

# Sample Paper

## Grade 12

### Informatics practices 2019-2020

**Total Marks:70**

**Total Time: 3Hrs**

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**Instructions :**

- All questions are compulsory.
- Answer the questions after carefully reading the text.
- Q. 2 and Q.4 have to be answered with respect to Java Language.
- Q.3, Q.5 and Q.6 have to be answered with respect to MySQL.
- Please check that this question paper contains 6 printed pages.
- Please check that this question paper contains 7 questions.
- Please write down the Serial Number of the question before attempting it.

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- Q1. (i) What is the difference between logical and physical address of a computer in a network? 2  
Also give example.  
Or  
Which transmission medium is useful for sparsely populated areas?
- (ii) Name the device that connects multiple networks irrespective of their protocols. 1  
Or  
Which of the following is not a feature of networking?  
a. Resource sharing  
b. Uninterrupted power supply  
c. Reduced cost  
d. Reliability
- (iii) Name the medium used to transfer files from one mobile to another in a PAN? 1  
Or  
Name the communication medium which uses Line of Sight communication?

- (iv) 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. 1

Or

Arrange the following communication channels in ascending order of their data transmission rates:

Ethernet Cable, Optical Fiber, Telephone Cable, Coaxial Cable.

- (v) Name these 1

- (a) It is protocol/technology used to exchange files on internet.  
(b) It provides a set of rules to transfer files, videos, images over world wide web.

Or

It is a technology on computer networks whose purpose is to prevent unwanted networking connection according to some filtering/blocking rules. What is it?

- (vi) What is client server computing? Can you give example of a real life situation that uses client server computing? 1

Or

What is an abbreviation of VoLTE and WiFi?

- (vii) Sumit is using software, which has been downloaded from internet and is available for one month. After one month he has to pay license fee for further use. What software Sumit is using? 2

Or

Jamuna Das is confused between Shareware and OSS. Mention at least one points of differences to understand the same.

- (viii) What is an abbreviation of ARPANET and FSF? 1

- Q2. (i) How many times does the following loop execute? What is it type (Entry or Exit controlled loop)? 2

```
int x=2,y=12;
while (x<=y)
{
    JOptionPane.showMessageDialog(null," "+x);
    x=x+3;
}
```

Or

What will be the value of sum after execution of the following code?

```
int i, sum=2;
for(i=3;i<8;i++)
{
    if(i%4==0)
    {
```

```

        sum+=i;
        break;
    }
    else
        sum+=i/2;
}

```

(ii) Rewrite the following program code using a switch statement.

```

int d=0;
if (d == 1)
    day="Monday";
else if (d == 2)
    day="Tuesday";
else if (d == 3)
    day="Wednesday";
else
    day="-";

```

Or

Rewrite following while loop into a for loop

```

int stripes = 0;
while (stripes <= 10)
{
    if (stripes % 2 == 2)
        System.out.println("Colour code Red");
    else
        System.out.println("Colour code Blue");
    stripes = stripes + 1;
}

```

(iii) What will be the value of P and Q after execution of the following code?

```

int P, Q=100;
for (P=10;P<=12;P++)
{ Q+=P;
}
System.out.println("P:" + P + " Q:" + Q);

```

Or

What will be the output of the following code?

```

int j=1, s=0;
while(j<10)
{
    System.out.print(j + "+");
    s= s + j;
    j= j + j%3;
}

```

2

2

```
System.out.println(“=” + s);
```

- (iv) Write the sample code to accept any word in a textfield t1 and check it is a palindrome or not? Display the suitable message. 2

Or

Write the sample code to accept any number and display sum of the digits.

- (v) What method obtains the current selection of a combo box? Give a code example. 2

Or

Write command to display a message dialog with display prompt as “India is Great” and icon as question-icon.

- (vi) What is the significance of default and break in switch case construct? 1

Or

With example write the difference between entry and exit control loop?

- (vii) What is the difference between the following statements (i) and (ii) ? 1

(a) `x = '5';` (b) `x="5";`

- Q3. (i) What must exist on parent table before MySQL will allow you to create a foreign key constraint from the child table? 1

Or

Name the constraints which can be added at both the levels (table and column).

- (ii) While creating a table ‘Customer’, Ruby forgot to set the primary key for the table. Give the statement which she should write now to set the column ‘CustID’ as the primary key of the table? 1

- (iii) A column games in Sports table contains Games\_Name as a column. Write a command to display 4 characters from the 2<sup>nd</sup> position? 1

- (iv) Write command in MySQL to decrease the value of rent by 1500 in a table Hotel? 1

- (v) In a where clause, you can ask for any value ending in “qpt” by writing .....? 1

- (vi) What SQL clause is used to restrict the rows returned by a query? 1

- (vii) An Doc\_id consisting of 5 digits is stored in a string variable strDocId. Now Mrs. Jaya wants to store this Id in Integer type of variable IntEmpId. Write Java statement to do this. 2

Or

Declare and define a method ITax which accept income as parameter and returns tax which Is 10% of income.

- (viii) Sneha needs to remove all the rows in the Sales table whose S\_ID is not known to release the storage space without removing the table structure. Which statement should he use? 2

- Q4. (i) Write the sample code to: 1  
(a) Name the control which provides a pop-up list?  
(b) Which keyword refers to current object?
- (ii) What is an use of `setEditable(false)` and `setEnabled(False)` methods in java? 1  
Or  
Write the syntax to obtain the character from the password field `pwd1` and store it in a variable `char1` of type `char`.
- (iii) What is the difference between abstract and concrete class? 1  
Or  
Write the sample code in java to create an object 'ind' of a class 'Indian' and assign memory to newly created object `ind`.
- (iv) What do you mean by function overloading? 1  
Or  
What is the difference between actual parameter and formal parameter?
- (v) What is the difference between `length()` and `capacity()` methods in Java? 1  
Or  
What will be the contents of `textField1` and `textField2` after executing the following code:  
`String s = "XYZ info Systems";`  
`textField1.setText(s.length()+" ");` [Ans:17]  
`textField2.setText(s.toLowerCase());`
- (vi) First underline and then correct the errors in code written below using XML? 2  
`<? Xml version="1.9" />`  
`<student>`  
`<Roll>1</roll>`  
`<name>Saurabh Gupta`  
`<Student>`  
(Or)  
Write any four features of XML.
- (vii) What is the difference between a text field and a password field when both can obtain text from user? 1  
Or  
What is the difference between error and an exception?
- (viii) Given below the design of an application of HERO Bank:

- (a) Write code for Show Interest Button to display Rate of Interest as mentioned with options. 1
- (b) Write the code for calculate button to calculate total Interest =  $(\text{loanamount} * (\text{rate} - \text{discount}) * \text{duration}) / 100$ , Here give discount of .5% if Customer selected Sr Citizen Checkbox. 3
- (c) Write the code for close button to close an application. 1

- Q5. (i) Write Query in MySQL Display first three characters of the Name “Reliance Green” . 1
- (ii) The Title and Price columns of table “**Books**” are given below:

BookName	PRICE
Software Engineering	295
Guide to Python	300
Mastering Java	550
Visual Basic	700
Scratch	200
MySQL2005	Null

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

- (a) `SELECT MIN(Price) from Books;`
- (b) `SELECT length(concat(substr(bookname,3,9),”pubs”)) from Books;`

- (c) Select AVG(price) from Books WHERE title like ‘%e%’;
- (d) Select title from library where price = (select max(price) from library);
- (iii) Consider the table **BUS** given below. Write Query/Command in MySQL for (a) to (g) and output for (h).

Busno	Origin	Dest	Rate	KM	Time	Type
21	Delhi	Jammu	45.5	210	9.50	AC
198	Delhi	Amritsar	NULL	250	10.00	NULL
101	Chandigarh	Delhi	12.5	250	22.00	NON AC
49	Mumbai	Pune	35.0	205	11.00	NON AC
12	Delhi	Agra	50.0	330	6.00	AC
25	Delhi	Haridwar	20.5	250	5.00	NON AC
24	Delhi	Agra	25.0	330	8.30	NON AC

- (a) Modify a row of Busno 198 by changing the Rate to 30 and type to ‘NON AC’. 1
- (b) Add a new column Tax\_Charge number(6) with constraint NOT NULL to the table. 1
- (c) Display the starting and the destination stations together in one column. 1
- (d) Display the number of buses which start from Delhi before 10 am. 1
- (e) To display a report with busno, origin and destination for only those buses whose time is between 11 am and 11 pm. 1
- (g) To display the origin along with sum of km for each origin. 1
- (h) Select Busno, Type from BUS where Origin not in(‘Delhi’, ‘Agra’); 1
- Q6 (i) Write MySQL command to create the table “Patient ” with the following structures and constraints. Also populate the table with two records(with and without default value). 3

Column_Name	Data_Type(Size)	Constraint
P_Id	Int(20)	Primary Key
P_Name	Varchar(20)	
Gender	Varchar	

<b>Table:</b>	Age	Int	Default value 55	<b>Patient</b>
	Date_of_journey	Date		
	D_Id	Int	Foreign key refers to D_Id of Doctors table	

(ii) How Order By clause is different from Group by clause in MySQL?

1

(iii)

In a database there are two tables "Product" and "Client" as shown below :

**Table : PRODUCT**

P_ID	ProductName	Manufacture	Price
P001	Moisturiser	XYZ	40
P002	Sanitizer	LAC	35
P003	Bath Soap	COP	25
P004	Shampoo	TAP	95
P005	Lens Solution	COP	350

**Table : Client**

C_ID	ClientName	City	P_ID
01	Dreamz Disney	New Delhi	P002
05	Life Line Inc	Mumbai	P005
12	98.4	New Delhi	P001
15	Appolo	Banglore	P003

Write the commands in SQL queries for the following :

- To display the details of Product whose Price is in the range of 40 and 120 (Both values included)
- To display the ClientName, City from table Client and ProductName and Price from table Product, with their corresponding matching P\_ID.
- To increase the Price of all the Products by 20.

Above (i),(ii) and (iii) questions are of 2 Marks each

- Q7. (i) What benefits does an e-Business offer to the customers and suppliers? 2
- (ii) What is the impact of e-learning sites on students learning process? 1
- (iii) Identify and write the type of control used for the following works: 2

Works	
(i) Typed text (multiple lines)	
(ii) Typed text which should remain hidden not readable.	
(iii) A mouse click to execute code	
(iv) Any one out of many options	