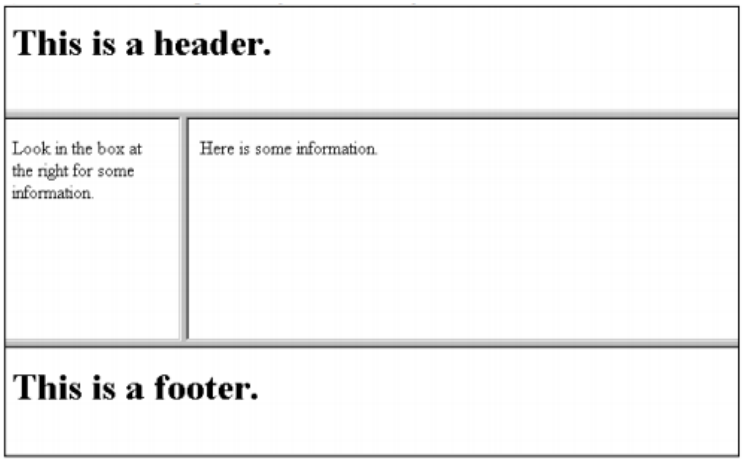
BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1. Create HTML page with following specifications [10 Marks]

a) Title should be about myCity
b) Place your City name at the top of the page in large text and in blue color
c) Add names of landmarks in your city each in a different color, style and typefaced.
d) One of the landmark, your college name should be blinking.
e) Add scrolling text with a message of your choice.

Q2. Write HTML code to generate the following output: [20 Marks]



OR

Q2. Write a JavaScript program to print the reverse of a number. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

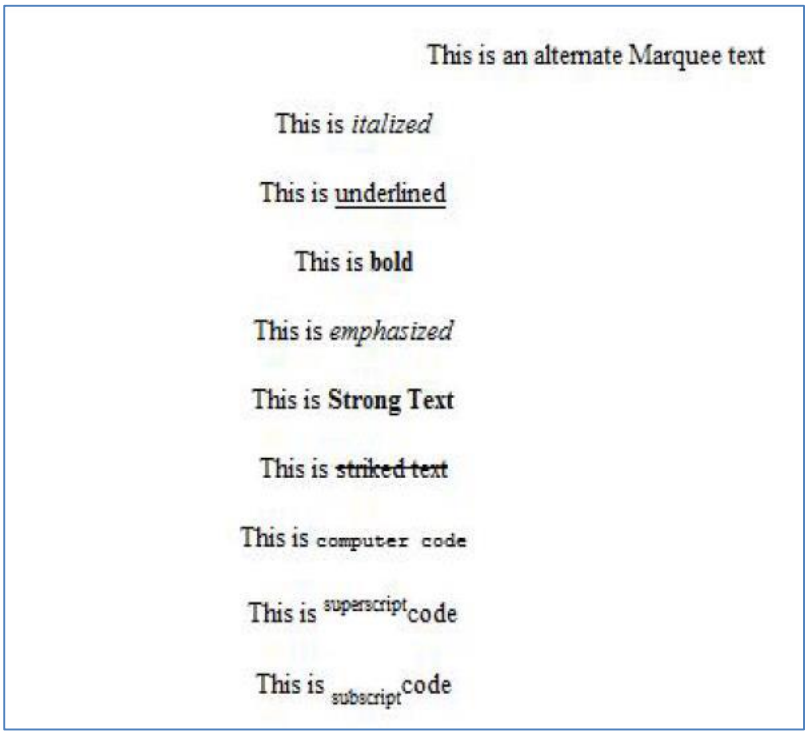
S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write HTML code to display the rainbow color names using Ordered List. Modify the code to display each color name with the same color of rainbow using font tag. Apply page background color as black. [10 Marks]

Q2. Write HTML code to generate the following output: [20 Marks]



OR

Q2. Write a JavaScript program to accept a number from user and display that number in words (e.g. 226 Two Two Six) [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

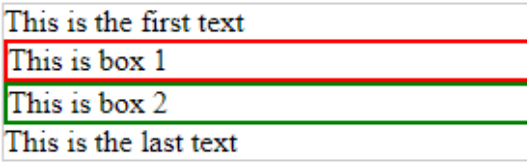
Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

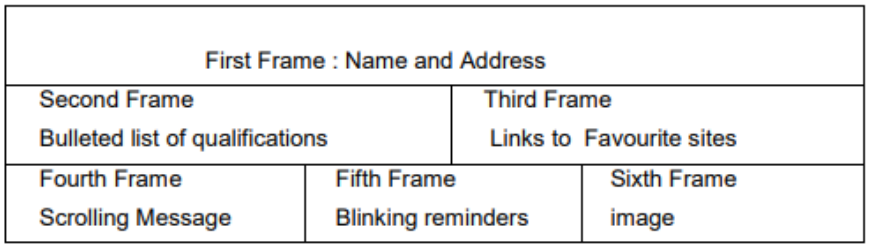
BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write HTML script with internal CSS to display following screen: [10 Marks]



Q2. Write HTML code to divide the frame into different sections as shown below and add appropriate html files to each frame. [20 Marks]



OR

Q2. Write a JavaScript Program to read a number from user, store its factors into the array and display that array. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write HTML code to generate the following output: [10 Marks]

SYBCA (Science) Subjects

IV. Data Structures
- Algorithms and analysis of algorithms
- Static and dynamic data structures

V. Database Management Systems II
- Advanced SQL features and procedural SQL
- Concurrency control and crash recovery

VI. Computer Networks
- Protocols at various layers in the protocolstacks
- Techniques for framing, error control, flow control and routing

Q2. Create HTML page giving information about celebrating Dussehra in your country. Use various tags in HTML to give it a pleasant look. It should be having following links. Create separate HTML page for each link and display the respective information.
a) Information why it is celebrated
b) When it is celebrated [20 Marks]
c) What you do on this day

OR

Q2. Write a menu driven program using JavaScript to find square root, power and absolute value of a given number and validate them. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 236: (Computer Networks and Web Programming Laboratory)

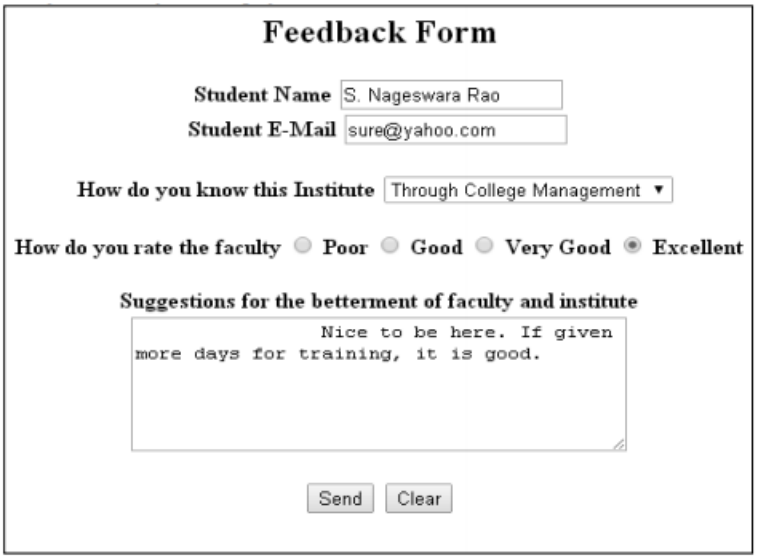
Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write HTML code for the following: [10 Marks]

a) Display following polynomial expression:
15X^4 + **9**X^3 + **4**X^2 + **2**X + **4** = 0
Display coefficient in Bold.

b) Display the text message as "S.Y.B.C.A. (Science)" at center with different heading styles in different colors.

Q2. Write HTML code to generate the following output: [20 Marks]



OR

Q2. Write a JavaScript program to print factorial of a given number. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-III) Practical Examination

BCA 236: (Computer Networks and Web Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Create HTML page with following specifications: [10 Marks]

a) Title should be about MYCOLLEGE.
b) Put the windows logo image in the background.
c) Place your college name at the top of the page in large text followed by address in smaller size.
d) Add scrolling text with message of your choice.

Q2. Write HTML code to generate the following output: [20 Marks]

Company wise Profit

Company Name	Year	Profit (In Crore)
Infosys	2018	6520
	2019	7250
	2020	7962
Wipro	2018	1803
	2019	1953
	2020	2529
Cognizant	2018	5420
	2019	5863
	2020	6293

OR

Q2. Write a JavaScript code to greet the user according to the current timing. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A (Science)

Semester – IV

C.B.C.S 2019 Pattern

BCA244

(C++ Programming Laboratory)

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1.Write the definition for a class Cylinder that contains data members radius and height. The class has the following member functions:

a. void setradius(float) to set the radius of data member.
b. void setheight(float) to set the height of data member.
c. float volume( ) to calculate and return the volume of the cylinder.

Write a C++ program to create cylinder object and display its volume. **[10]**

Q2.Write a C++ program to create a class Array that contains one float array as member. Overload the Unary ++ and -- operators to increase or decrease the value of each element of an array. Use friend function for operator function. **[20]**

OR

Q2. Write a C++ program to create a class Shape with functions to find area of the shape and display the name of the shape and other essential components of the class. Create derived classes circle, rectangle and trapezoid each having overridden function area and display. Write a suitable program to illustrate Virtual Function. **[20]**

Q3. External Viva **[5]**

Q4. Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1.Write a C++ program to create two classes Rectangle1 and Rectangle2. Compare area of both the rectangles using friend function. **[10]**

Q2. A book (ISBN) and CD (data capacity) are both types of media (id, title) objects. A person buys 10 media items each of which can be either book or CD. Display the list of all books and CD's bought. Define the classes and appropriate member functions to accept and display data. Use pointers and concept of polymorphism (Virtual Function) **[20]**

OR

Q2.Write a C++ program to copy the contents of one file to another **[20]**

Q3. External Viva **[5]**

Q4. Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1.Write a C++ program to overload function Volume and find Volume of Cube, Cylinder and Sphere. **[10]**

Q2.Write a C++ program with Student as abstract class and create derive classes Engineering, Medicine and Science having data member rollno and name from base class Student. Create objects of the derived classes and access them using array of pointer of base class Student**.** **[20]**

OR

Q2.Create a class String which contains a character pointer (Use new and delete operator) Write a C++ program to overload following operators

a. ! To reverse the case of each alphabet from given string.

b. [ ] To print a character present at specified index **[20]**

Q3. External Viva **[5]**

Q4. Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1.Write a C++ program to print area of circle, square and rectangle using inline function. **[10]**

Q2.Write a C++ program to create a class which contains two dimensional integer array of size m*n Write a member function to display transpose of entered matrix.(Use Dynamic Constructor for allocating memory and Destructor to free memory of an object). **[20]**

OR

Q2.Create a base class Flight containing protected data members as Flight_no, Flight_Name. Derive a class Route(Source, Destination) from class Flight. Also derive a class Reservation (no_seats, class, fare, travel_date) from Route. Write a C++ program to perform the following necessary functions.

a. Enter details of n reservations.
b. Display reservation details of Business class. **[20]**

Q3. External Viva **[5]**

Q4. Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1.Write a C++ program to create a class Mobile which contains data members as Mobile_Id, Mobile_Name, Mobile_Price. Create and Initialize all values of Mobile object by using parameterized constructor. Display the values of Mobile object. **[10]**

Q2.Create a base class Student (Roll_No, Name) which derives two classes Theory and Practical. Theory class contains marks of five Subjects and Practical class contains marks of two practical subjects. Class Result (Total_Marks, Class) inherits both Theory and Practical classes. (Use concept of Virtual Base Class) Write a menu driven program to perform the following functions:

a. Build a master table.
b. Display master table. **[20]**

OR

Q2.Create a class Book containing Book_name, author and Price as a data member and write necessary member functions for the following (use function overloading).

a. To Accept and display the Book Information.
b. Display book details of a given author
c. Display book details of specific price **[20]**

Q3. External Viva **[5]**

Q4.Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1.Write a C++ program to implement a class printdata to overload print function as follows:
void print(int) - outputs value followed by the value of the integer.
Eg. print(10) outputs - value 10
void print(char *) – outputs value followed by the string in double quotes.
Eg. print("hi") outputs value "hi" **[10]**

Q2.Write a C++ program to design a class complex to represent complex number. The complex class uses an external function (as a friend function) to add two complex number. The function should return an object of type complex representing the sum of two complex Numbers. **[20]**

OR

Q2. Design two base classes Employee (Name, Designation) and Project (Project_Id, title). Derive a class Emp_Proj(Duration) from Employee and Project. Write a menu driven program to

a. Build a master table. Display a master table
b. Display Project details in the ascending order of duration. **[20]**

Q3.External Viva **[5]**

Q4.Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1.Write a C++ program using class which contains two data members as type integer. Create and initialize the objects using default constructor, parameterized constructor with default value. Write a member function to display maximum from given two numbers for all objects. **[10]**

Q2.Create a class College containing data members as College_Id, College_Name, Establishment_year, University_Name. Write a C++ program with following functions

a. Accept n College details

b. Display College details of specified University

c. Display College details according to Establishment year (Use Array of Objects and Function Overloading). **[20]**

OR

Q2.Create a class Matrix and Write a C++ program to perform following functions:

a. To accept a Matrix
b. To display a Matrix
c. Overload unary minus '–' operator to calculate transpose of a Matrix
d. Overload binary multiplication '*' operator to calculate multiplication of two matrices

[20]

Q3.External Viva **[5]**

Q4.Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1.Write a C++ program to subtract two integer numbers of two different classes using friend function. **[10]**

Q2.Create a class String which contains a character pointer (Use new and delete operator). Write a C++ program to overload following operators:

a. ! To reverse the case of each alphabet from given string

b. == To check equality of two strings **[20]**

OR

Q2.Write a C++ program to create a class Date which contains three data members as dd,mm,yyyy. Create and initialize the object by using parameterized constructor and display date in dd-month-yyyy format. (Input: 19-12-2014 Output: 19-Dec-2014) Perform validation for month. **[20]**

Q3. External Viva **[5]**

Q4. Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a C++ program to create a class Item with data members Item_code, Item_name, Item_Price. Write member functions to accept and display item information and also display number of objects created for a class. (Use Static data member and Static member function) **[10]**

Q2. Create a Base class Train containing protected data members as Train_no, Train_Name. Derive a class Route(Route_id, Source, Destination) from Train class. Also derive a class Reservation (Number_of_Seats, Train_Class, Fare, Travel_Date) from Route. Write a C++ program to perform following necessary functions:

a. Enter details of n reservations
b. Display details of all reservations
c. Display reservation details of a specified Train class **[20]**

OR

Q2. Create a class Time which contains data members as: Hours, Minutes and Seconds. Write a C++ program to perform following necessary member functions:

a. To read time
b. To display time in format like: hh:mm:ss
c. To add two different times (Use Objects as argument) **[20]**

Q3. External Viva **[5]**

Q4. Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1.Write a C++ program to create a class employee containing salary as a data member. Write necessary member functions to overload the operator unary pre and post decrement "--" for decrementing salary. **[10]**

Q2. Design a base class Product(Product _Id, Product _Name, Price). Derive a class Discount (Discount_In_Percentage) from Product. A customer buys n Products. Calculate total price, total discount and display bill using appropriate manipulators. **[20]**

OR

Q2. Create a class String which contains a character pointer (Use new and delete operator). Write a C++ program to overload following operators:

a. < To compare length of two strings
b. == To check equality of two strings
c. + To concatenate two strings **[20]**

Q3.External Viva **[5]**

Q4.Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1.Write a C++ program to read two float numbers. Perform arithmetic binary operations +,-,*,/ on these numbers using inline function. Display the resultant value. **[10]**

Q2.Write a C++ program to create a class Person that contains data members as Person_Name, City, Mob_No. Write a C++ program to perform following functions:

a. To accept and display Person information
b. To search the Person details of a given mobile number
c. To search the Person details of a given city.

(Use Function Overloading) **[20]**

OR

Q2. Create a base class Conversion. Derive three different classes Weight (Gram, Kilogram), Volume (Milliliter, Liter), Currency (Rupees, Paise) from Conversion class. Write a program to perform read, convert and display operations. (Use Pure virtual function) **[20]**

Q3. External Viva **[5]**

Q4. Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1.Write a C++ program to accept length and width of a rectangle. Calculate and display perimeter as well as area of a rectangle by using inline function. **[10]**

Q2.Write a C++ program to create a class which contains single dimensional integer array of given size. Define member function to display median of a given array. (Use Dynamic Constructor to allocate and Destructor to free memory of an object). **[20]**

OR

Q2. Implement the following class hierarchy:
Employee: code, ename, desg
Manager (derived from Employee): year_of_experience, salary
Define appropriate functions to accept and display details.
Create n objects of the manager class and display the records.
Write main function that uses the above class and its member functions. **[20]**

Q3. External Viva **[5]**

Q4. Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1.Write a C++ program to implement a class 'student' to overload following functions as follows:

a. int maximum(int, int) – returns the maximum score of two students

b. int maximum(int *a, int arraylength) – returns the maximum score from an array 'a' **[10]**

Q2.Write a C++ program to create a class Distance which contains data members as kilometer, meter. Write a program to perform the following functions

a.To accept distance

b.To display distance

c.To overload > operator to compare two distance **[20]**

OR

Q2.Write a C++ program to read the contents of a text file. Count and display number of characters, words and lines from a file. Find the number of occurrences of a given word present in a file. **[20]**

Q3. External Viva **[5]**

Q4. Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a C++ program to interchange values of two integer numbers (use call by reference).**[10]**

Q2. Write a C++ program to define a class Bus with the following specifications: Bus No, Bus Name, No of Seats, Starting point, Destination .Write a menu driven program by using appropriate manipulators to

a. Accept details of n buses.
b. Display all bus details.
c. Display details of bus from specified starting point to destination **[20]**

OR

Q2. Create a class Fraction that contains two data members as numerator and denominator. Write a C++ program to overload following operators

a. ++ Unary (pre and post both)
b. << and >> Overload as friend functions **[20]**

Q3. External Viva **[5]**

Q4. Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1.Write a C++ program to check minimum and maximum of two integer number (use inline function and conditional operator) **[10]**

Q2.Create a base class Conversion. Derive three different classes Weight (Gram, Kilogram), Volume (Milliliter, Liter), Currency (Rupees, Paise) from Conversion class. Write a program to perform read, convert and display operations. (Use Pure virtual function) **[20]**

OR

Q2. Write C++ program to create a class Employee containing data members Emp_no, Emp_Name, Designation and Salary. Create and initialize the objects using default, parameterized and Copy Constructor. Also write member function to calculate Income tax of the employee which is 20% of salary. **[20]**

Q3.External Viva **[5]**

Q4.Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a C++ program to create a class Number which contains two integer data members. Create and initialize the object by using default constructor, parameterized constructor. Write a member function to display maximum from given two numbers for all objects. **[10]**

Q2. Create two base classes Learn_Info(Roll_No, Stud_Name, Class, Percentage) and Earn_Info(No_of_hours_worked, Charges_per_hour). Derive a class Earn_Learn_info from above two classes. Write necessary member functions to accept and display Student information. Calculate total money earned by the student. (Use constructor in derived class) **[20]**

OR

Q2. Create a class Time containing members as:

- hours
- minutes
- seconds

Write a C++ program for overloading operators >> and << to accept and display a Time also write a member function to display time in total seconds. **[20]**

Q3.External Viva **[5]**

Q4.Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1.Write a C++ program to check if number is prime or not. **[10]**

Q2. Create a class Fraction containing data members as Numerator and Denominator. Write a program to overload operators ++ , -- and * to increment, decrement a Fraction and multiply two Fraction respectively. (Use constructor to initialize values of an object) **[20]**

OR

Q2. Create a base class Media. Derive two different classes Book (Book_id, Book_name, Publication, Author, Book_price) and CD (CD_title, CD_price) from Media. Write a program to accept and display information of both Book and CD. (Use pure virtual function) **[20]**

Q3. External Viva **[5]**

Q4. Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1.Write a C++ program to calculate following series:
(1) + (1+2) + (1+2+3) + (1+2+3+4) + ... +(1+2+3+4+...+n) **[10]**

Q2.Write a C++ program to read student information such as rollno, name and percentage of n students. Write the student information using file handling. **[20]**

OR

Q2. Create a class called LIST with two pure virtual function store() and retrieve(). To store a value call store and to retrieve call retrieves function. Derive two classes stack and queue from it and override store and retrieve. **[20]**

Q3. External Viva **[5]**

Q4. Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a C++ program to display factors of a number. **[10]**

Q2. Design a two base classes Employee (Name, Designation) and Project(Project_Id, title). Derive a class Emp_Proj(Duration) from Employee and Project. Write a menu driven program to

a. Build a master table.
b. Display a master table
c. Display Project details in the ascending order of duration. **[20]**

OR

Q2. Write a C++ program to create a text file which stores employee information as emp_id, emp_name, emp_sal). Write a menu driven program with the options

a. Append
b. Modify
c. Display
d. Exit **[20]**

Q3. External Viva **[5]**

Q4. Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 244: (C++ Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1.Write a C++ program to sort integer and float array elements in ascending order by using function overloading **[10]**

Q2. Write a C++ program to create a class Department which contains data members as Dept_Id, Dept_Name, H.O.D., Number_Of_staff. Write necessary member functions to

a. Accept details from user for 'n' departments and write it in a file "Dept.txt".

b. Display details of department from a file. **[20]**

OR

Q2. Write a C++ program to read the contents of a "Sample.txt" file. Store all the uppercase characters in "Upper.txt", lowercase characters in "Lower.txt" and digits in "Digit.txt" files. Change the case of each character from "Sample.txt" and store it in "Convert.txt" file. **[20]**

Q3. External Viva **[5]**

Q4. Internal Evaluation **[15]**

Savitribai Phule Pune University

S.Y. B.C.A (Science)

Semester – IV

C.B.C.S 2019 Pattern

BCA245

(Web Technology Laboratory)

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a PHP script to get the PHP version and configuration information. [10 Marks]

Q2. Design a HTML form to accept a string. Write a PHP script for the following.

a) Write a function to count the total number of Vowels from the script.

b) Show the occurrences of each Vowel from the script. [20 Marks]

OR

Q2. Write a menu driven program to perform the following operations on associative arrays:

a) Merge the given arrays.

b) Find the intersection of two arrays.

c) Find the union of two arrays.

d) Find set difference of two arrays. [20 Marks]Q3.

Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a PHP script to display student information on web page. [10 Marks]

Q2. Write a PHP script for the following:

a) Design a form to accept two numbers from the users.

b) Give option to choose an arithmetic operation (use Radio Button).

c) Display the result on next form.

d) Use concept of default parameter. [20 Marks]

OR

Q2. Write a PHP program to define Interface shape which has two method as area() and volume(). Define a constant PI. Create a class Cylinder implement this interface and calculate area and Volume. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a PHP script to script to display time table of your class(use HTML table tags in echo). [10 Marks]

Q2. 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. (Hint : Use of explode function.) [20 Marks]

OR

Q2. Write a PHP script to create a Class shape and its subclass triangle, square and display area of the selected shape.(use the concept of Inheritance) . Display menu (use radio button)

a) Triangle
b) Square
c) Rectangle
d) Circle [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a PHP script to declare three variables and print maximum among them. [10 Marks]

Q2. Write a PHP script for the following: Design a form to accept two strings. Compare the two strings using both methods (= = operator & strcmp function). Append second string to the first string. Accept the position from the user; from where the characters from the first string are reversed. (Use radio buttons) [20 Marks]

OR

Q2. Write AJAX program to read a text file and print the contents of the file when the user clicks on the Print button. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a PHP script to check number 153 is Armstrong or not. [10 Marks]

Q2. Write a menu driven program to perform the following operations on an associative array:

a) Display the elements of an array along with the keys.

b) Display the size of an array [20 Marks]

OR

Q2. Write PHP script to demonstrate the concept of introspection for examining object. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a PHP script to check whether accepted number is prime or not. [10 Marks]

Q2. Write a menu driven program the following operation on an associative array

a) Reverse the order of each element's key-value pair. [Hint: array_flip()]

b) Traverse the element in an array in random order. [Hint: shuffle()] [20 Marks]

OR

Q2. Write a AJAX program to search Student name according to the character typed and display list using array [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Design a HTML form to accept a string. Write a php function to reverse a string.

[10 Marks]

Q2. Declare array. Reverse the order of elements, making the first element last and last element first and similarly rearranging other array elements.[Hint : array_reverse()]

[20 Marks]

OR

Q2. Define a class Employee having private members – id, name, department, salary. Define parameterized constructors. Create a subclass called “Manager” with private member bonus. Create 3 objects of the Manager class and display the details of the manager having the maximum total salary (salary + bonus).

[20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Design a HTML form to accept a string. Write a PHP function that checks whether a passed string is a palindrome or not? [10 Marks]

Q2. Declare a Multidimensional Array. Display specific element from a Multidimensional array. Also delete given element from the Multidimensional array.(After each operation display array content.) [20 Marks]

OR

Q2. Write a AJAX program to fetch information from XML file. The XML file looks like this: "cd_catalog.xml" [Enter at least 10 records inXML file]

CATALOG>
<CD>
<TITLE>___</TITLE>
<ARTIST>___</ARTIST>
<COUNTRY>___</COUNTRY>
<COMPANY>___</COMPANY>
<PRICE>___</PRICE>
<YEAR>___</YEAR>
</CD>
</CATALOG> [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a PHP script to print following floyd's triangle.

1

2 3

4 5 6

7 8 9 10 [10 Marks]

Q2. Write a menu driven program to perform the following stack related operations.

a) Insert an element in stack.

b) Delete an element from stack.[Hint: array_push(), array_pop()] [20 Marks]

OR

Q2. Sales_order (sonumber, s_order_date)

a. Client (clientno, name, address)

b. A client can give one or more sales_orders, but a sales_order belongs to exactly one client.

c. Accept sales order date from the user. Write a PHP script which will display all orders which are placed before that date. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a PHP script to display source code of a webpage. [10 Marks]

Q2. 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 [20 Marks]

OR

Q2. Write a PHP script to following xml file.

<cricket>

<player> abe</player>

<rums>100</runs>

<wickets>20</wickets>

</cricket>

Store data for 5 players and display data of players who have scored more than 100 runs.

[20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a PHP script to get the PHP version and configuration information. [10 Marks]

Q2. Design a HTML form to accept a string. Write a PHP script for the following.

a) Write a function to count the total number of Vowels from the script.

b) Show the occurrences of each Vowel from the script. [20 Marks]

OR

Q2. Write a PHP script to accept following XML file

<subject>

<subject code>BCA 245</subject code>

<subject name> Web Technology Laboratory </subject name>

</subject>

Store data of 5 subjects as display subject code of Wen Technology Laboratory.

[20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a PHP script to display student information on web page. [10 Marks]

Q2. Write a PHP script for the following:

a) Design a form to accept two numbers from the users.

b) Give option to choose an arithmetic operation (use Radio Button).

c) Display the result on next form.

d) Use concept of default parameter. [20 Marks]

OR

Q2. Write a PHP program to define Interface shape which has two method as area() and volume(). Define a constant PI. Create a class Cylinder implement this interface and calculate area and Volume. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a PHP script to script to display time table of your class(use HTML table tags in echo). [10 Marks]

Q2. 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. (Hint : Use of explode function.) [20 Marks]

OR

Q2 Write PHP script to generate an XML code in the following format

```
<?xml version=1.0”?>
<ABC College>
<Computer Application Department>
<Course> BCA(Science) </Course>
<Student Strength > 80</Student Strength>
<Number of Teachers>12</Number of Teachers>
</ABC College>
</Computer Application Department>
```

[20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a PHP script to declare three variables and print maximum among them.

[10 Marks]

Q2. Write a PHP script for the following: Design a form to accept two strings. Compare the two strings using both methods (= = operator & strcmp function). Append second string to the first string. Accept the position from the user; from where the characters from the first string are reversed. (Use radio buttons) [20 Marks]

OR

Q2. Write class declarations and member function definitions for Teacher (code, name, qualification). Derive teach_account(account_no,joining_date) from Teacher and teach_sal(basic_pay, earnings, deduction) fromteach_account. Write a menu driven program

a) To build a master table
b) To sort all entries
c) To search an entry
d) Display salary of all teachers. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a PHP script to check number 153 is Armstrong or not. [10 Marks]

Q2. Create a XML file which gives details of students admitted for different courses in Your College. Course names can be

a. Arts
b. Science
c. Commerce
d. Management

Elements in each course are in following format.

<Course>
<Level>…</Level>
<Intake Capacity>…</Intake Capacity>
</Course>
Save the file with "Course.xml" [20 Marks]

OR

Q2. Write PHP script to demonstrate the concept of introspection for examining object. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a PHP script to check whether accepted number is prime or not. [10 Marks]

Q2. Write a menu driven program the following operation on an associative array

c) Reverse the order of each element's key-value pair. [Hint: array_flip()]

d) Traverse the element in an array in random order. [Hint: shuffle()] [20 Marks]

OR

Q2. Write a script to create XML file named "Teacher.xml".

<Department>
<Computer Science>
<Teacher Name>…</Teacher Name>
<Qualification>….</Qualification>
<Subject Taught>…</Subject Taught>
<Experience>…</Experience>
</Computer Science>
</Department>

Store the details of 5 teachers who are having qualification as NET [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Design a HTML form to accept a string. Write a php function to reverse a string.

[10 Marks]

Q2. Declare array. Reverse the order of elements, making the first element last and last element first and similarly rearranging other array elements.[Hint : array_reverse()]

[20 Marks]

OR

Q2. Define a class Employee having private members – id, name, department, salary. Define parameterized constructors. Create a subclass called “Manager” with private member bonus. Create 3 objects of the Manager class and display the details of the manager having the maximum total salary (salary + bonus).

[20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Design a HTML form to accept a string. Write a PHP function that checks whether a passed string is a palindrome or not? [10 Marks]

Q2. Write a AJAX program to print Teacher information from postgreSQL table Teacher.
Teacher (Tno, Name, Subject, Research area) [20 Marks]

OR

Q2. Property (pno, description, area)

a. Owner (oname, address, phone)

b. An owner can have one or more properties, but a property belongs to exactly one owner.

c. Accept owner name from the user. Write a PHP script which will display all properties which are own by that owner. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a PHP script to print following floyd's triangle.

A

B C

D E F

G H I J [10 Marks]

Q2. Write a menu driven program to perform the following stack related operations.

c) Insert an element in stack.

d) Delete an element from stack.[Hint: array_push(), array_pop()] [20 Marks]

OR

Q2. Sales_order (sonumber, s_order_date)

d. Client (clientno, name, address)

e. A client can give one or more sales_orders, but a sales_order belongs to exactly one client.

f. Accept sales order date from the user. Write a PHP script which will display all orders which are placed before that date. [20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 245: (Web Technology Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. Write a PHP script to display source code of a webpage. [10 Marks]

Q2. Write a menu driven program to perform the following queue related operations

d) Insert an element in queue

e) Delete an element from queue

f) Display the contents of queue [20 Marks]

OR

Q2. Write a PHP script to following xml file.

<cricket>

<player> abe</player>

<rums>100</runs>

<wickets>20</wickets>

</cricket>

Store data for 5 players and display data of players who have scored more than 100 runs.

[20 Marks]

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

S.Y. B.C.A (Science)

Semester – IV

C.B.C.S 2019 Pattern

BCA246

(Python Programming Laboratory)

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a Python function to check whether a number is in a given range. [10 M]

Q.2) Write a Python program to find set difference, union, intersection and symmetric difference. [20 M]

OR

Q2) Write a Python program to print a dictionary where the keys are numbers between 1 and 15 (both included) and the values are square of keys.

Sample Dictionary: {10: 100, 20: 400, 30: 900, 40: 1600, 50: 2500} [20 M]

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a Python program to get the 4^{th} element from front and 4^{th} element from last of a tuple. [10 M]

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

d1 = {'a': 100, 'b': 200, 'c':300} d2 = {'a': 300, 'b': 200,'d':400}

Sample output: ({'a': 400, 'b': 400,'d': 400, 'c': 300}) [20 M]

OR

Q.2) Write a Python program to perform given operations on set. [20 M]

a. check whether 2 sets are equal or not

b. Symmetric difference

c. Intersection of sets

d. Find maximum and the minimum value in a set.

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a Python program to find the repeated items of a tuple. [10 M]

Q.2) Write a Python program to match key values in two dictionaries. [20 M]

Sample dictionary: {'key1': 1, 'key2': 3, 'key3': 2}, {'key1': 1, 'key2': 2}

Expected output: key1: 1 is present in both x and y

OR

Q.2) Write a Python program to create a set with any 3 weekdays. Add single element to the set and print it. Add multiple elements and print the set. [20 M]

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a Python program to sort the tuple T=(4,2,6.8,1.8,10) . [10 M]

Q.2) Write a function to calculate the sum of numbers from 0 to n. [20 M]

OR

Q.2) Write a Python program to create a dictionary from two lists without losing duplicate values.

Sample lists: ['Class-V', 'Class-VI', 'Class-VII', 'Class-VIII'], [1, 2, 2, 3]

Expected Output: defaultdict(<class 'set'>, {'Class-VII': {2}, 'Class-VI': {2}, 'Class-VIII': {3}, 'Class-V': {1}})

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a Python program to print the set difference and a symmetric difference of two sets. [10 M]

Q.2) Write a Python program to create and display all combinations of letters, selecting each letter from a different key in a dictionary. [20 M]

Sample data: {'1':['a','b'], 2':['c','d']}
Expected Output:
ac
ad
bc
bd

Q.2) Write a Python program to display occurrence of the elements in the tuple, which appears more than 2 times. [20 M]

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a Python program to find maximum and the minimum value in a set. [10 M]

Q.2) Write a Python script to generate and print a dictionary that contains a number (between 1 to n) in the form (x, x*x).

Sample Dictionary (n = 5): Expected Output: {1: 1, 2: 4, 3: 9, 4: 16, 5: 25} [20 M]

OR

Q.2) Write a Python program to unpack a tuple in several variables. Display type of each variable. . [20 M]

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a Python program to print average of all elements of sets. [10 M]

Q.2) Write a Python program to match key values in two dictionaries. [20 M]

Sample dictionary: {'key1': 1, 'key2': 3, 'key3': 2}, {'key1': 1, 'key2': 2}

Expected output: key1: 1 is present in both x and y

OR

Q.2) Write a Python function to multiply all the numbers in a list. [20 M]

Sample-List: (8, 2, 3, -1, 7)

Expected Output: -336

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a Python program to create a tuple using two different tuples. [10 M]

Q.2) Write a Python program to sort (ascending and descending) a dictionary by value. [20 M]

OR

Q.2) Write a Python program to count the occurrences of each word in a given sentence. [20 M]

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write an anonymous function to calculate area of square. [10 M]

Q.2) Write a Python program to create a dictionary from a string.

Sample String: 'Hello all'

Expected output: {'e': 1, 'o': 1, 'a': 1, 'l': 4, 'H': 1} [20 M]

OR

Q.2) Write a Python program to count frequency of each character in a given string using user defined function. [20 M]

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a Python program to accept the strings which contains all vowels. [10 M]

Q.2) Write a Python program to reverse a given number. [20 M]

OR

Q.2) Write a Python program to accept n numbers in list. Find average of list and sort it in descending order. [20 M]

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a Python program to find the length of a string without using built-in function. [10 M]

Q.2) Write a Python program to accept string and remove the characters which have odd index values of a given string using user defined function. [20 M]

OR

Q.2) Write a Python program to accept n numbers in list and remove duplicates from a list. [20 M]

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a program which prints Fibonacci series of a number. [10 M]

Q.2) Write a Python program to accept a string and from a given string where all occurrences of its first character have been changed to '$', except the first char itself. [20 M]

OR

Q.2) Write a Python program to generate and print a dictionary that contains a number (between 1 and n) in the form (x, x*x).

Sample Dictionary (n = 5)

Expected Output: {1: 1, 2: 4, 3: 9, 4: 16, 5: 25} [20 M]

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

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BCA 246: (Python Programming Laboratory)

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Q.1) Write a Python program to create a tuple of n numbers and print maximum, minimum, and sum of elements in a tuple. [10 M]

Q.2) Write a Python program which accept an integer value ‘n’ and display all prime numbers till ‘n’. [20 M]

OR

Q.2) Write a Python program to define class to find validity of a string of parentheses, '(', ')', '{', '}', '[' and ']. These brackets must be in the correct order, for example "()" and "()[]{}" are valid but "[)", "({[)]" and "{{{" are invalid. [20 M]

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a python program to check if a string is a Palindrome or not. [10 M]

Q.2) Write a Sequential search function which searches an item in a sorted list. The function should return the index of element to be searched in the list. [20 M]

OR

Q.2) Write a Python program which finds sum of digits of a number. [20 M]
Example n=135 then output is 9 (1+3+5).

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

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S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a Python program to create tuple of n numbers, print the first half values of tuple in one line and the last half values of tuple on next line. [10 M]

Q.2) Write a Python program which prints fibonacci series of a number. [20 M]

OR

Q.2) Write a Python program to check if a given key already exists in a dictionary. If key exists replace with another key/value pair. [20 M]

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a Python program to accept and convert string in uppercase or vice versa. [10 M]

Q.2) Write a Python program which accepts an integer value 'n' and display all prime numbers till 'n'. [20 M]

OR

Q.2) Write a Python program to display the following pattern (Floyd's triangle)

For n=3

```
1
2  3
4  5  6
```

[20 M]

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write an anonymous function to calculate area of square. [10 M]

Q.2) Write a Python program to accept n elements in a set and find the length of a set, maximum, minimum value and the sum of values in a set. (Don't use built-in function) [20 M]

OR

Q.2) Write a Python program to count frequency of each character in a given string using user defined function. [20 M]

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a Python program to calculate the average of numbers in a given list. [10 M]

Q.2) Write a Python function to get a string made of the first 2 and the last 2 chars from a given string. If the string length is less than 2, it return empty string.

Sample String: 'General12' Expected Result: 'Ge12'

Sample String: 'Ka' Expected Result: 'KaKa'

Sample String: ' K' Expected Result: Empty String [20 M]

OR

Q.2) Write a program to display following pattern. [20 M]

```
1 2 3 4
1 2 3
1 2
1
```

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

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S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write an anonymous function to calculate area of square. [10 M]

Q.2) Write a Python program which finds sum of digits of a number. [20 M]

Example n=130 then output is 4 (1+3+0).

OR

Q.2) Write a Python program to remove special symbols/Punctuation from a given string. [20 M]

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]

Savitribai Phule Pune University

S.Y. B.C.A. (Science) (Semester-IV) Practical Examination

BCA 246: (Python Programming Laboratory)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q.1) Write a Python program to unpack a tuple in several variables. [10 M]

Q.2) Write a Python program which accepts 6 integer values and prints "DUPLICATES" if any of the values entered are duplicates otherwise it prints "ALL UNIQUE".
Example: Let 5 integers are (32, 10, 45, 90, 45, 6) then output "DUPLICATES" to be printed. [20 M]

OR

Q.2) Write a Sequential search function which searches an item in a sorted list. The function should return the index of element to be searched in the list. [20 M]

Q.3) External Viva [5 M]

Q.4) Internal Evaluation [15 M]