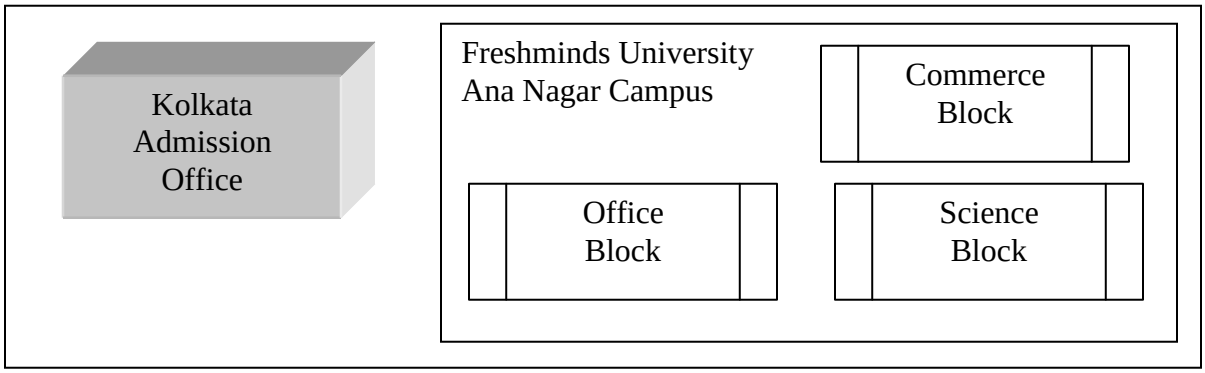
Maharaja Agrasen Model School
Subject : Informatics Practices
Sample Paper

Time: 3 Hours **Maximum Marks: 70**

General Instructions:

i) Attempt all the questions.
ii) Answer the questions after carefully reading the Questions.
iii) Marks are given against the respective questions.

Q - 1 What is character encoding system? (1)
Q – 2 On a network, this is your computer's unique hardware number given to ethernet card. What is it? Explain. (2)
Q – 3 A software company develops gaming software and sells it without providing its source code. For promotional purpose the company provided demo versions of its games free of cost through the internet. Are these demo versions examples of open source software? Justify your answer. (2)
Q – 4 Explain: a) W3C b) Ogg Vorbis (2)
Q – 5 Define two threats to Network Security. (2)
Q – 6 Freshminds University of India is starting its first campus in Ana Nagar of South India with its center admission office in Kolkata. The university has 3 major blocks comprising of Office Block, Science Block and Commerce Block in the 5 KM area Campus. (2)



Expected wire distances between various locations:

Office Block to Science Block	90m
Office Block to Commerce Block	80m
Commerce Block to Science Block	15m
Kolkatta Admission office to Ana Nagar campus	2450km

Expected number of computers to be installed at various locations in the University is as follows:

Office Block	10
Science Block	140
Commerce Block	30
Kolkata Admission office	8

(i) Suggest the authorities, the cable layout with topology amongst various blocks inside university campus for connecting the blocks.
(ii) Suggest the communication medium to be used along with its type.

Q – 2 Answer the following questions:

(a) How many selection mode are supported by JList box in netbeans. Name them. (2)

(b) What is the purpose of default clause in a Switch Statement? What happens in its absence? (2)

(c) What happens when you try to call a local variable outside its procedure? Justify with reason? (2)

(d) Which HTML tags are used to insert a table and adding rows to it with column headings? Give example. (2)

(e) Mention the purpose of each of the following HTML tags (2)

, <LI.>, <A>,<FORM>

Q – 3 Answer the following questions:

a) What is referential integrity? (1)
b) Write SQL statement to set Autocommit to off. (1)
c) Naman has created a table, later on he realized that primary key should be applied to column X instead of column Y. Help him to do the same by writing appropriate SQL statements to make required changes. (2)
d) There are two table T1 and T2 in a database. Cardinality and degree of T1 are 26 and 12 respectively. Cardinality and degree of T2 are 34 and 11 respectively. What will be the degree and cardinality of their Cartesian product? (2)
e) Explain the difference between inner join and outer join. (2)
f) Write the purpose of inserting Savepoints in a transaction. (2)

Section B

Q – 4 Answer the following questions:

a) What will be the output of the following code: (2)

```
int a=5, b=10;
for(int i=1; i<=2;i++)
{
System.out,println("Line 1="+ a++ +"&" + b--);
System.out,println("Line 2="+ ++b + "&" + a+3);
}
```

b) Suppose x1 and x2 are two double type variables that you want to add as integers and assign to an integer variable. Construct a java statement for doing so (1).

c) Predict the output of the following expressions: (2)

i. (3<5) && (2 ==2) && (9>6)

ii. What will be the value of P=P* ++j where j is 22 and p = 3 initially?

d) Write the following code segment using for… loop without effecting the output of the code: (2)

```
int Num=6;
int Temp=Num;
while (Num>=1)
{  Temp=Temp-1;
  if (Temp% 2== 0)
    System.out.println(" is Even");
  else
   System.out.println(" is Odd");
  Num=Num-2;
}
```

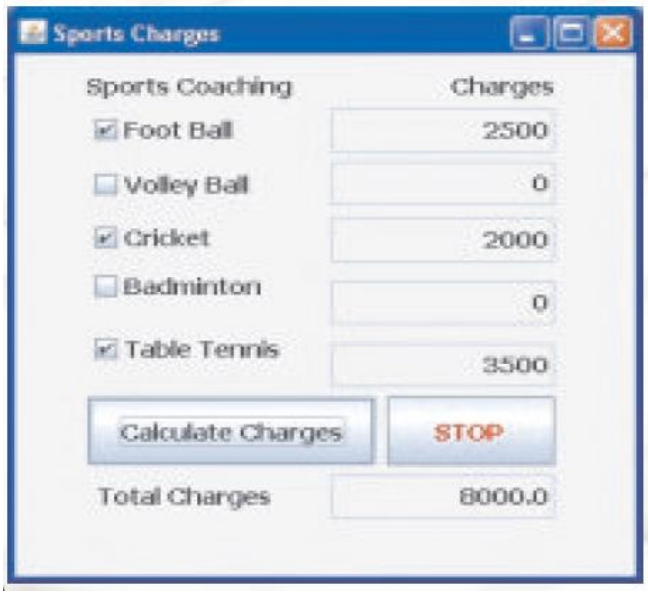
e) How many times will the following loop execute? Explain. (1)

```
int n=4;
do{
        //statements
}while (i<10);
```

f)What is the purpose of break statement in a loop? (1)

Q – 5 Read the following case study and answer the following:

A sports academy has the following interface to calculate fees paid by the members. Write the code to make it functional.



a) A member can choose only one sport or more than one (as many). Total charges should be displayed in the text field given. (3)

Charges for the respective sports are as follows:

Football	2500
Volley Ball	2200
Cricket	2000

Table Tennis 3500
Badminton 2600

b) Write the code to close the form on the click event of stop button. (1)
c) If the corresponding checkbox is unchecked then respective textfield should show value zero. (2)

Section C

Q – 6 Read the following tables carefully:

Enrno	Name	Percentage	Class
1001	Anugraha	87.5	7
1002	Alvin	72	5
1003	Aswin	89.95	7
1004	Ashish	92.5	5

Enrno	TMarks	TDate
1001	88.38	2010-8-10
1003	85.58	2010-7-10

(i) Write SQL queries for the following: (1 x 8=8)

a) To display the average percentage scored in each class.
b) To display enrno, name, tmarks and tdate of all students who have scored TMarks in the range of 82 and 86.
c) To display all related columns of both tables eliminating the identical columns.
d) To display all columns of table Student even if it does not have matching values in the table Marks.
e) To display a Cartesian product of table Student and table Marks.
f) To add a column Address – Varchar(35) to table Student.
g) To modify the column Address – Varchar(45) of table Student.
h) To change the class of Ashish from 5 to 6 of table Student.

(ii) Write the output based on table students and marks: (1 x 6=6)

(a) Select UCase(Name) from Student where class>5;
(b) Select MOD(ROUND(Tmarks,0),2) from Marks;
(c) Select Substr(Name,2,2) from Student where enrno=1001;
(d) Select concat(UCase(Left(Name,2)) , Right(Name, length(name)-1)) from Student where Enrno=1002;
(e) Select Count(Distinct Class) from Student;
(f) Select class,sum(enrno),min(enrno) from Student group by class;

Q – 7 Consider the following tables to solve given SQL queries:

Product Table :

Column Name	ProductID	Prod_Name	Prod_Desc	Price	Mfg_date	Exp_date
Key Type	Primary Key					
Null / Unique		Not Null				
Fk Table						
Fk Column						
DataType	VARCHAR	VARCHAR	VARCHAR	Number	Date	Date
Length	3	10	30	3, 2		

Order Table :

Column Name	Order_No	Prod_Name	Prod_ID	Price	QTY
Key Type	Primary Key				
Null / Unique		Not Null			
Fk Table			Product		
Fk Column					
DataType	VARCHAR	VARCHAR	VARCHAR	Number	Number
Length	3	20	30	3, 2	3

a) Write the create table command for the table order. Also, add foreign key in the reference of Product table on the field Prod_ID. (3)
b) Write a commands to view the structure of both tables. (1)
c) To remove the column Prod_Name. (1)
d) To add a Integrity constraint in Order table on QTY Not Null. (1)

Q – 8 Answer the following questions:

a) Write the URL of the commonly used e-Governance portal. (1)
b) Is it a good practice to take in the inputs using Textfields only? Justify your answer. (2)
c) Ambika is creating a form for her practical file. Help her to choose most appropriate swing controls for the following entries from user: (2)
    i) A message "Enter Marks" in front of a text field.
    j) An input to choose more than one subject from a set of choices
    k) An input for entering remarks.
    l) An input for accepting Gender.