INTERNATIONAL INDIAN SCHOOL, DAMMAM
Preliminary Examination – February 2016 Time: 3 Hrs
Informatics Practices Marks: 70
Class XII
Set A

(a) Sunanda wants to transfer some music files from her laptop to her mobile phone. (2)
    i.   Name this type of network (out of LAN/MAN/WAN/PAN).
    ii.   Name one communication channel (unguided) that can be used for this.

(b) Identify the specific type of security threat in the following examples: (2)
    i.   Continuously sending bulk requests to a website so that it is not available to any other user.
    ii.   Reading the files on someone's computer in an unauthorised manner
    iii. Forced shutting of an application as soon as the user opens it.
    iv. Installing some receiver which captures the network data while on its way.

(c) Write one advantage and one disadvantage of Open source software over Proprietary software. (2)

(d) What are the following used for? (i) Repeater (ii) Gateway (2)

(e) Identify the topology mentioned below. State an advantage of this topology. (1)
- All nodes are connected to a hub/switch, to which the central node is connected.

(f) What is domain name resolution? (1)

(a) Ms. Indira has designed a form for an event where she wants to display the zone as "North", "South", "East" or "West" according to the state in which the user belongs. If the state name is entered in a text field, which construct (out of switch-case/if-else) should she use for this code? Justify your answer. (1)

(b) Assuming that there are three numbers x, y and z already declared and assigned values, write the java statements to find the largest of the three and assign it to a variable **big**. (1)

(c) Rewrite the following using if-else construct: (2)
```
int days;
switch(month)
{
  case 2: days=28; break;
  case 4:
  case 6:
  case 9:
  case 11: days=30;break;
  default: days=31;}
```

(d) Shridhar has to design a web pages with following specifications: (2)
   i. Hyperlinks should appear in green colour and once you visit a link they should be in fuchsia colour.
   ii. Font used should be "Book Antiqua" with size 4
   Write the HTML code to do this.

(e) Mention any four important features of XML. (2)

(f) How many times will the loop execute? (2)
```
int p=45,q=9;
do
{
    JOptionPane.showMessageDialog(null,""+p+q);
    p++;
    q--;
}while(p%q!=0);
```

3. (a) Consider the table **Result** with the following structure: (1)

Attributes	Type	Constraint
RollNo	String	Primary Key
Agg	Decimal	
Remark	String	

To select those roll numbers where there is a remark, Rekha has written the following erroneous SQL statement:
```
SELECT Rollno, Remark FROM Result WHERE Remark is present;
```
Write the correct SQL statement.

(b) Consider the table **Suppliers**: (1)

SUPCODE	SNAME	CITY
S01	GET ALL INC	KOLKATA
S02	EASY MARKET CORP	DELHI
S03	DIGI BUSY GROUP	CHENNAI
S04	J&P COMPANY	MUMBAI
S05	SAHO BROTHERS	MUMBAI
S06	A2Z TRADERS	KOLKATA
S07	WEST COAST INC	MUMBAI

Write the SQL code to get the following output:

KOLKATA	2
DELHI	1
CHENNAI	1
MUMBAI	3

(c) While creating the table **Student**, Ms. Sharma set the column **Game_Played** in such a way that null values cannot be entered. Now she wants to allow null values in the column. Write a command to make this possible. *(1)*

(d) ABC Inc. has decided to give a 15% increase in the salary of all employees whose current salary is below 20000. Write the command to make the change in the **Sal** column of the table **Empsal** to achieve this. *(1)*

(e) What happens if an ALTER TABLE Statement is executed in the middle of a transaction? *(1)*

(f) Write the MySQL command to remove the table 'Sales' along with its contents from the database. *(1)*

(g) Consider the **Student** table *(2)*

ROLLNO	NAME
1	Anita
2	Bharat
4	Aadil

The following SQL queries are executed on the above table:

```
START TRANSACTION;
INSERT INTO Student VALUES(5,'Frank');
COMMIT;
UPDATE Student SET name='Anand' WHERE Rollno = 4;
SAVEPOINT A;
INSERT INTO Student VALUES(6,'Dhanya');
SAVEPOINT B;
INSERT INTO Student VALUES(7,'Beena');
SAVEPOINT C;
ROLLBACK TO B;
```

What will be the output of the following SQL query now?
```
SELECT * FROM Student;
```

(h) Differentiate Char and Varchar data types in MySql. *(2)*

(a) Define the term object with respect to Object Oriented Programming. *(1)*

(b) Shraddha is designing a frame in Netbeans containing a JList. Help her in writing suitable Java statement to extract selected item from the JList named "colourList." *(1)*

(c) What will be the contents of jTextField1 after the following code is executed? *(2)*
```
int number1=10,number2=12;
if(number1<0||number2>=12)
   if(number1>11)
     jTextField1.setText("Code Worked");
   else
     jTextField1.setText("Code Might Work");
```

```
      else
         jTextField1.setText("Code will not Work");
```

(d) Find output of the following java code snippet: (2)
```
String word="Baked Bean",str;
String newWord = word.trim();
for (int i=6; i<newWord.length(); i+=2)
{
   str = newWord.substring(i);
   jTextArea1.append(str+"\n");
}
```

(e) Rewrite the following code using while loop: (2)
```
int p,q;
for(p=10,q=5;p>=1;q++)
jTextArea1.append(""+q+p--);
JOptionPane.showMessageDialog(null,"Thank you");
```

(f) The following code has error(s). Rewrite the correct code underlining all the (2)
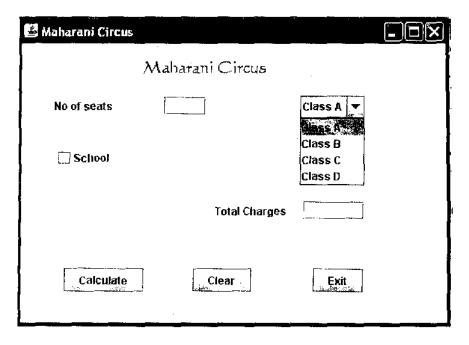corrections made :
```
int n=5; i=1,f=1;
do;
{
   f=f*i;
   i++;
   while(i<=n)
jTextField1.setText(""+f);
```

(g) Consider the following screen shot and answer the questions given below:

The various controls used in the form are listed below:

Variable Name	Control Type	Remarks
seatsTF	JTextField	To enter the no of seats
totTF	JTextField	To display the total charges
classCmB	JComboBox	To select the class
schoolCB	JCheckBox	To select 'School' category
calcBtn	JButton	To calculate the total charges
clearBtn	JButton	To clear the entries
exitBtn	JButton	To exit the application

Write the event handler codes for:
i) calcBtn to calculate total charges.   (3)
The rates for the seats of various classes (in Rupees) are as follows:

Class	Rate
A	400
B	200
C	150
D	75

A discount of 15% is given to schools that bring their students. No other category has discount.
Total charge=no on seats * rate * (1 - discount/100)

ii) clearBtn to clear the text fields and to clear the checkbox selection.   (2)
Also the Combobox has to be reset so that no option is displayed.

iii) exitBtn to exit the application after displaying a pop up message "Good Bye".   (1)

. (a) Observe the table 'Club' given below: (2)
Club

Member_id	Member_name	Address	Age	Fees
M001	Sumit	New Delhi	20	1000
M002	Nisha	Gurgaon	19	1500
M003	Niharika	New Delhi	21	2100
M004	Sachin	Faridabad	18	1500

    i.   What is the cardinality and degree of the above given table?
    ii.   If a new column contact_no has been added and two more members have joined the club then how these changes will affect the degree and cardinality of the above given table.

(b) Write the output of the following SQL queries: (2)
    i.   SELECT TRUNCATE(128.685,-1);
    ii.   SELECT MID('Harry Potter',2,4);
    ii.   SELECT LEFT(CONCAT('CONNECTION','ERROR'),7);
    iv.   SELECT DAYOFMONTH('2015-01-16');

(c) Consider the table given below and write MySQL queries for questions (i) to (iv) and   (6)
outputs for queries (v) to (vi)

Staff

No	Name	Age	Department	Dateofjoin	Salary	Sex
1	Jugal	34	Computer	1997/01/10	12000	M
2	Sharmila	31	History	1998/03/24	20000	F
3	Sandeep	32	Maths	1996/12/12	30000	M
4	Sangeeta	35	History	1999/01/01	40000	F
5	Rakesh	42	Maths	1997/07/05	25000	M
6	Shyam	50	History	1998/03/07	30000	M
7	Shivam	44	Computer	1997/02/25	21000	M
8	Shalakha	33	Maths	1997/07/31	20000	F

    (i)   To display the average salary of male staff.

    (ii)   To find the no of maximum age of staff members in each department.

    (iii)   To correct the department 'Maths' to 'Mathematics'.

    (iv)   To delete the rows were Name ends with 'am'.

    (v)   `SELECT DISTINCT MONTH(Dateofjoin)FROM Staff;`

    (vi)   `SELECT Sex,MIN(Salary) FROM Staff GROUP BY Sex;`

6. (a) Write SQL query to create a table 'Bank_Customer' with the following structure: (2)

Field	Type	Constraint
Acc_No	Integer	Primary Key
Cust_Name	Varchar(20)	Not Null
Cust_Add	Varchar(20)	
Cust_City	Varchar(20)	

(b) Consider the tables 'Flights' & 'Fares' given below: (5)

Flights

FNO	SOURCE	DEST	NO_OF_FL	NO_OF_STOP
IC301	MUMBAI	BANGALORE	3	2
IC799	BANGALORE	KOLKATA	8	3
MC101	DELHI	VARANASI	6	0
IC302	MUMBAI	KOCHI	1	4
AM812	LUCKNOW	DELHI	4	0
MU499	DELHI	CHENNAI	3	3

Fares

FNO	AIRLINES	FARE	TAX
IC301	Indian Airlines	9425	5
IC799	Spice Jet	8846	10
MC101	Deccan Airlines	4210	7
IC302	Jet Airways	13894	5
AM812	Indian Airlines	4500	6
MU499	Sahara	12000	4

With reference to these tables, write commands in SQL for (i) and (ii) and output for
(iii) below:

i. To display flight number, source, airlines of those flights where fare is less than Rs. 10000.

ii. To count total no of Indian Airlines flights starting from various cities.

```
iii. SELECT FLIGHTS.FNO, NO_OF_FL, AIRLINES FROM FLIGHTS,FARES
WHERE FLIGHTS.FNO = FARES.FNO AND SOURCE='DELHI';
```

(c) With reference to the above given tables in Question 6(b) fill in the blanks: (2)

    i.   FNO is the _____ in Flights table and _____ in Fares table.

    ii.   Can FNO be the primary key of Flights table? Give reasons.

7. (a) 'Dreams Fashions' is a small company manufacturing garments. They have decided (1) that it would be beneficial to the company to create a website which would allow customers to order garments on-line. State how 'Dreams Fashions' would benefit from the website.

(b) State two advantages of e-Governance. Name two e-Governance portals. (2)

(c) Asha is designing a form for online purchase. Suggest the appropriate control (out of (2) JTextField, JTextArea, JPasswordField , JList, JComboBox, JCheckBoxes, JRadioButtons, JButton) she can use for each of the following inputs:

Sl. No	Input	Control
i	Name	
ii	Customer Category (Platinum, Gold, Silver)	
iii	Country of residence	
iv	Save deatails	