

Sample Question Paper - I
INFORMATICS PRACTICES
Class-XII

Type of Questions	Marks Per Question	Total Number of Questions	Total Marks
SAI	1	16	16
SAII	2	18	36
LA	6	3	18
Total		37	70

Blue Print - Sample Question Paper - I
INFORMATICS PRACTICES
Class-XII

Topic / Unit	SA (1 mark)	SA (2 marks)	LA (6 marks)	Total
Networking and Open Standards	4(4)	3(6)	-	7(10)
Programming	7(7)	6(12)	1(6)	14(25)
Relational Database Management System	4(4)	7(14)	2(12)	13(30)
IT Applications	1(1)	2(4)	-	3(5)
Total	16(16)	18(36)	3(18)	37(70)

Sample Question Paper - I

INFORMATICS PRACTICES

Class-XII

TIME : 3 hours

MM : 70

- 1
- (a) Tara Nathani wants to upload and download files from/to a remote internet server, write the name of the relevant communication protocol, which will let her do the same.
 - (b) Two doctors in the same room have connected their Palm Tops using Bluetooth for working on a Group presentation. Out of the following, what kind of Network they have formed?
LAN, MAN, PAN, WAN
 - (c) Arrange the following communication channels in ascending order of their data transmission rates.
Ethernet Cable, Optical Fiber, Telephone Cable, Co-axial Cable
 - (d) Which of the following is not a characteristic of Open Source Software?
 - Its source code is available for modification
 - It is owned by a company or an individual
 - It can be downloaded from internet
 - (e) Jai Khanna is confused between the terms Domain Name and URL. Explain the difference with the help of appropriate examples of each.
 - (f) Define any two threats to Network Security.
 - (g) Differentiate between Star and Bus Topology of networks.
- 2
- (a) While working in Netbeans, Rajmeeta included a Listbox in the form. Now she wants the list of her friends' names to be displayed in it. Which property of Listbox control should she use to do this?
 - (b) What is the purpose of default clause in a switch statement?
 - (c) Which HTML tag inserts a horizontal straight line on a web page?
 - (d) How is <P> tag different from
 tag in HTML?
 - (e) How many times will each of the following loops execute? Which one of these is an entry control loop and which one is an exit control loop?

Loop1: int sum = 0, i = 5; do { sum += i;i++;} while (i<5);	Loop2: int sum = 0, i = 5; while (i<5) {sum += i;i++;}
---	--

- (f) Write a function in java that takes two numbers two numbers as input from textfields and displays their sum.
- (g) How are tags used in XML different from tags in HTML? Write 2 points.

3

- (a) If a database "Employee" exists, which MySql command helps you to start working in that database?
- (b) Sahil created a table in Mysql. Later on he found that there should have been another column in the table. Which command should he use to add another column to the table?
- (c) Pooja, a students of class XI, created a table "Book". Price is a column of this table. To find the details of books whose prices have not been entered she wrote the following query:

Select * from Book where Price = NULL;

Help Pooja to run the query by removing the errors from the query and rewriting it.

- (d) Rama is not able to change a value in a column to NULL. What constraint did she specify when she created the table?
- (e) Distinguish between a Primary key and Candidate key with the help of suitable example of each.
- (f) The LastName column of a table "Directory" is given below:

LastName
Batra
Sehgal
Bhatia
Sharma
Mehta

Based on this information, find the output of the following queries:

- a) SELECT lastname FROM Directory WHERE lastname like "_a%";
- b)SELECT lastname FROM Directory WHERE lastname not like "%a";
- (g) A table "Stock" in a database has 5 columns and contains 17 records. What is the degree and cardinality of this table?

4

- (a) Define a class with reference to object oriented programming.
- (b) What will be the content of jTextField1 after executing the following code:

```
int Num = 6;
Num = Num + 1;
if ( Num > 5)
jTextField1.setText(Integer.toString(Num));
else
jTextField1.setText(Integer.toString(Num+5));
```

(c) What will be the contents of JTextArea1 after executing the following statement:
jTextArea1.setText("Object\nOriented\tProgramming");

(d) Rewrite the following program code using switch statement:

```
if (d == 1)
    day = "Monday";
else if (d == 2)
    day = "Tuesday";
else if (d == 3)
    day = "Wednesday";
else
    day = "-";
```

(e) The following code has some error(s). Rewrite the correct code underlining all the corrections made:

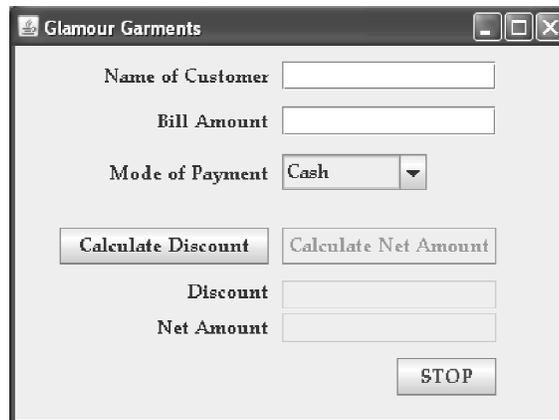
```
int i=2; j=5;
while j>i
{jTextField1.getText("j is greater");
j--;++i;}
```

JOptionPane.showMessageDialog("Hello");

(f) What will be the contents of jTextField1 and jTextField2 after executing the following code:

```
String s = "ABC Micro Systems";
jTextField1.setText(s.length()+" ");
jTextField2.setText(s.toLowerCase());
```

(g) Glamour Garments has developed a GUI application for their company as shown below :



The company accepts payments in 3 modes- cheque , cash and credit cards.The discount given as per mode of payment is as follows.

Mode of Payment	Discount
Cash	8%
Cheque	7%
Credit Card	Nil

If the Bill Amount is more than 15000 then the customer gets an additional discount of 10% on Bill Amount.

- (i) Write the code to make the textfields for Discount (named txtDisc) and Net Amount (named txtNetAmt) uneditable.
 - (ii) Write code to do the following:
 - a. When "Calculate Discount" button is clicked the discount should be calculated as per the given criteria and it should be displayed in the discount textfield. "Calculate NetAmount" button (named btnCalcNetAmt) should also be enabled.
 - b. When "Calculate Net Amount" button is clicked the net amount should be calculated and it should be displayed in the net amount textfield.
- 5
- (a) Explain the purpose of DDL and DML commands used in SQL. Also give two examples of each.
 - (b) Write the output of the following SQL queries:
 - a) `SELECT ROUND(6.5675, 2);`
 - b) `SELECT TRUNCATE(5.3456, 1);`
 - c) `SELECT DAYOFMONTH('2009-08-25');`
 - d) `SELECT MID('Class 12', 2,3);`
 - (c) Consider the table TEACHER given below. Write commands in SQL for (1) to (4) and output for (5) to (8)

TEACHER

ID	Name	Department	Hiredate	Category	Gender	Salary
1	Tanya Nanda	SocialStudies	1994-03-17	TGT	F	25000
2	Saurabh Sharma	Art	1990-02-12	PRT	M	20000
3	Nandita Arora	English	1980-05-16	PGT	F	30000
4	James Jacob	English	1989-10-16	TGT	M	25000
5	Jaspreet Kaur	Hindi	1990-08-01	PRT	F	22000
6	Disha Sehgal	Math	1980-03-17	PRT	F	21000
7	Siddharth Kapoor	Science	1994-09-02	TGT	M	27000
8	Sonali Mukherjee	Math	1980-11-17	TGT	F	24500

- i. To display all information about teachers of PGT category.
- ii. To list the names of female teachers of Hindi department.

- iii. To list names, departments and date of hiring of all the teachers in ascending order of date of joining
- iv. To count the number of teachers in English department.
- v. SELECT MAX(Hiredate) FROM Teacher;
- vi. SELECT DISTINCT(category) FROM teacher;
- vii. SELECT COUNT(*) FROM TEACHER WHERE Category = "PGT"
- viii. SELECT AVG(Salary) FROM TEACHER group by Gender;

6 (a) Write an SQL query to create the table 'Menu' with the following structure:

Field	Type	Constraint
ItemCode	Varchar(5)	Primary Key
ItemName	Varchar(20)	
Category	Varchar(20)	
Price	Decimal(5,2)	

(b) In a database there are two tables 'Customer' and 'Bill' as shown below:

Customer

CustomerID	CustomerName	CustAddress	CustPhone
1	Akhilesh Narang	C4,Janak Puri,Delhi	9811078987
2	Purnima Williams	B1, Ashok Vihar,Delhi	9678678711
3	Sumedha Madaan	33, South Ext.,Delhi	6767655412

Bill

BillNo	CustID	Bill_Amt
1	2	12000
2	1	15000
3	2	13000
4	3	13000
5	2	14000

- (i) How many rows and how many columns will be there in the Cartesian product of these two tables?
 - (ii) Which column in the 'Bill' table is the foreign key?
- (c) Consider the tables HANDSETS and CUSTOMER given below:

Handsets

SetCode	SetName	TouchScreen	PhoneCost
N1	Nokia 2G	N	5000
N2	Nokia 3G	Y	8000
B1	BlackBerry	N	14000

Customer

CustNo	SetNo	CustAddress
1	N2	Delhi
2	B1	Mumbai
3	N2	Mumbai
4	N1	Kolkata
5	B1	Delhi

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

- (i) Display the CustNo, CustAddress and corresponding SetName for each customer.
- (ii) Display the Customer Details for each customer who uses a Nokia handset.
- (iii)

```
select SetNo, SetName
from Handsets, customer
where SetNo = SetCode
and CustAddress = 'Delhi';
```

- 7
- (a) How does e-business improve customer satisfaction- Write one point.
 - (b) How has our society benefited from e-governance? Write 2 points.
 - (c) Vijayan works for the Customs Department. He wishes to create controls on a form for the following functions. Choose appropriate controls from Text box, Label, Option button, Check box, List box, Combo box, Command button and write in the third column.

SNo	Control used to:	Control
1	Enter last name	
2	Enter Gender	
3	Choose City from a list of cities	
4	Submit Form	

Sample Question Paper - I
MARKING SCHEME
INFORMATICS PRACTICES
Class XII

Time: 3 hours

M.M.: 70

- 1 (a) FTP.
(1 Mark for Abbreviation and/or Full Form)
- (b) PAN
(1 Mark for correct answer)
- (c) Telephone Cable, Ethernet Cable, Co-axial Cable, Optical Fiber
(1 Mark for correct answer)
- (d) It is owned by a company or an individual
(1 Mark for correct answer)
- (e) A URL (Uniform Resource Locator) is the complete address of a document on the web, whereas a domain name specifies the location of document's web server. A domain name is a component of the URL used to access web sites.

For example the web address

<http://www.example.net/index.html>

is a URL.

In this URL [www.example.net](http://www.example.net/index.html) is the domain name.

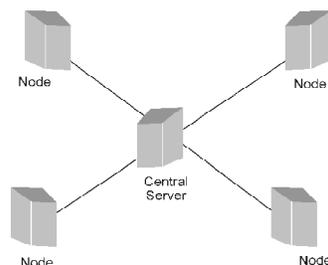
(2 marks for correct explanation of difference with the help of example)

- (f) Denial of Service: It refers to any threat that prevents the legitimate users from accessing the network resources or processing capabilities.

Snooping: It refers to any threat that results in an unauthorized user obtaining information about a network or the traffic over that network.

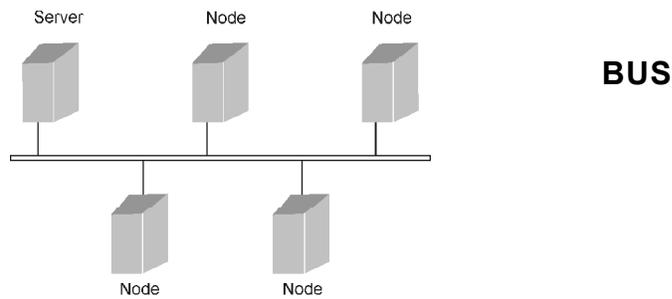
(1 mark each for correctly defining any two threats)

- (g) Star Topology: It is characterized by central switching node (communication controller) and unique path (point to point link) for each host. It is easy to add and remove hosts easily.



STAR

Bus Topology: It is characterized by common transmission medium shared by all the connected hosts, managed by dedicated nodes. It offers simultaneous flow of data and control.



(2 marks for correct difference)

2

(a) Model.

(1 mark)

(b) Default clause is used to handle the case when no match of any case in the switch statement is found.

(1 mark for correct answer)

(c) <HR> tag.

(1 mark for correct answer)

(d) <P> tag inserts a blank line and starts a new paragraph whereas
 tag forces text to a new line like the <P> tag, but without inserting a blank line.

(1 mark for correct difference)

(e) Loop1 will execute once and Loop2 will execute 0 times.

Loop1 is exit control loop and Loop2 is entry control loop.

(½ mark for each correct no. of times of loop execution)

(½ mark each for correctly identifying the type of loop)

(f) `int a=Integer.parseInt(jTextField1.getText());`

`int b=Integer.parseInt(jTextField2.getText());`

`int c;`

`c=a+b;`

`jTextField3.setText(""+c);`

(½ mark for getting the input)

(1 mark for calculating sum)

(½ mark for displaying in text field)

XML tags	HTML tags
New tags can be created using XML tags.	New tags cannot be created using HTML tags.
XML tags cannot be empty tags.	HTML tags can be empty tags.

(1 mark for each correct difference)

- 3
- (a) Use employee
(1 mark for correct answer)
 - (b) Alter table
(1 mark for correct answer)
 - (c) Select * from Book where Price IS NULL;
(1 mark for correct answer)
 - (d) She specified 'NOT NULL' constraint for that column while creating the table.
(1 mark for correct answer)
 - (e) Candidate key is a column or a group of columns that is capable of becoming the primary key. A table can have multiple candidate keys but it can have only one primary key.
Example:
A table STUDENT contains the columns AdmNo, RollNo, Name, Address, PhoneNo. In this table AdmNo and RollNo (both are unique for every row in the table) are candidate keys. Out of these any one can be chosen as the primary key of the table.
(1 mark for correct difference
1 mark for suitable example)
 - (f)
 - a) **Last Name**
Batra
 - b) **Last Name**
Sehgal
 (1 mark for each correct answer)
 - (g) Degree = 5. Cardinality = 17
(1 mark for each part)
- 4
- (a) A class is an abstract user-defined data type that is used as a blueprint to define the objects of that class.
(1 mark for correct definition)
 - (b) 7
(1 mark for correct answer)
 - (c) Object
Oriented Programming
(1 mark for contents to be printed)
(½ mark each for writing the effect of '\n' and '\t')
 - (d) switch(d)


```
{ case 1:
day = "Monday";
break;
```

```

case 2:
day = "Tuesday";
break;
case 3:
day = "Wednesday";
break;
default:
day = "-";}

```

(2 marks for correct answer)

(e) `int i=2, j=5;`
`while (j>i)`
`{ jTextField1.setText("j is greater");`
`j--;`
`++i;`
`}`
`jOptionPane.showMessageDialog(this, "Hello");`
(½ mark each for identifying and correcting 4 errors)

(f) jTextField1: 17
jTextField2: abc micro systems
(1 Mark for 17
1 Mark for abc micro systems)

(g) (i) `txtDisc.setEditable(false);`
`txtNetAmt.setEditable(false);`
(1 mark each for both parts)

(ii) (a) `float BillAmt, NetAmt, Disc;`
`String ModeofPayment;`
`BillAmt = Float.parseFloat(txtBillAmt.getText());`
`ModeofPayment = (String) cmbMode.getSelectedItem();`
`if (ModeofPayment.equals("Cash"))`
`Disc = BillAmt*8/100;`
`else if (ModeofPayment.equals("Cheque"))`
`Disc = BillAmt*7/100;`
`else Disc = 0;`
`if (BillAmt > 15000)`

```
Disc = Disc + BillAmt*10/100;  
btnCalcNetAmt.setEnabled(true);  
txtDisc.setText(Disc+"");
```

- (½ Mark for variable declaration with appropriate data types)
- (½ Mark for extracting Bill Amount correctly from the text box)
- (½ Mark for extracting Mode of Payment correctly from Combo Box)
- (½ Mark for calculating correct Discount based on Mode of Payment)
- (½ Mark for calculating Discount based on Bill Amount and displaying it)
- (½ Mark for Enabling btnCalNetAmt)

```
(b) float BillAmt, NetAmt, Disc;  
BillAmt = Float.parseFloat(txtBillAmt.getText());  
Disc = Float.parseFloat(txtDisc.getText());  
NetAmt = BillAmt - Disc;  
txtNetAmt.setText(NetAmt+"");
```

- (½ Mark for calculating Net Amount)
- (½ Mark for Displaying Net Amount)

- 5 (a) DDL: Data Definition Language. DDL commands are used to create, destroy, and to restructure the database objects.

Example: CREATE, ALTER (or any other two correct examples)

DML: Data Manipulation Language. DML commands are used to insert, delete and change data in tables.

Example: SELECT, DELETE (or any other two correct examples)

(½ Mark each for purpose and examples of DDL)

(½ Mark each for purpose and examples of DDL)

- (b) a) 6.57
- b) 5.3
- c) 25
- d) las

(½ Mark each for each correct answer)

- (c) i. SELECT * FROM teacher WHERE category = 'PGT';
- ii. SELECT name FROM teacher WHERE Gender = 'F' AND Department = 'Hindi';
- iii. SELECT name, department, hiredate FROM teacher ORDER BY hiredate;
- iv. SELECT count(*)FROM teacher WHERE department = 'English';

(1 Mark each for each correct query)

v. 1994-09-02

vi. TGT

PRT

PGT

vii. 1

viii. 24500

24000

(½ Mark each for each correct output)

6 (a) CREATE TABLE Menu

(itemcode varchar(5) primary key,

itemname varchar(20),

category varchar(20),

price decimal(5,2)

);

(½ Mark for CREATE TABLE Menu)

(½ Mark for appropriately putting Primary Key constraint)

(½ Mark for correct data types)

(½ Mark for correct syntax of the query)

(b) (i) 15 rows and 7 columns

(ii) CustID

(½ Mark each for stating number of rows and columns)

(1 mark for choosing the correct foreign key)

(c) (i) SELECT CustNo, CustAddress, SetName

FROM Customer, Handsets

Where SetNo = SetCode;

(1 mark for correct use of SELECT and FROM)

(1 mark for correct use of WHERE clause)

(ii) SELECT Customer.*

FROM Customer, HandSets

WHERE SetNo = SetCode and setname like "Nokia%";

(1 mark for correct use of SELECT and FROM)

(1 mark for correct use of WHERE clause)

- (iii) setno setname
- N2 Nokia 3G
- B1 BlackBerry

(1 mark for each correct line of output)

- 7 (a) • Goods sold through e-business are generally cheaper as cost incurred in e-business is less compared to setting up a traditional business.
- Customers can receive highly customizable service.
 - Even Remote area customers are reached in e-business.
 - Sellers have better understanding of their customers' needs as customers communicate through e-mails.

(1 Mark for any correct point)

- (b) 1. A lot of productive time of government servants and general public is saved.
2. Transparency has increased and therefore cheating cases have been reduced.

(1 Mark each for any 2 correct points)

(c)

SNo	Control used to:	Control
1	Enter last name	Text Field
2	Enter Gender	Option Button
3	Choose City from a list of cities	List Box or Combo Box
4	Submit Form	Button (Command)

(½ Mark each for each correct answer)