

**Sample Paper – 2011**  
**Class – XII**  
**Subject – Informatics Practices**

Time 03 hrs

Max Marks 70

**General Instructions:-**

1. All questions are compulsory.
2. Question paper carries A, B & C Three parts.
3. Section A is of 25 marks
4. Section B is of 30 marks
5. Section C is of 15 marks

**Section A.**

**Q1. Answer the following questions.**

- |   |    |
|---|----|
| a) Why do you use import statement in java programming? Explain with example.                           | 2. |
| b) What will be the initial value of an object reference which is defined as an instance variable?      | 2  |
| c) What is the purpose of 'if' statement? Describe the different forms of 'if' statements with example. | 2  |
| d) How can you describe the life of a variable in an application  | 1  |
| e) What do you understand about inheritance? Write the advantage of inheritance                         | 2  |
| f) What are the steps required to execute a query in JDBC?  | 2  |
| g) List the Advantages of JDBC.   | 2  |
| h) Differentiate between ODBC and JDBC driver.  | 2  |

**Q2. Answer the following questions.**

- |  |   |
|--|---|
| a) Explain how database is organized                             | 2 |
| b) What is relation? Define the relational data model.           | 2 |
| c) What is foreign key and Candidate Key?                        | 2 |
| d) What is single row function?                                  | 1 |
| e) What is the purpose of distinct clause? Explain with example. | 2 |
| f) What is the use of AS keyword with SELECT statement?          | 1 |

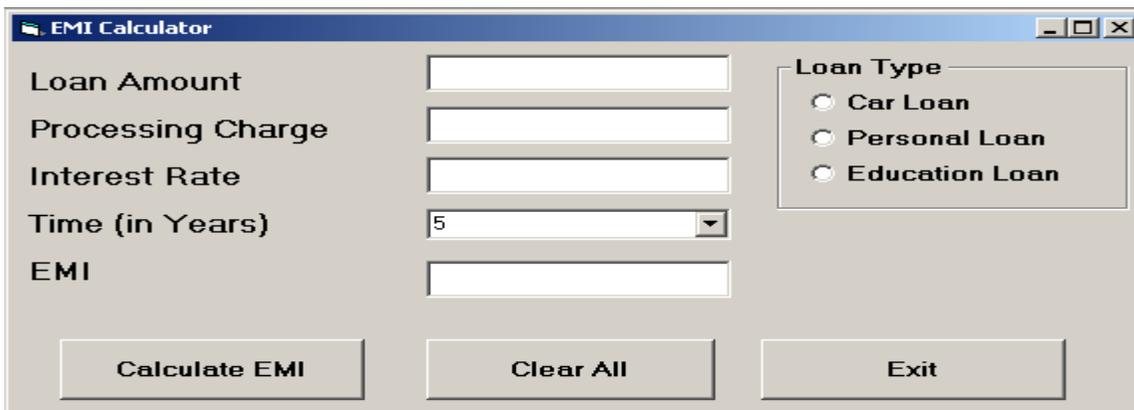
**Section B.**

**Q3.** Read the following case study and write a java code to answer the questions that following.

Manager of **Bachat Bank** has developed a java form for finding EMI to be paid by customers against repayment of loan.

Loan interest rates are(Yearly) -

Loan Type	Interest Rate
Car Loan.	14.5 %
Personal Loan	13.25 %
Education Loan	11.75 %



**Name of the various objects in JFrame are:**

Object Type	Object Name	Description
JFrame	JFrmEmiCalc	Main Form
Combo Box	jcmbYears	To select Years for Loan

Text Box	jtxtLoanAmt	To enter loan amount
	jtxtProcCharge	To enter processing charge
	jtxtRate	To enter interest rate
	jtxtEMI	To display EMI payable
Option Button	rbtnCar	To select loan type as Car Loan
	rbtnPersonal	To select loan type as Personal Loan
	rbtnEducation	To select loan type as Education Loan
Command Button	jcndCalcEMI	To calculate payable amount
	jcndClear	To clear the entered values
	jcndExit	To quit form application

**a)** Initially loan type should be set to **Car Loan**, **jtxtRate** should be disabled and **jcmbYears** should have values 5,10,15, and 20. 2

**b)** If loan amount is less than or equal to 0. It should display an error message “Invalid Amount” and cursor should point to **jtxtLoanAmt**. 2

**c)** When the user clicks the **CndCalcEMI** button, the total payable EMI should be calculated and displayed in the **jtxtEMI** text box. To calculate EMI, firstly calculate compound interest using formula  $ci=p*(1+r/100)^t$ . Add compound interest to loan amount and divide by time (in months). 4

**d)** Write the code for **jCmdExit** button to stop the application and **jCmdClear** command button to clear all the text boxes, option buttons. Also cursor should point on **jtxtLoanAmt** test box. 2

Q4.

a) Write the output of the following java code

2

```
int var1=10, var2=20;
for (int i=1; i<=2; i++)
{
    System.out.print(var1++ + "\t" + --var2 + "\n");
    System.out.print(var2-- + "\t" + ++var1 + "\n");
}
```

b) Identify the syntax error and rewrite the java code by removing the syntax error

2

```
int x=0;
for(i=1; i<10; i++)
{
    for(int j=5; j>i ; j--)
    {
        System.put.print("The j is " + j)
        System.out.display("The i is " + i);
    }
    X=i+j;
    System.out.print("The x is " + x)
}
```

c) Define a class Bank to represent the bank account of a customer with the following specification 4

**Private Members:**

- Name of type character array(string)
- Account\_no of type long
- Type\_of\_account ( S for Saving Account, C for current Account) of type char
- Balance of type float

**Public Members:**

A constructor to initialize data members as follows

- Name NULL
- Account\_no 100001
- Type\_of\_account 'S'
- Balance 1000

A function **NewAccount()** to input the values of the data members Name, Account\_no, Type\_of\_account and Balance with following two conditions

- Minimum Balance for Current account is Rs.3000
- Minimum Balance for Saving account is Rs.1000

A function **Deposit()** to deposit money and update the Balance amount.

A function **Withdrawal()** to withdraw money. Money can be withdrawn if minimum balance is as  $\geq 1000$  for Saving account and  $\geq 3000$  for Current account.

A function **Display()** which displays the contents of all the data members for a account.

- d) Write a Method in Java to take a number as argument and print the product of its digit, as if a number entered is 234 then the program gives output as 24. 2

Q5.

- a) Answer the questions (i) to (iv) based on the following code: 4

```
class livingbeing
{
    private String specification;
    private int averageage;
    public void read();
    public void show();
};

class ape : extends livingbeing
{
    private int no_of_organs;
    private int no_of_bones;
    protected int iq_level;
    public void readape();
    public void showape();
};

class human : extends ape
{
```

```
private char race[20];
private char habitation[30];
public void readhuman();
public void showhuman();
};
```

- (i) Name the members which can be accessed from the member functions of class human.
  - (ii) Name the members, which can be accessed by an object of class human.
  - (iii) What will be the size of an object (in bytes) of class human.
  - (iv) Name the class(es) that can access read() declared in livingbeing class.
- b) Write a java method to fetch the data from the employee table and display it in jTable the method already having Connection class object name con, Statement class Object name smt and ResultSet class object rs with the following query SELECT EMPNO, ENAME, JOB, SAL FROM EMP' . 3
- c) Write a java method to get the sum of the following series: 3

$$x + \frac{x^2}{4!} + \frac{x^4}{16!} + \frac{x^6}{36!} + \frac{x^8}{64!} + \dots + \frac{x^n}{(n^2)!}$$

**Section C.**

**Q6 Write SQL commands to do the following:**

- 1. Create Table employee with the following given attributes and using the constraints 2

Field Name	Data type	Size	Constraints
ECODE	INT		PRIMARY KEY
ENAME	VARCHAR	20	NOT NULL

SEX	CHAR	1	NOT NULL
HIREDATE	DATE		
ADDRESS	VARCHAR	30	
PIN_CODE	NUMBER	6	CHECK PIN_CODE LENGTH = 6
JOB	VARCHAR	20	
GRADE	CHAR	2	DEFAULT 'E1'
SAL	DECIMAL	10	CHECK gross greater than 200
DEPTNO	INT	6	REFER DEPTNO of DEPT Table

2. Write the sql command to display the details of all the employees whose sal is less than 2500 and sex is 'F'. 1.
3. Write the sql command to display the details of all the employees whose name starts with S and working in department no 10 and 20 1.
4. Write the sql command to display the details of all the employees who have 'LL' or 'TT' in their name. 1
5. Write a DDL command to copy the structure of employee into employee1 without copying its data. 1
6. List the detail of employees who have more than 25 years of experience in their job. 1
7. List the total number of jobs in employee table 1
8. List the employee code, employee name, sal, DA, HRA, PF and net sal (sal + DA + HRA – PF) for all the employees. Sort the output on ascending order of net sal with proper heading in table output.
  - DA is 87% of sal
  - HRA is 36% of sal
  - PF is 12% of sal 2.

**Q7. Find the outputs-**

**5×1**

- (a) SELECT ROUND(20009,111,-2);  
(b) SELECT SQRT(81),SQRT(17),SQRT(-1);  
(c) SELECT MID('ABS Public School' ,11,8), TRIM(LEADING '!' FROM '!!!!WEL COME!!!!');  
(d) SELECT SUBSTR( RTRIM('INDIA IS GREAT '),3,9);  
(e) SELECT CONCAT(UPPER ('xiHum'), LOWER('xiSc'), UPPER(SUBSTR('xiCom',2,3)));

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