CLASS XII
SAMPLE PAPER-065
INFORMATICS PRACTICES

Time: 3 hrs. **M.M. 70**

Note: All questions are compulsory.
Marks are allotted against each question.

Q 1. Answer the following questions:-

a) Mr. Abhinav wants to implements a network using less cable length and data should be transmitted in one direction only. Name the topology and direction of data transmission. **[2]**

Ans: Ring/Circular Topology and Anti-Clock wise

b) Explain the uses of the following devices in networking- **[2]**
i) Switch ii) Repeater

Ans:

i) Switch: A switch is responsible for filtering data in a specific way and for forwarding packets between LAN segments.

ii) Repeater: It is a network device that amplifies and restores the signals for long distance transmissions.

c) What do you mean by Communication Channel? Name any two. **[2]**

Ans: Transmission Media (Communication Channels): The cable that connects two or more nodes is the communication channels. It can be categories in two types- Guided (Wired Technology) & Unguided (Wireless Technology). Eg. Twisted Pair Cable (Ethernet Cable), Coaxial Cable, Optical Fibers, Microwave, Radio Wave, Satellite, Infrared, Bluetooth

d) Ms. Kiran has downloaded software from internet. It can be distributed and freely used by any one. Source code is not available. Name the software downloaded by her. **[1]**

Ans: Freeware

e) Write any two preventive measures for network security. **[1]**

Ans: Preventive Measures for network security-(any two)

- **Implement proper security policy for your organization**
- **Use proper file access permissions when sharing files on Internet**
- **Disconnect from the Internet when away**

f) Write any two advantages of open standard. **[1]**

Ans: Advantages of Open Standards-(any two)

a)Making the data accessible to all
b) Application and platform independent
c)No hidden information
d)Diversity and interoperability in the industry
e)Offers diverse choice for users

g) Differentiate between Phonetic Text Entry and Key map based Entry of Indian language text. **[1]**

Ans: Phonetic Text Entry (Transliteration): In this type of text entry, traditional keyboards with English keys are used. But while typing, the Indian alphabets are written phonetically (i.e., the way

they sound as per the pronunciation) in English Script and then converted to corresponding language word. For e.g. we will type "mera desh mahaan" from English keyboard and the relevant phonetic key entry software will transliterate it in the language selected eg. Hindi.("esjk ns'k egku")
Keymap based Entry: In this method the keyboard keys are mapped to specific characters using a keymap. The whole arrangement of mapping the keyboard keys to specific language characters is known as keymap.

Q 2. Answer the following questions:-

a) A variable amount has a value 25365. Write the statement to display the value in a Label control named lblAmount. **[1]**

Ans: lblAmount.setText(" "+amount);

b) What is the purpose of ***break*** statement in switch…case statement? **[1]**

Ans: In a switch statement, when a match is found, the statement sequence associated with that case is executed until a break statement or end of switch is reached so if break statement is missing the statement sequence is executed from the case which was found true to downward until the end of the switch statement is reached no matter whether the statement sequence falls under any other case or default clause.

c) Differentiate between <A> and <B> tag of HTML. **[1]**

Ans: <A> tag is known as Anchor tag and used for Hyper linking and <B> tag is used for converting the sentence/paragraph in Bold face.

d) Write any two features of XML. **[1]**

Ans: Features of XML (any two)

1. **XML is free and extensible**
2. **XML is platform independent**
3. **Can be used to create new language**
4. **It is designed to Carry data, not to display data.**

e) What will be the output after executing the following code? **[2]**

```
int fun(int n)
      { int r=(n%2==0)?1:0;
        return r;
      }
int t=5,p;
      do
      {   p=fun(t);
          if(p==1)
              System.out.println(t+p);
          else
              System.out.print(t+p);
      }while(++t<10);
```

Ans: 57
79
9

f) Write a method in Java that takes an year (4-digit) and return ***true*** if year is leap, otherwise ***false***. **[2]**

Ans:

```
boolean funLeap(int year)
      { if(year%4==0 && year%100!=0 || year%400==0)
            return true;
```

```
        else
            return false;
    }
```

g) What are the uses of the following tags:- **[2]**
<HTML>, <SUP>, <H1>, <TR>

Ans: <HTML> - Identifies that the document is a HTML document.
<SUP> - Displays the text in superscript way. i e. a^2+b^2
<H1> - Displays text in Heading format (for largest heading size)
<TR> - Used to specify table row, it is contained in <TABLE> tag.

Q 3. **a)** If a database "Library" exists. Write the command to start working in this database. **[1]**
Ans: USE Library;

b) While creating a table "MobDet", Kavita forgot to set primary key for the table. Write the statement to set the column MobileNo as the primary key of the table. **[1]**
Ans: ALTER TABLE MobDet ADD PRIMARY KEY (MobileNo);

c) Avani has created a table named "Doctor", she wants to increase the OPDCharge by 25% of "Nephro" and "Cardio" department. She wrote a query- **[1]**

```
UPDATE Nephro,Cardio SET OPDCharge=25% WHERE department IN ('Nephro','Cardio');
```

Help Avani to run the query by removing the errors from the query and write corrected query.
Ans: UPDATE Doctor SET OPDCharge= OPDCharge + OPDCharge *0.25 WHERE department IN ('Nephro','Cardio');

d) Abhi wants to undo the changes made during the transaction execution. What command should Abhi use for this purpose? **[1]**
Ans: ROLLBACK; (ROLLBACK works only when START TRANSACTION /BEGIN command is issued)

e) Identify the candidate key(s) in the following table. **[2]**
Relation: **Data**

EmpNo
Name
Designation
MobileNo
PANCardNo
Salary
BankAccountNo

Ans: EmpNo, MobileNo, PANCardNo, BankAccountNo

f) GarCode, GarName, Price and FabrCode of table "**GARMENT**" are given below- **[2]**

GarCode	GarName	Price	FabrCode
10015	Informal Pant	1899	F02
10089	Formal Pant	1295	F01
10075	Shirt	690	F01
10036	Frock	690	F04

Based on this information, find output of the following queries.
a) SELECT COUNT(Distinct FabrCode)) FROM GARMENT;
b) SELECT GarName FROM GARMENT WHERE FabrCode NOT LIKE '__1';

Ans: a) 3
b) Informal Pant
Frock

g) What is the role of UNIQUE constraint? How is PRIMARY KEY constraint different from UNIQUE constraint? **[2]**

Ans: UNIQUE constraint works same as Primary Key constraint but,
UNIQUE Attribute can be NULL but PRIMARY KEY can not be NULL.
UNIQUE can be assigned to many attribute but PRIMARY KEY can be assigned to one attribute only in a table.

Q 4. **a)** What is method overriding? **[1]**

Ans: A method in a sub class hides or overshadows a method inherited from the super class if both methods have the same signature. This property is known as overriding the inherited method.

b) What is the difference between setEnabled and setVisible methods of a control? **[1]**

Ans: setEnabled method makes the control accessible or inaccessible but control displays on screen whereas setVisible method makes the control visible or invisible on the screen

c) Write the purpose of the following statements. **[1]**

i) jTextField1.setText("Value"+Math.round(-11.5)); ii) final double g=9.8;

Ans: i) It will round off the number and display in text field1 – **Value -11**

ii) It will declare a constant g with initial value **9.8**

d) Rewrite the following code using if ..else. **[2]**

```
switch(ch) {
    case ‘a’:
    case ‘A’:
    case ‘e’:
    case ‘E’:
    case ‘i’:
    case ‘I’:
    case ‘o’:
    case ‘O’:
    case ‘u’:
    case ‘U’: ++v;
              break;
    default: others++;
  }
```

Ans:

```
if(ch==’A’ || ch==’a’ || ch==’E’ || ch==’e’ || ch==’I’ || ch==’i’ || ch==’O’ || ch==’o’ || ch==’U’ || ch==’u’ )
   ++v;
else
  others++;
```

e) The following code has some error(s). Rewrite the correct code underlining all the corrections made. **[2]**

```
int i,c,a=5,b=0;
for(i=0,i<20,i++)
 { if b=0 then
      break;
   else
      c=a/b;
system.out.show(“Quotient”+c);
```

Ans: int i,c,a=5,b=0;

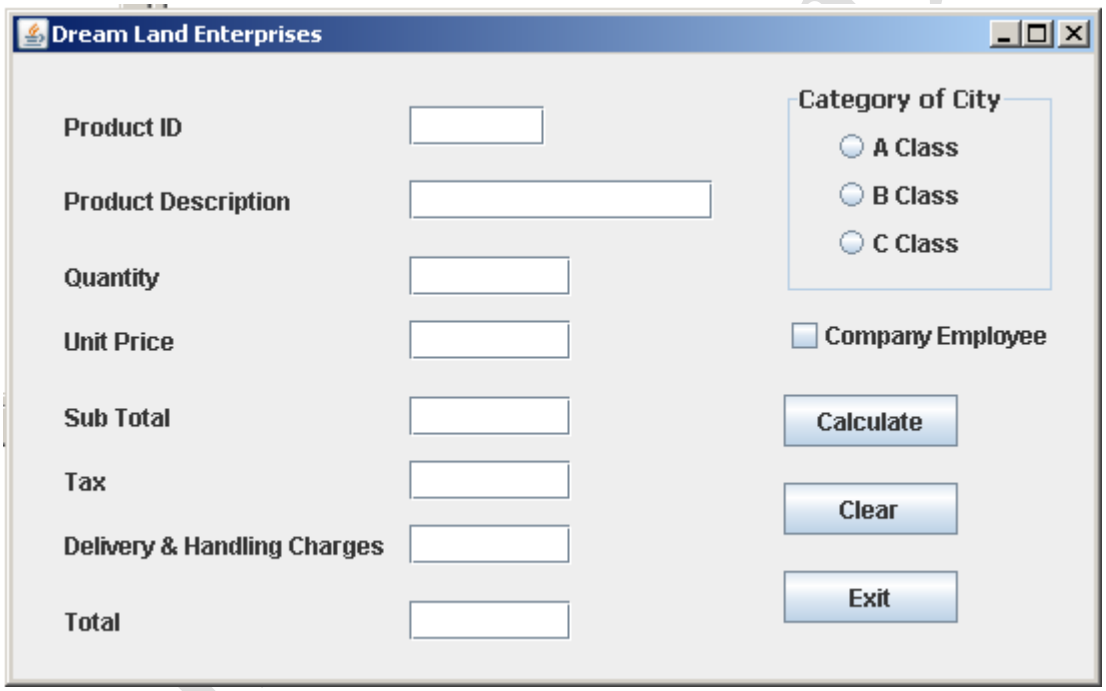
```
for(i=0;i<20;i++) // at place of comma(,) semicolon (;) should be there
{ if (b==0)       // comparison operator = = should be used and brackets are missing.
     break;
  else
     c=a/b;
 System..out.Println("Quotient"+c);
```

f) What will be the content of jTextField1 and jTextField2 after executing the following code? **[2]**

```
String st="Happy New Year 2012";
jTextField1.setText(""+st.substring(17)+st.length());
jTextField2.setText(st.substring(6).trim());
```

Ans: jTextField1 will contain **1219** and jTextField2 will contain **New Year 2012**

g) Dream Land Enterprises has computerized its billing. The following data entry screen is used to generate bill. **[6]**



The criteria for calculation of delivery and handling charges is as given below-

Category of City	Charges
A Class	Rs. 3500
B Class	Rs. 4000
C Class	Rs. 4500

I. Write the code to make the text fileds **txtSubTotal, txtTax, txtDelHanCh** and **txtTotal** non editable and set the category of city as C class.

II. Write code to do the following-

a) Write the code for **Calculate** button to calculate and display Sub Total, Tax, Delivery & Handling Charges and Total depending on the category of the city.

- Sub Total is calculated as **Unit Price * Quantity**.

- Tax is calculated as 7.85% of Sub Total
- Total is calculates as the sum of Sub Total, Tax and Delivery and Handling Charges. If Company Employee check box is checked then tax should be 2.5%.

b) When Clear button is clicked all the text boxes should be clear and Close the application when Exit button is pressed.

Ans: I. txtSubTotal.setEditable(False);
txtTax.setEditable(False);
txtDelHanCh.setEditable(False);
txtTotal.setEditable(False);
optCClass.setSelected(True);

II. a) Code for Calculate Button

```
double qty,unitPrice, tax, subtotal, dhCharges,total
qty=Double.parseDouble(txtQuantity.getText());
unitPrice=Double.parseDouble(txtUnitPrice.getText());
subtotal= qty* unitPrice;
if(chkCompEmpl.isSelected()==True)
        tax=subtotal*(2.5/100);
else
        tax= subtotal *(7.85/100);
if(optAClass.isSelected()==True)
         dhCharges=3500;
if(optBClass.isSelected()==True)
         dhCharges=4000;
if(optCClass.isSelected()==True)
         dhCharges=4500;
total=subtotal+tax+dhCharges;
txtSubTotal.setText(" "+subtotal);
txtTax.setText(" "+tax);
txtDelHanCh.setText(" "+dhCharges);
txtTotal.setText(" "+total);
```

b) Code For Clear Button-

```
txtQuantity.setText(" ");
txtQuantity.setText(" ");
txtSubTotal.setText(" ");
txtTax.setText(" ");
txtDelHanCh.setText(" ");
txtTotal.setText(" ");
            or
txtTotal.setText(null); //null can also be used.
```

Code for Exit Button-

```
System.exit(0);
```

Q 5. **a)** Explain the need of GROUP BY clause in SELECT query with example. **[2]**

Ans: GROUP BY clause is used to group all those records that have identical values in a particular field or a group of fields (attribute). Eg.

```
SELECT stream, Count(*)
```

FROM student
GROUP BY stream;
It will display the stream wise no. of students.

b) Write output of the following SQL queries : **[2]**
i) SELECT DAYOFMONTH('2010-12-23');
ii) SELECT TRUNCATE(170,-2);
iii) SELECT INSTR('Coordination ',’o’);
iv) SELECT CONCAT('India',NULL,'Australia');

Ans: i) 23
ii) 100
iii) 2
iv) NULL

c) Consider the table given below, write command in SQL for (1) to (4) and output for (5) to (8). **[6]**

Table : **STUDENT**

No	Name	Stipend	Stream	AvgMark	Grade	ClassSec
1	Karan	800	Medical	67.8	C	11D
2	Vishu	1500	Commerce	82.6	B	12B
3	Prabhat	2000	Humanities	85.7	B	12J
4	Selina	700	Medical	88.9	A	11C
5	Vinod	900	Science	65.9	C	11D
6	Karan	1200	Medical	68.6	D	12J

(1) To display the name and stream of all students who are in class 12.
(2) To display the different Streams available for students.
(3) To display name, avgmarks and grade in ascending order of grade.
(4) To display names of those students whose grade and section are same.
(5) SELECT Stipend+500 FROM Student WHERE stream LIKE '%ma%';
(6) SELECT COUNT(*) FROM Student WHERE grade='C' OR stipend =800;
(7) SELECT ClassSec FROM Student WHERE Avgmark>68 && stream='Medical';
(8) SELECT AVG(stipend) FROM Student WHERE name='Karan';

Ans: (1) SELECT name,stream
FROM student
WHERE classSec LIKE '12%';
Or
SELECT name,stream
FROM student
WHERE LEFT(classSec,2)='12';
(2) SELECT DISTINCT stream
FROM student;
(3) SELECT name, AvgMark, Grade
FROM student
ORDER BY Grade ASC;
(4) SELECT name
FROM student

WHERE RIGHT(classSec,1)=Grade;

(5) 2500
(6) 2
(7) 11C
12J
(8) 1000

Q 6. Answer the following question.

a) Write an SQL query to create the table "**Club**" with the following structure- **[2]**

Field	**Type**	**Constraint**
CoachId	Integer(6)	Primary Key
CoachName	Varchar(25)	Not NULL
Age	Integer(3)	Must be more than 35
Sports	Varchar(20)	
Pay	Integer(8)	
Sex	Char(1)	

Ans:
CREATE TABLE club (CoachId INT(6) PRIMARY KEY, CoachName Varchar(25) NOT NULL, Age INT(3) CHECK Age>35, Sports Varchar(20), Pay INT(8), Sex Char(1));

b) In a database there are two tables 'Doctors' and 'Patients' shown below- **[2]**

Table: **Doctors**

DId	**DName**	**OPDDays**	**Timing**
D521	R. K. Sinha	Monday	10 am
D324	V. K.Singha	Wednesday	9 am
D945	P. Kumar	Friday	12 pm
D457	V. Prasad	Saturday	10 am
D125	K. Krishna	Tuesday	11 am
D220	M. Kumar	Monday	12 pm

Table: **Patients**

PId	**Name**	**Age**	**Dept**	**DateOfAdm**	**Charges**	**Gender**	**DId**
115	Jugal	36	Nephro	2005-12-15	260	M	D324
621	Smita	45	Cardiology	2007-07-20	450	F	D945
451	Reena	14	ENT	Null	Null	F	D457
136	Kishor	64	Surgery	2001-08-28	850	M	D521

i) Name the column(s) that can be used to retrieve data from both the tables.
ii) Identify the Primary key and Foreign Key attributes from both the tables.

Ans: i) DId (from Doctors and Patients table)
ii) PId – Primary Key (Patient Table)
DId- Foreign Key (Patient Table)
DId- Primary Key (Doctors Table)

c) Consider the tables given below- **[6]**

Table : Staff

StaffId	Name	Dept	Gender	Experience
1125	Noopur	Sales	F	12
1263	Kartik	Finance	M	6
1452	Palak	Research	F	3
236	Nayan	Sales	M	8
366	Anvashan	Finance	M	10
321	Sawan	Sales	M	7

Table : Salary

StaffId	Basic	Allowance	CommPer
1125	14000	1500	9
1263	25000	2800	6
236	13500	1400	5
321	12000	1500	5
366	26100	3100	12

With reference to above tables, write commands in SQL for (i) and (ii) and output for (iii)-

(i) To display name of all the staff that are in Sales having more than 9 years experience and commission percentage is more than 8.

(ii) To display average salary of staff working in Finance department. ***(Salary=Basic+allowance)***

(iii) SELECT name, Basic from Staff, Salary WHERE Dept='Sales' and Staff.StaffId=Salary.StaffId;

Ans: i) SELECT Name
FROM Staff, Salary
WHERE Dept='Sales' AND Experience>9 AND CommPer>8 AND
Staff.StaffId=Salary.StaffId;

ii) SELECT AVG(Basic+Allowance) AS "Average Salary"
FROM Staff, Salary
WHERE Staff.StaffId=Salary.StaffId AND Dept='Finance';

iii) Noopur 14000
Nayan 13500
Sawan 12000

Q 7. **a)** What is e-Governance? Name any two major e-Governance projects in India. **[2]**

Ans: E-Governance refers to the application of electronic means in governance with an aim of fulfilling the requirements of a common man at affordable costs and in fastest possible time.
Two projects are- Income Tax Portal, DRDO Project, Indian Courts, Supreme Court of India, RTI Portal etc.

b) What is database connectivity? **[1]**

Ans: Database Connectivity refers to a programming interface through that front end access a database on a backend via same means.

c) Mr. Anubhav is working as a programmer in a Hotel. He wants to create the forms to add the details of customers. Choose appropriate controls from Text Field, Label, Radio Button, Check Box, List Box, Combo Box, and Command Button and write in the third column. **[2]**

SNo	Control Used to	Control

1	Enter Name of Customer	
2	Select Room Type	
3	To display current date	
4	Selection for extra facilities like Laundry, Food, Gym	

Ans:

SNo	Control Used to	Control
1	Enter Name of Customer	**Text Field**
2	Select Room Type	**Combo/ Radio Button**
3	To display current date	**Label**
4	Selection for extra facilities like Laundry, Food, Gym	**Check Box/ List Box**

****** Best of Luck ********

Marking Pattern:

Theory :
Networking & Open Source –10 Marks
Java - 20 Marks
HTML- 5 Marks
IT Application – 5 Marks
MySQL – 30 Marks
Total - 70 Marks

Practical:
Java – 10 Marks (A Program)
MySQL – 4 Marks (Queries on a table)
Records File – 6 Marks
Project Work – 4 Marks
Viva – 6 Marks
Total – 30 Marks

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