

**SOLVED SAMPLE PAPER 2014**

**CLASS – XII**

**SUBJECT – INFORMATICS PRACTICES (065)**

**TIME : 3HRS**

**MM:70**

**GENERAL INSTRUCTIONS :**

- ALL QUESTIONS ARE COMPULSORY
- MARKS ARE GIVEN IN FRONT OF THE QUESTIONS.

**Q A Answer the following questions:**

A.1 Define the following terms: (i) Baud (ii) Bandwidth (1)

Ans Baud – It is a unit of measurement. It measures the information carrying capacity of a communication channel of analog type.

Bandwidth – It refers to the differences between highest and lowest frequencies of a transmission channel

A.2 How is Co-axial cable is different from Optical Fibre? (1)

Ans Co-axial Cable – 1. It has solid wire core surrounded by one or more foil.  
2. It transmits electronic signals.

Optical Fibre – 1. It consists of glass like materials.  
2. It transmits light signals or laser signals.

A.3 Arrange the following communication channels in ascending order of their data transmission rates. (1)

Ethernet Cable, Optical Fibre, Telephone Cable, Co-axial Cable

Ans Telephone Cable, Ethernet Cable, Co-axial, Optical Fibre

A.4 What is the purpose of MODEM? What are its types? (1)

Ans MODEM – It is a physical device. It is used to convert the digital signals into analog signal and vice-versa. There are two types of modem. They are:

1. Internal Modem – It fixed within the computer.
2. External Modem – It is connected externally to a computer.

A.5 What do you understand by firewall? (1)

Ans Firewall – The system designed to prevent unauthorized access to or from a private network is called firewall.

A.6 What are the differences between MAC Address and IP Address? (1)

Ans MAC Address

IP Address

- |  |  |
|--|--|
| 1. It stands for Machine Access Code.    | 1. It stands for Internet Protocol.        |
| 2. It is the physical address of a card. | 2. It is the logical address of a machine. |
| 3. It is separated by colon (:).         | 3. It is separated by period (.).          |

A.7 Define HUB and Switch. (1)

Ans HUB – It is used to connect several computers together. Signal is public. It does not create dedicated link between two computers or network.

Switch – It is used to connect two or more than two networks. Signal is private. It creates dedicated link between two computers or network.

A.8 Define any two threats to Network Security. (1)

Ans Snooping – It refers to unauthorized access of someone else's data, email etc.

Eavesdropping – It is the act of secretly listening someone else's private information / communication.

A.9 What are these software used for? (1)

- (i) Linux      (ii) PHP      (iii) Python      (iv) Apache

Ans Linux – It is an operating system.

PHP – It is a programming language which runs on client side and server side also. It develops dynamic web content.

Python – It is an interpreted and interactive programming language. Initially, it was a scripting language.

Apache – It is a web server. It runs on different operating system like Linux, Unix, MS Windows etc.

A.10 What is a standard? What are the different types of standards are there? (1)

Ans Standard – It refers to an established set of rules and requirements approved by a recognized body. It is used on different platform. There are two types of standards. They are:

1. Proprietary Standard – It is privately available. It is not open and free.
2. Open Standard – It is internationally accepted. It guarantees that the data can be exchanged across platform even as technologies change. It is publically available without any conditions.

A.11 Name two encoding used for Indian Language Computing. (1)

Ans Unicode, IISCI

A.12 What is the difference between LAN and WAN? (1)

Ans LAN – It stands for Local Area Network. It is established in a room or small building.

WAN – It stands for Wide Area network. It is spread over large distance.

A.13 Write the two advantages and two disadvantages of Star and Bus topology. (2)

Ans Star Topology : (Advantages)

1. Every node directly connected with the server.
2. Simple access protocols.

(Disadvantages)

1. Long Cable Length
2. Difficult to expand
3. Central Node Dependency

Bus Topology : (Advantages)

1. Short Cable Length
2. Easy to extend
3. Resilient Architecture

(Disadvantages)

1. Fault Diagnosis is difficult.
2. Fault isolation is difficult.
3. Repeater is require

A.14 Choose the open and proprietary standards from the following: (1)

ASX, OGG, WMA, JPEG

Ans Open Standards are : OGG, JPEG

Proprietary Standards are : ASX, WMA

A.15 What is Font? (1)

Ans A font refers to a set of displayable text characters having specific style and size.

**Q B Answer the following questions:**

B.1 What is the difference between Entry-Controlled Loop and Exit-Controlled Loop?(1)

Ans Entry-Controlled Loop – Those loop where condition is checked at the entry time of the loop. Example : while and for loop

Exit-Controlled Loop – Those loop where condition is check at the exit time. Example : do-while loop.

B.2 Difference between Container and Child Control with example. (1)

Ans Container Control – Those controls which holds other controls. Example : JFrame, JPanel etc.

Childs Control – Those controls which can not hold other controls. Example : JLabel, JTextField etc.

B.3 What happens to container control and its child controls if you delete the container control? (1)

Ans All

B.4 “Is JAVA case sensitive”? What do you meant by “case sensitive”? (1)

Ans Yes, JAVA is case sensitive. The term “case sensitive” means the letter or words written in uppercase is different from lowercase.

B.5 Which of the following are valid identifiers? (1)

(i) int \$y; (ii) int 678 (iii) int \_333

Ans int \$y and int \_333

B.6 Which package is always imported by default? (1)

Ans java.lang

B.7 What is the output of the following, if the initial value of X is 40? (1)

(i) Y = ++ X; (ii) Y = X++;

Ans (i) 41 (ii) 40

B.8 Write one limitation and one advantage of a switch statement. (1)

Ans Advantage – Switch is more efficient than if-else in case of equality.

Limitation – Switch can not work for non-equality comparisons.

B.9 What is a Layout Manager? (1)

Ans It helps to arrange the controls/components by determining their size and position on the frame.

B.10 Which method would you use, in order to simulate a button's (namely OKBtn) click event, without any mouse activity from user's side? (1)

Ans OKBtn.doClick()

B.11 Differentiate between setText() and getText() method. (1)

Ans setText( ) – To set the value of a variable into a component.

getText( ) – To get the value from a component and assign in a declared variable.

B.12 Which property would you set for setting the password character as '&'? (1)

Ans echoChar property.

B.13 Differentiate between TextField and PasswordField. (1)

Ans TextField – It displays the obtained text in unencrypted form.

PasswordField – it displays the obtained text in encrypted form.

B.14 How List Box is different from Combo Box? (1)

Ans List – 1. It consumes more space on frame than combo box.

2. More than one item can be selected at a time.

3. Can not add item at run time.

Combo Box -1. It consumes less space than list combo box.

2. Only one item can be selected at a time.

3. Add new item at run time, if editable property is true.

B.15 Write the name of jump statement. (1)

Ans break, continue

B.16 A class has six public methods including one constructor. How many methods can an object of a class call again and again? (1)

Ans Five methods. But constructor for an object call only once.

B.17 How length() function is different from capacity() function? (1)

Ans length() – It returns the length of the entered characters of a string.

capacity() – It returns the maximum capacity to enter the characters in a string.

B.18 For the following code, which statement is not true? (1)

```
public class circle {  
    private double radius;  
    public double a;  
    private double b;  
}
```

- (a) a is available to code that is written outside the Circle class.
- (b) radius is not available to code written outside the Circle class.
- (c) Radius, a, b are called members of Circle class.
- (d) b is available to code that is written outside the Circle class.

Ans (d)

B.19 What type of inheritance does JAVA have? (1)

Ans JAVA supports only Single, Multilevel and Hirarchical

B.20 Rewrite the following fragment using switch: (2)

```
if ( ch == 'W' )  
    System.out.println("Wilson");  
if ( ch == 'S' )
```

```

        System.out.println("Suraj");
    if ( ch == 'P' )
        System.out.println("Paras");
    if ( ch == 'M' )
        System.out.println("Muskan");

```

Ans

```

switch( ch ) {
    case 'W' :   System.out.println("Wilson"); break;
    case 'S' :   System.out.println("Suraj");   break;
    case 'P' :   System.out.println("Paras");   break;
    case 'M' :   System.out.println("Muskan");   break;
}

```

B.21 Rewrite following while loop into a for loop:

(2)

```

int stripes = 0;
while ( stripes <= 13 ) {
    if ( stripes % 2 == 2 ) {
        System.out.println("Color code Red"); }
    else { System.out.println("Color code Blue"); }
    System.out.println("New stripe");
    stripes = stripes + 1; }

```

Ans

```

for( int stripes = 0; stripes <= 13; stripes++ )
{
    if ( stripes % 2 == 2 ) {

```



```
        System.out.println("Color code Red"); }  
else {  
        System.out.println("Color code Blue"); }  
System.out.println("New stripe");  
}
```

B.22 What is the output produced by following code fragment?

(1)

```
float x = 9;  
float y = 5;  
int z = (int) (x/y);  
switch(z)  
{  
    case 1: x = x + 2;  
    case 2: x = x + 3;  
    default: x = x + 1;  
}  
System.out.println( "Value of x: " + x );
```

Ans Value of x : 15

QC RED Public School has computerized its student performance system. The following is the data entry form in java used:

**STUDENT PERFORMANCE CARD**

NAME  CLASS   MEDICAL  
 NON-MEDICAL

SUB 1  SUB 2  SUB 3

SUB 4  SUB 5

Object Type	Object Name	Description
Frame	jFrame	The Frame Object
Command Button	cmdCalculate	To calculate the total, percentage and grade
	cmdClear	To clear all the textfields
	cmdQuit	To quit from application
Radio Button	jRB1	To select medical System
	jRB2	To select Non-Medical System
Text Fields	jTextField1	To accept name
	jTextField2	To accept class
	jTextField3	To accept Sub1
	jTextField4	To accept Sub2
	jTextField5	To accept Sub3

	jTextField6	To accept Sub4
	jTextField7	To accept Sub5
	jTextField8	To display total
	jTextField9	To display percentage
	jTextField10	To display grade

C.1 On clicking the calculate button: Total marks should be calculated as sum of all the five subjects and percentage and grade. To calculate the grade: (2)

**For Medical Students**

Percentage	Grade
$\geq 85$	A1
$\geq 60$ and $< 85$	A2
$< 60$	B1

**For Non-Medical Students**

Percentage	Grade
$\geq 80$	A1
$\geq 60$ and $< 80$	A2
$< 60$	B1

```

Ans private void cmdCalculateActionPerformed(java.awt.event.ActionEvent evt) {
double total=0.0, perc = 0.0;
String grade;

double m1=Double.parseDouble(jTextField3.getText());
double m2=Double.parseDouble(jTextField4.getText());
double m3=Double.parseDouble(jTextField5.getText());
double m4=Double.parseDouble(jTextField6.getText());
double m5=Double.parseDouble(jTextField7.getText());

```

```
total=m1+m2+m3+m4+m5;
perc=total/5;
if ( jRB1.isSelected() )
{
    if ( perc >=85 )
        grade = "A1";
    if ( perc >= 60 )
        grade = "A2";
    if ( perc < 60 )
        grade = "B1";
}
else if ( jRB2.isSelected() )
{
    if ( perc >=80 )
        grade = "A1";
    if ( perc >= 60 )
        grade = "A2";
    if ( perc < 60 )
        grade = "B1";
}
jTextField8.setText( " " + total );
jTextField9.setText( " " + perc );
jTextField10.setText( grade );
}
```

C.2 On clicking the Clear Button, the contents of all the textfields should be cleared.

(2)

Ans private void cmdClearActionPerformed(java.awt.event.ActionEvent evt) {  
jTextField1.setText ( null );  
jTextField2.setText ( null );  
jTextField3.setText ( null );  
jTextField4.setText ( null );  
jTextField5.setText ( null );  
jTextField6.setText ( null );  
jTextField7.setText ( null );  
jTextField8.setText ( null );  
jTextField9.setText ( null );  
jTextField10.setText ( null );

C.3 On clicking the Exit Button will close the application. (1)

Ans private void cmdQuitActionPerformed(java.awt.event.ActionEvent evt) {  
System.exit(0);

QD **Answer the following questions:**

D.1 What is SQL? Name the different categories of it with one example of each. (1)

Ans SQL stands for Structured Query Language. Its different categories are:

1. DDL (Data Definition Language) - Drop Table, Create , Alter Table
2. DML ( Data Manipulation Language) – Select, Update, Delete
3. TCL ( Transaction Control Language) – Commit, Rollback, Savepoint

D.2 Write the output of the following SQL queries: (1)

D.2.1 Select SUBSTR( "TITANIC", 2,3);

Ans ITA

D.2.2 Select LENGTH ( 'C.B.S.E.' );

Ans 8

D.2.3 Select TRUNCATE(3.4829,1);

Ans 3.4

D.2.4 Select CONCAT( 'Around', 'The', 'World');

Ans AroundTheWorld

D.3 Consider the table Movie given below. Write commands in MySQL for (D.3.1) to (D.3.4) and output for (D.3.5) to (D.3.8) (6)

SNo	Title	Type	Stars	Qty	Price
1	Hum	Drama	Amitabh	3	90
2	Partner	Comedy	Govinda	5	80
3	Darwaja	Horror		2	60
4	Dhamal	Comedy	Sanjay D	4	85
5	Veerana	Horror	Hemant	1	50
6	Dil	Drama	Amir Khan	3	75

D.3.1 To display a list of all movies with price more than 70 and sorted by price in descending order.

Ans Select Title, Price from Movie where Price > 70 order by Price desc;

D.3.2 List the title, type and stars of comedy movies.

Ans Select Title, Type, Stars from Movie where Type = "Comedy";

D.3.3 List Movie No, Movie Name and value of all movies.

( Note – Value can be calculated as Qty \* Price )

Ans Select SNo, Title, Qty \* Price as "Value" from Movie;

D.3.4 Display all the information of movies whose Title's second last letter is alphabet 'a'.

Ans Select \* from Movie where Title like '% a\_ ' ;

D.3.5 Select Max( Price ) from movie;

Ans 90

D.3.6 Select Title, Type from movie where Stars is NULL;

Ans Darwaja Horror

D.3.7 Select S.No, Title from movie where stars = 'Govinda';

Ans 2 Partnar

D.3.8 Select distinct type from movie.

Ans

Drama
Comedy
Horror

D.4 Write a SQL command to create a table "LIBRARY" with the following structure:

(2)

Field	Type	Constraints
Book_no	Integer (4)	Primary Key
Title	Varchar(40)	Not Null
Author	Varchar(30)	
Publisher	Varchar(30)	
Pages	Integer (4)	
Date_of_Pub	Date	

Ans Create Table LIBRARY ( Book\_no integer(4) primary key,

Title varchar(40) not null,

Author varchar(30),

Publisher varchar(30),

Pages integer(4),

Date\_of\_Pub date );

D.5 In a database, there two tables 'Employee' and 'Dept' as shown below:

(2)

**DEPT**

DEPT_CODE	DEPT_NAME
MKTG	Marketing
PERS	Personal
ACCT	Accounts

**EMPLOYEE**

EMP_NO	EMP_NAME	SEX	DEPT_CODE
1	Nidhi	F	ACCT
2	Rajesh	M	MKTG
3	Pankaj	M	PERS
4	Puneet	M	ACCT
5	Amita	F	MKTG

D.5.1 Identify the foreign key column in the table Employee.

Ans DEPT\_CODE

D.5.2 How many rows and columns will be there in the Cartesian Product of these two tables?

Ans Columns = 6 ( 2 + 4 )

Rows = 15 ( 3 x 5 )

D.6 Consider the tables PLAYER & COACH given below:

(3)

**PLAYER**

Player_ID	Player	Sex	Coach_ID
1	Vinod	M	1
2	Rajni	F	3
3	Rahul	M	1
4	Ankita	F	3
5	Vishesh	M	2



**COACH**

Coach_ID	Coach_Name	Game
1	W.S. Sangwan	Hockey
2	Sushil	Cricket
3	Suman Malik	Kho-Kho

With the reference of these tables, write commands in SQL for (D.6.1) to (D.6.2) and output for (D.6.3) given below:

D.6.1 Display the Player Name, Sex and corresponding Coach Name for all players.

Ans Selectr player, Sex, Coach\_Name from Player, Coach where Player.Coach\_ID = Coach.Coach\_ID;

D.6.2 Display the Player Name and Coach Name of Female players.

Ans Select Player, Coach\_Name from Player, Coach where Sex = 'F' and Player.Coach\_ID = Coach.Coach\_ID;

D.6.3 Select Player, Sex from Player, coach where player.coach\_id = coach.coach\_id and game = 'Hockey';

D.7 Mrs. Daya has created a table "Family" in MySQL with 5 columns and 2 rows. What is the degree and cardinality of this table? After that she has inserted 5 rows more. Now what is the degree and cardinality of this table. (1)

Ans Situation 1:

Degree ( Total no of columns) = 5 and Cardinality (Total no of rows ) = 2

Situation 2:

Degree ( Total no of columns) = 5 and Cardinality (Total no of rows ) = 7

D.8 What is the purpose of ORDER BY clause in MySQL? How is it different from GROUP BY clause? (1)

Ans ORDER BY clause is used to give the result of the specified query in ascending or descending order on the behalf of specified field name.

But the GROUP BY clause does not produce ordered result, rather it is used to create group summary result based on the value of the field.

D.9 What is the purpose of ALTER TABLE command in MySQL? How is it different from UPDATE command? (1)

Ans The ALTER TABLE command changes a table structure in a database. It is used to add/change a constraint in an existing table.

The UPDATE command updates the rows in an existing table as per the condition specified with WHERE clause. It does not bring change in the table structure.

D.10 Given a string object namely “subject”, having value as “123” stored in it. What will be result of the following: (1)

`JOptionPane.showMessageDialog(null, “ “ + (subject.length() + Integer.parseInt(subject))));`

Ans 126

D.11 Differentiate between HTML and XML. (1)

Ans HTML

1. HTML documents formats and displays web page’s data.
2. HTML tags are predefined.
3. HTML tags may not have closing tag.
4. HTML tags are not case sensitive.
5. HTML documents are directly viewable in a browser.

XML

1. XML documents carry data along with their description.
2. XML tags are not predefined. You can create and defined new tags as per your requirements/needs.

3. XML tags must have a closing tags
4. XML tags are case sensitive.
5. XML documents can be viewed only if proper css/xsl file is also available along with XML file.

D.12 Differentiate between Alternate Key and Candidate Key. (1)

Ans Alternate Key - A candidate key that is not serving as a primary key is called alternate key.

Candidate Key - All possible combination of columns that can possibly serve as the primary key are called candidate key.

**QE Answer the following questions:**

E.1 What is Back End? (1)

Ans Back End - It is a software where the actual data is stored. Example ; MySQL, SQL. It is responsible for serving all the user requests.

E.2 What benefits does an e-business offer to the customers? (1)

- Ans
1. Improved speed of response
  2. cost savings.
  3. improved efficiency and productivity
  4. improved customer service

E.3 What controls will you suggest for the following: (2)

SNo	Control used to	Control
1	A Mouse Click	Button
2	Typed Text (multiple lines)	Text Area
3	Multiple choices from a set	Check Box
4	Multiple items from a group of names	List Box



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