1. The details of the CUSTOMERS in a bank are as follows:

Data members:

i. Name of the depositor
ii. Account number
iii. Type of account
iv. Balance amount in the account

Represent this by a class called **Customers** and design a menu driven program to perform the following by including suitable member methods.

(a) Create 10 Customers (use constructor(s))

(b) To perform Transactions (define two methods "***deposit***" and "***withdraw***"). To withdraw, check for minimum balance based on the type of account and display suitable message if not possible/on decline.

(c) Find the customer with the highest balance by defining a method called "***highestBalance***" which takes all customer information as parameter and returns the customer with the highest balance as result.

(d) Update customer information by reading account no. and using a method "***update"***.

Demonstrate the working with an application/driver class. (include appropriate data members if required)

2. The annual examination results of STUDENTS are to be tabulated as follows:

Reg No. Name Subject 1 Subject 2 Subject 3

Represent this by a class called **Student** and design a menu driven program to perform the following by including appropriate members/methods.

(a) Create 10 students (use constructor(s))

(b) Find the Total marks obtained by each student and store in the student information.

(c) Find the highest marks in each subject and the Roll no. of the student who secured it by defining a method called "***findHighestScore***" that takes all student information as parameter and returns the student with highest total as result.

(d) Search for a student information (by Roll No.) by defining "***searchStudent***" method . If student exist display the complete information of the student otherwise display suitable message.

(a) Update student information by reading Roll No. and using a method "***update"***.

(e) Demonstrate the working with an application/driver class. (include appropriate data members if required)

3. Given that an EMPLOYEE class contains the following members:

Data Members: Employee Number, Employee Name, Department Name & Basic Salary

Member Functions: to read data, to calculate Gross Sal and to print the employee information

Develop an application program to read data of N employees and compute the Gross Salary and Net Salary of each employee.

Gross Salary = Basic + DA+ HRA, Net Salary = Gross – Tax, DA = 58% and HRA = 16% of Basic Salary.

Income Tax: Up to 2 lakhs no tax, after 2 and up to 3 lakhs 10% of the Gross Salary and after 3 and up to 5 lakhs 15% of the Gross and above 5 lakhs 30 % of Gross Salary. An additional surcharge of 2% of the tax will be added to the Final/Total tax.

Represent this by a class called **Employee** and design a menu driven program to perform the following by including appropriate member methods.

(b) Create 10 Employee (use constructor(s))

(c) Calculate gross_salary, net_salary and income tax of all the employees by defining a method called '***calculate***' which takes all employees information and calculates.

(d) Find the highest salaried employee by defining a method called "***highestSalary***" which takes all employee information as parameter and returns the highest salaried employee as result.

(e) Update Employee information by reading Employee no. and using a method "***update"***.

Demonstrate the working with an application/driver class. (include appropriate data members if required)

4. The details of the BOOKS are to be tabulated as follows:

NAME	CODE	COST	QUANTITY
Turbo C++	X1001	250.95	4
C Primer	A905	95.80	5

Represent this by a class called **Book** and design a menu driven program to perform the following by including appropriate members.

(a) Create 10 Books (use constructor(s))

(b) To buy a book, reading its code (Suitable message if not found in the list). If the book is available, read the no. of copies required (suitable message if required copies not available). Display the total cost for the required no. of copies. Update the quantity after transaction. For this task define a method called "***transaction***" that takes all book details as parameter and performs required transaction.

(c) Count the no. of successful and unsuccessful transaction and display the same.

(d) Update book information by reading code and using a method "***update"***.

Demonstrate the working with an application/driver class. (include appropriate data members if required)

5. The details of the CUSTOMERS in a bank are as follows:

Data members:

v. Name of the depositor
vi. Account number
vii. Type of account
viii. Balance amount in the account

Represent this by a class called **Customers** and design a menu driven program to perform the following by including suitable member methods.

(e) Create 10 Customers (use constructor(s))

(f) To perform Transactions (define two methods "***deposit***" and "***withdraw***"). To withdraw, check for minimum balance based on the type of account and display suitable message if not possible/on decline.

(g) Find the customer with the highest balance by defining a method called "***highestBalance***" which takes all customer information as parameter and returns the customer with the highest balance as result.

(h) Update customer information by reading account no. and using a method "***update"***.

Demonstrate the working with an application/driver class. (include appropriate data members if required)

6. The annual examination results of STUDENTS are to be tabulated as follows:

Reg No. Name Subject 1 Subject 2 Subject 3

Represent this by a class called **Student** and design a menu driven program to perform the following by including appropriate members/methods.

(f) Create 10 students (use constructor(s))

(g) Find the Total marks obtained by each student and store in the student information.

(h) Find the highest marks in each subject and the Roll no. of the student who secured it by defining a method called "***findHighestScore***" that takes all student information as parameter and returns the student with highest total as result.

(i) Search for a student information (by Roll No.) by defining "***searchStudent***" method . If student exist display the complete information of the student otherwise display suitable message.

(f) Update student information by reading Roll No. and using a method "***update"***.

(j) Demonstrate the working with an application/driver class. (include appropriate data members if required)

7. Given that an EMPLOYEE class contains the following members:

Data Members: Employee Number, Employee Name, Department Name & Basic Salary

Member Functions: to read data, to calculate Gross Sal and to print the employee information

Develop an application program to read data of N employees and compute the Gross Salary and Net Salary of each employee.

Gross Salary = Basic + DA+ HRA, Net Salary = Gross – Tax, DA = 58% and HRA = 16% of Basic Salary.

Income Tax: Up to 2 lakhs no tax, after 2 and up to 3 lakhs 10% of the Gross Salary and after 3 and up to 5 lakhs 15% of the Gross and above 5 lakhs 30 % of Gross Salary. An additional surcharge of 2% of the tax will be added to the Final/Total tax.

Represent this by a class called **Employee** and design a menu driven program to perform the following by including appropriate member methods.

(g) Create 10 Employee (use constructor(s))

(h) Calculate gross_salary, net_salary and income tax of all the employees by defining a method called '***calculate***' which takes all employees information and calculates.

(i) Find the highest salaried employee by defining a method called "***highestSalary***" which takes all employee information as parameter and returns the highest salaried employee as result.

(j) Update Employee information by reading Employee no. and using a method "***update"***.

Demonstrate the working with an application/driver class. (include appropriate data members if required)

8. The details of the BOOKS are to be tabulated as follows:

NAME	CODE	COST	QUANTITY
Turbo C++	X1001	250.95	4
C Primer	A905	95.80	5

Represent this by a class called **Book** and design a menu driven program to perform the following by including appropriate members.

(e) Create 10 Books (use constructor(s))

(f) To buy a book, reading its code (Suitable message if not found in the list). If the book is available, read the no. of copies required (suitable message if required copies not available). Display the total cost for the required no. of copies. Update the quantity after transaction. For this task define a method called "***transaction***" that takes all book details as parameter and performs required transaction.

(g) Count the no. of successful and unsuccessful transaction and display the same.

(h) Update book information by reading code and using a method "***update"***.

Demonstrate the working with an application/driver class. (include appropriate data members if required)

9. The details of the CUSTOMERS in a bank are as follows:

Data members:

ix. Name of the depositor
x. Account number
xi. Type of account
xii. Balance amount in the account

Represent this by a class called **Customers** and design a menu driven program to perform the following by including suitable member methods.

(i) Create 10 Customers (use constructor(s))

(j) To perform Transactions (define two methods "***deposit***" and "***withdraw***"). To withdraw, check for minimum balance based on the type of account and display suitable message if not possible/on decline.

(k) Find the customer with the highest balance by defining a method called "***highestBalance***" which takes all customer information as parameter and returns the customer with the highest balance as result.

(l) Update customer information by reading account no. and using a method "***update"***.

Demonstrate the working with an application/driver class. (include appropriate data members if required)

10. The annual examination results of STUDENTS are to be tabulated as follows:

Reg No.	Name	Subject 1	Subject 2	Subject 3

Represent this by a class called **Student** and design a menu driven program to perform the following by including appropriate members/methods.

(k) Create 10 students (use constructor(s))

(l) Find the Total marks obtained by each student and store in the student information.

(m) Find the highest marks in each subject and the Roll no. of the student who secured it by defining a method called "***findHighestScore***" that takes all student information as parameter and returns the student with highest total as result.

(n) Search for a student information (by Roll No.) by defining "***searchStudent***" method . If student exist display the complete information of the student otherwise display suitable message.

(k) Update student information by reading Roll No. and using a method "***update"***.

(o) Demonstrate the working with an application/driver class. (include appropriate data members if required)

11. Given that an EMPLOYEE class contains the following members:

Data Members: Employee Number, Employee Name, Department Name & Basic Salary

Member Functions: to read data, to calculate Gross Sal and to print the employee information

Develop an application program to read data of N employees and compute the Gross Salary and Net Salary of each employee.

Gross Salary = Basic + DA+ HRA, Net Salary = Gross – Tax, DA = 58% and HRA = 16% of Basic Salary.

Income Tax: Up to 2 lakhs no tax, after 2 and up to 3 lakhs 10% of the Gross Salary and after 3 and up to 5 lakhs 15% of the Gross and above 5 lakhs 30 % of Gross Salary. An additional surcharge of 2% of the tax will be added to the Final/Total tax.

Represent this by a class called **Employee** and design a menu driven program to perform the following by including appropriate member methods.

(l) Create 10 Employee (use constructor(s))

(m) Calculate gross_salary, net_salary and income tax of all the employees by defining a method called '***calculate***' which takes all employees information and calculates.

(n) Find the highest salaried employee by defining a method called "***highestSalary***" which takes all employee information as parameter and returns the highest salaried employee as result.

(o) Update Employee information by reading Employee no. and using a method "***update"***.

Demonstrate the working with an application/driver class. (include appropriate data members if required)

12. The details of the BOOKS are to be tabulated as follows:

NAME	CODE	COST	QUANTITY
Turbo C++	X1001	250.95	4
C Primer	A905	95.80	5

Represent this by a class called **Book** and design a menu driven program to perform the following by including appropriate members.

(i) Create 10 Books (use constructor(s))

(j) To buy a book, reading its code (Suitable message if not found in the list). If the book is available, read the no. of copies required (suitable message if required copies not available). Display the total cost for the required no. of copies. Update the quantity after transaction. For this task define a method called "***transaction***" that takes all book details as parameter and performs required transaction.

(k) Count the no. of successful and unsuccessful transaction and display the same.

(l) Update book information by reading code and using a method "***update"***.

Demonstrate the working with an application/driver class. (include appropriate data members if required)

13. The details of the CUSTOMERS in a bank are as follows:

Data members:

xiii. Name of the depositor
xiv. Account number
xv. Type of account
xvi. Balance amount in the account

Represent this by a class called **Customers** and design a menu driven program to perform the following by including suitable member methods.

(m) Create 10 Customers (use constructor(s))

(n) To perform Transactions (define two methods "***deposit***" and "***withdraw***"). To withdraw, check for minimum balance based on the type of account and display suitable message if not possible/on decline.

(o) Find the customer with the highest balance by defining a method called "***highestBalance***" which takes all customer information as parameter and returns the customer with the highest balance as result.

(p) Update customer information by reading account no. and using a method "***update"***.

Demonstrate the working with an application/driver class. (include appropriate data members if required)

14. The annual examination results of STUDENTS are to be tabulated as follows:

Reg No. Name Subject 1 Subject 2 Subject 3

Represent this by a class called **Student** and design a menu driven program to perform the following by including appropriate members/methods.

(p) Create 10 students (use constructor(s))

(q) Find the Total marks obtained by each student and store in the student information.

(r) Find the highest marks in each subject and the Roll no. of the student who secured it by defining a method called "***findHighestScore***" that takes all student information as parameter and returns the student with highest total as result.

(s) Search for a student information (by Roll No.) by defining "***searchStudent***" method . If student exist display the complete information of the student otherwise display suitable message.

(p) Update student information by reading Roll No. and using a method "***update"***.

(t) Demonstrate the working with an application/driver class. (include appropriate data members if required)

15. Given that an EMPLOYEE class contains the following members:

Data Members: Employee Number, Employee Name, Department Name & Basic Salary

Member Functions: to read data, to calculate Gross Sal and to print the employee information

Develop an application program to read data of N employees and compute the Gross Salary and Net Salary of each employee.

Gross Salary = Basic + DA+ HRA, Net Salary = Gross – Tax, DA = 58% and HRA = 16% of Basic Salary.

Income Tax: Up to 2 lakhs no tax, after 2 and up to 3 lakhs 10% of the Gross Salary and after 3 and up to 5 lakhs 15% of the Gross and above 5 lakhs 30 % of Gross Salary. An additional surcharge of 2% of the tax will be added to the Final/Total tax.

Represent this by a class called **Employee** and design a menu driven program to perform the following by including appropriate member methods.

(q) Create 10 Employee (use constructor(s))

(r) Calculate gross_salary, net_salary and income tax of all the employees by defining a method called '***calculate***' which takes all employees information and calculates.

(s) Find the highest salaried employee by defining a method called "***highestSalary***" which takes all employee information as parameter and returns the highest salaried employee as result.

(t) Update Employee information by reading Employee no. and using a method "***update"***.

Demonstrate the working with an application/driver class. (include appropriate data members if required)

16. The details of the BOOKS are to be tabulated as follows:

NAME	CODE	COST	QUANTITY
Turbo C++	X1001	250.95	4
C Primer	A905	95.80	5

Represent this by a class called **Book** and design a menu driven program to perform the following by including appropriate members.

(m) Create 10 Books (use constructor(s))

(n) To buy a book, reading its code (Suitable message if not found in the list). If the book is available, read the no. of copies required (suitable message if required copies not available). Display the total cost for the required no. of copies. Update the quantity after transaction. For this task define a method called "***transaction***" that takes all book details as parameter and performs required transaction.

(o) Count the no. of successful and unsuccessful transaction and display the same.

(p) Update book information by reading code and using a method "***update"***.

Demonstrate the working with an application/driver class. (include appropriate data members if required)

17. The details of the CUSTOMERS in a bank are as follows:

Data members:

xvii. Name of the depositor
xviii. Account number
xix. Type of account
xx. Balance amount in the account

Represent this by a class called **Customers** and design a menu driven program to perform the following by including suitable member methods.

(q) Create 10 Customers (use constructor(s))

(r) To perform Transactions (define two methods "***deposit***" and "***withdraw***"). To withdraw, check for minimum balance based on the type of account and display suitable message if not possible/on decline.

(s) Find the customer with the highest balance by defining a method called "***highestBalance***" which takes all customer information as parameter and returns the customer with the highest balance as result.

(t) Update customer information by reading account no. and using a method "***update"***.

Demonstrate the working with an application/driver class. (include appropriate data members if required)

18. The annual examination results of STUDENTS are to be tabulated as follows:

Reg No. Name Subject 1 Subject 2 Subject 3

Represent this by a class called **Student** and design a menu driven program to perform the following by including appropriate members/methods.

(u) Create 10 students (use constructor(s))

(v) Find the Total marks obtained by each student and store in the student information.

(w) Find the highest marks in each subject and the Roll no. of the student who secured it by defining a method called "***findHighestScore***" that takes all student information as parameter and returns the student with highest total as result.

(x) Search for a student information (by Roll No.) by defining "***searchStudent***" method . If student exist display the complete information of the student otherwise display suitable message.

(u) Update student information by reading Roll No. and using a method "***update"***.

(y) Demonstrate the working with an application/driver class. (include appropriate data members if required)

19. Given that an EMPLOYEE class contains the following members:

Data Members: Employee Number, Employee Name, Department Name & Basic Salary

Member Functions: to read data, to calculate Gross Sal and to print the employee information

Develop an application program to read data of N employees and compute the Gross Salary and Net Salary of each employee.

Gross Salary = Basic + DA+ HRA, Net Salary = Gross – Tax, DA = 58% and HRA = 16% of Basic Salary.

Income Tax: Up to 2 lakhs no tax, after 2 and up to 3 lakhs 10% of the Gross Salary and after 3 and up to 5 lakhs 15% of the Gross and above 5 lakhs 30 % of Gross Salary. An additional surcharge of 2% of the tax will be added to the Final/Total tax.

Represent this by a class called **Employee** and design a menu driven program to perform the following by including appropriate member methods.

(v) Create 10 Employee (use constructor(s))

(w) Calculate gross_salary, net_salary and income tax of all the employees by defining a method called '***calculate***' which takes all employees information and calculates.

(x) Find the highest salaried employee by defining a method called "***highestSalary***" which takes all employee information as parameter and returns the highest salaried employee as result.

(y) Update Employee information by reading Employee no. and using a method "***update"***.

Demonstrate the working with an application/driver class. (include appropriate data members if required)

20. The details of the BOOKS are to be tabulated as follows:

NAME	CODE	COST	QUANTITY
Turbo C++	X1001	250.95	4
C Primer	A905	95.80	5

Represent this by a class called **Book** and design a menu driven program to perform the following by including appropriate members.

(q) Create 10 Books (use constructor(s))

(r) To buy a book, reading its code (Suitable message if not found in the list). If the book is available, read the no. of copies required (suitable message if required copies not available). Display the total cost for the required no. of copies. Update the quantity after transaction. For this task define a method called "***transaction***" that takes all book details as parameter and performs required transaction.

(s) Count the no. of successful and unsuccessful transaction and display the same.

(t) Update book information by reading code and using a method "***update"***.

Demonstrate the working with an application/driver class. (include appropriate data members if required)

INSTRUCTIONS TO CANDIDATES:

Please check your Roll No. Name and Question Number strictly. And Question Bank will be shared via email on scheduled time.

Time and Duration of the Test/Event: 02:30pm to 03:30pm (for One Hour) for writing the procedure (Complete program with all possible inputs and expected output). *And writing class diagram is optional.*

Time and duration for Scanning and Uploading the answered sheets: 03:30pm to 03:45pm (for 15min.), use PDF format and submit within time.

Viva/Quiz via Google Form: 03:50pm to 04:10pm (for 20min.) ONLY, avoid late submission.

Very importantly, Camera and Microphone should be kept ON mode/Turn ON. It is a recorded session; maintain sanctity of the EXAM throughout.