SAMPLE PAPER - 2014
INFORMATICS PRACTICES
Class – XII

Time allowed : 3 hours   Maximum Marks : 70

Note :
   (i)   All questions are compulsory.
   (ii)   Answer the questions after carefully reading the text.

1.   (a) Name the device that links two networks with different protocols and it uses logical address.   (1)
      (b) Mr. Daya Shankar is planning in his office building to connect all computers, each spread   (1)
           over within distance of 50 meters. Suggest the economical cable type having high speed data
           transfer rate which can be used to connect these computers.
      (c) Define the followings with reference to Threats to Network Security.   (2)
           (i) Trojan Horse
           (ii) Worm
      (d) Mr. Mehra is confused between the terms Domain name and URL. Explain the difference   (2)
            with the help of appropriate examples of each.
      (e) Name two Open Standards and two Proprietary Standards.   (2)
      (f) What is IP address ? Explain its importance on addressing systems.   (2)
2.   (a) Define Data Encapsulation in context of Object Oriented Programming.   (1)
      (b) Name any two components of NetBeans Java IDE?   (1)
      (c) Mr. Mehta wants to display The "AGCS" Purulia in a TextField named schoolTF. Write   (1)
           the command in java to do that.
      (d) What are these methods used for ?   (1)
            (i) isEditable( )   (ii) setEditable( )
      (e) What will be the output of the following code :   (2)
           System.out.println("Output 1 = " + 7.5 + 2.5);
           System.out.println("Output 2 = " + 7.5 / 2.5);

(f) What is wrong with the following java statements : (2)

    (i) int c = (a + b) / 4.2;   (ii) m + 5 = n;

(g) What is casting? When do we need it? Give on example of it. (2)

3. (a) Write the MySQL commands for the followings : (2)

    (i) To open a database named AGCS.

    (ii) To show the name of the current database.

(b) Write the name of the clauses used with SELECT command for the followings. Give one (2)
    example of the use of each clause :

    (i) To list the values with of a column without any repetition.

    (ii) To display the values that matches a particular pattern in a given column.

(c) Answer the following questions : (2)

    (i) Write a SQL command which will not use BETWEEN clause and produce the same result
      produced by the given command :

```
mysql> SELECT * FROM Books WHERE Price BETWEEN 250 and 500;
```

    (ii) Write an alternate SQL command to produce the same result as that of the given command :

```
mysql> SELECT * from Books WHERE Publisher = 'APH' OR
        Publisher = 'JPH' OR Publisher = 'ABD';
```

(d) There is a column C1 in a table T1. The following two statements : (2)

```
mysql> SELECT COUNT(*) FROM T1; and
mysql> SELECT COUNT(C1) from T1;
```

   are giving different output as 12 and 9 respectively. What may be the possible reason ?

(e) What is the purpose of GROUP BY clause ? Differentiate between HAVING and WHERE clauses. (2)

4. (a) How many times will each of the following loop execute ? Which one of these is an entry (2)
    control loop and which one is an exit control loop?

LOOP 1	LOOP 2

| int ctr=1,sum=0;
   while(ctr <=10)
   {
     sum=ctr++;
     ctr=ctr+ sum--;
   } | int ctr=1,sum=0;
   do
   {
     sum=ctr++;
     ctr=ctr+ --sum;
   } while(ctr <=10); |

(b) Answer the following questions :   (2)

   (i) Rewrite the given code by using ternary statement without changing the output :

```
if (income<10000)
    tax = 0;
else
    tax = 12;
```

   (ii) Rewrite the following code segment by using for loop, without changing the output :

```
int i=1, sum=0;
while (i<15)
    {   sum +=i;
        i +=2;
        i ++ ;
    }
```

(c) Find out the error(s) in the given code and rewrite the corrected code underlining the   (1)
    corrections made.

```
int First = 7;
int Second = 73;
```

```
            First++;
            if (First ++ Second> 90)
                    jLabel1.setText( "value is 90" )
            Else
                    jLabel1.setText( 'value is not 90' );
```

(d) Answer the following questions :   (2)

   (i) Evaluate the following logical expressions :

     1)   1 + 5 > 7 && 7<= 2 + 5

     2)   3 > = 0 || 0 < 14

   (ii) If a = 25, b = 12 then evaluate the following expression :

     a+= a++ * ++b % 2 – 7 ;

(e) Find the output of the following code segment :   (2)

```
            int i=1,j=2,x=0;
            switch(1+j-1)
            {  case -1:
               case 0:
                    x+=1;   break;
               case 1: case 2: case 3:
                    x+=3;
               default:
                    x+=3;
            }
            System.out.println(x);
```

(f) Mr. Somani wants to display all the even numbers between 1 to 100 and for that he has   (1)
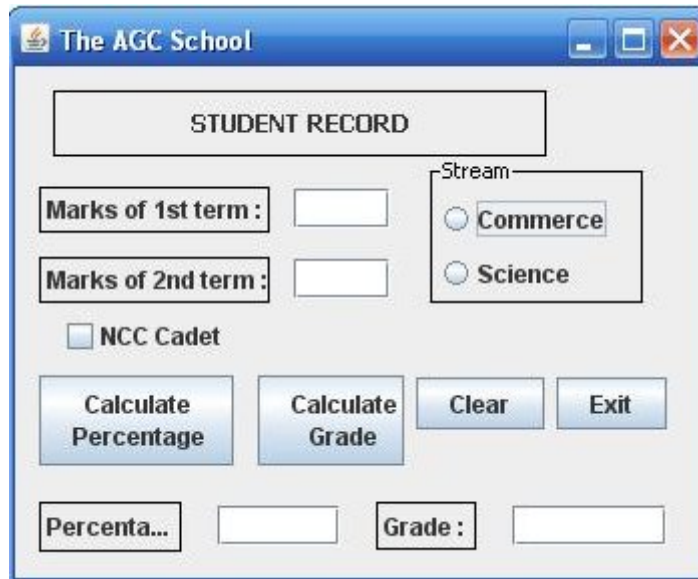written the following code :

```
            for(int a=1; a<=100; a=a+2)
            System.out.println(a);
```

But he is not getting the desired output. Help him by correcting the code to get the
desired output.

(g) Read the following case study and answer the questions that follow :

Mr. Vidyarthi works in AGC School as a programmer. In order to develop a student record application, he has created the following GUI in NetBeans.

The school offers two different streams, commerce and science, with different grading criteria. The school also offers incentive to the NCC cadets in the form of a 3% increment in percentage for all the NCC cadets. The grading criteria for two streams is given below :

Stream	Percentage	Grade
Commerce	>=80	A
	60-79	B
	<60	C
Science	>=75	A
	50-74	B
	<50	C

(i) Write the code for the following : (1)

     A. Write the code for "Exit" button to terminate the application.

     B. Write the code for "Clear" button to clear all the text fields and check box.

(ii) Write the code for "Calculate Percentage" button to calculate the percentage after finding   (2)
the total marks of first term and second term (assuming that both marks are out of 100). Also
ensure that NCC Cadets get an increment of 3% in their percentage.

(iii) Write the code for "Calculate Grade" button to calculate the grade depending on the   (2)
 stream selected according to the criteria given above.

5.   (a) What is the Cartesian product of two tables ? Is it same as an Equi-join ?   (2)

    (b) There are two table T1 and T2 in a database. Cardinality and degree of T1 are 3 and 8   (1)
respectively. Cardinality and degree of T2 are 4 and 5 respectively. What will be the degree
and Cardinality of their Cartesian product?

(c) Consider the table TEACHER given below. Write commands in MySQL for (i) to (iv) and
output for (v) to (vii).

Table TEACHER :

No	Name	Age	Department	Joindate	Salary	Sex
1	Mr. Sachin	29	English	1998-05-21	8000	M
2	Mrs. Kiran	23	History	1997-04-15	7500	F
3	Mrs. Ritu	32	Physics	1999-08-29	9000	F
4	Mr. Kumar	38	Accountancy	1986-09-10	10000	M
5	Mr. Anil	24	Computer	1989-06-25	8500	M
6	Mr. David	25	History	1998-10-12	12500	M
7	Mrs. Tabbashum	24	Computer	1990-01-02	11000	F
8	Miss. Sanjana	33	Mathematics	1992-03-17	8000	F

(i)   To display the names and Department of the female teachers of History department.   (1)

(ii)   To list names of all teachers with their date of joining in ascending order.   (1)

(iii)   To increase the salary by 15% of all the Teachers who have joined before 1995-01-01.   (1)

(iv)   To add a row with the details : 9, 'Mr. Ibrahim', 27, 'Chemistry', '1995-07-24', 12000, 'M'.   (1)

(v)   SELECT COUNT(DISTNICT Department) FROM Teacher;   (1)

(vi)   SELECT MAX(Age) FROM TEACHER WHERE Sex= 'M';   (1)

(vii)   SELECT AVG(Salary) FROM TEACHER WHERE Age>30;   (1)

6.   (a) Write MySQL command to create the Table VOTER including its Constraints.   (2)

Table VOTER :

Name of Column	Type	Size	Constraint
Id	INT	8	Primary Key
Name	VARCHAR	15	Not Null
Age	INT	3	Not Null
Address	VARCHAR	30	
Phone	INT	10	

(b) In a database there are two tables :

Table STATIONERY :

S_ID	SName	Company	Price
DP01	Dot Pen	ABC	10
PL02	Pencil	XYZ	6
ER05	Eraser	XYZ	4
PL01	Pencil	CAM	7
GP02	Gel Pen	ABC	15

Table CONSUMER :

C_ID	CName	Address	S_ID
01	Good Learner	Delhi	PL01
06	Write Well	Mumbai	GP02
12	Topper	Delhi	DP01
15	Write & Draw	Delhi	PL02
16	Motivation	Bangaluru	PL01

Write MySQL queries for the following :

(i)   To display the Stationery name, company, price and corresponding consumer name of   (2)
      all the stationery items whose price is in the range 5 to 12 (both values inclusive).

(ii) To display consumer name, address and corresponding company name from the tables   (2)
      CONSUMER and STATIONERY of all the stationeries whose consumer's address is Delhi.

(iii) To display Stationery name, company and discount (Note : Discount to be calculated   (2)
      as 20% of price) of all the Stationeries with appropriate column headings.

(c) Given below is a Table PRODUCT.

P_ID	P_Name	Manufacturer	Order_No	Price
TP01	Talcum Powder	LAK	2708	55
FW05	Face Wash	ABC	6221	45
BS01	Bath Soap	ABC	3097	55
SH06	Shampoo	XYZ	7204	120
FW12	Face Wash	XYZ	1039	95

(i)   Identify the keys (Primary Key and others, if any) in the table given above.   (1)

(ii) Write MySQL query to change the price of bath soap to 60 in the PRODUCT table.   (1)

7. (a) Write down the social and economic benefits of ICT. What is infomania ?   (2)

    (b) Mention any two characteristics of a good GUI. Write two popular e-Learning sites.   (1)

    (c) Mr. Paul is going to develop a front end for his school. Help him to choose most   (2)
        appropriate controls from ListBox, ComboBox, TextField, TextArea, RadioButton, CheckBox,
        Label and Command Button for the following entries :

(i)   To select a student from a list of class-XII Commerce students.

(ii)   To enter the email-id.

(iii)   To select the hobbies of the student out of 4 hobbies given.

(iv)   To enter the age of the student.

Sample Paper Submitted by : Mr. Rajesh Kumar Singh

MCA

Post + Dist – Purulia, West Bengal.

Phone No : 9832096646