

CBSE Class 11th Informatics Practices (Theory)
Half Yearly Set-A 2016-2017
Indraprastha International School

General Instructions:

- This question paper contains 7 questions.
- All the questions are compulsory.
- Marks for each question are indicated against it.

1. Answer the following questions:

- a. **Mr. Ramesh is working in an Global Organization. He wants to login in his office's computer from his home. Suggest the protocol for the same. (1)**

Ans. TELNET

- b. **Which device is used for connecting multiple networks over different protocols? (1)**

Ans. Router

- c. **Identify the following topologies. (1)**

- i. A signal/data packets transmit from one end to other end in linear way.
- ii. Each node is connected to two and only two neighboring nodes in circular form.

Ans. (1) BUS topology (2) Ring/Circular topology

- d. **Write any two scripts included in Indian Languages on Unicode. (i)**

Ans. Devanagiri, Tamil, Malayalam, Gujarati, telugu, assamese etc

- e. **What is the difference between free software and freeware? (1)**

Ans. Free software : Freely accessible, freely used, changed, improved, copied and distributed to all. No payments required. Source code available.

Freeware : Freely available, freely used but it has stipulated time, after period of time, license fee should be paid. -each explanation

- f. **Arun is not clear about the wireless and wired media of communication. Kindly describe it to him with suitable example. (2)**

Ans. Wired Media : It is the physical connection for connecting different devices on network. Also called Guided Media. different types cable can be used like coaxial cable, optical fiber, etc. Wireless Media: No any physical connection between the

devices on network. Also called Unguided media. Different unguided media can be used like microwave, Radio wave, satellite, Bluetooth etc. -each explanation.

- g. **Explain the term ODF and Ogg Vorbis. What are the advantages of these over others? (2)**

Ans. ODF (Open Document Format) and Ogg Vorbis.

ODF : Open Document Format is an XML-based file format for representing electronic documents. Ogg Vorbis: It is a new audio compression format which is open format ,developed by Xiph.org. -each explanation

- h. **What are the conditions to be checked while selecting a place to house the server in networking? (1)**

Ans. maximum no. of computer

- i. **What are the advantages of star topology over liner topology? (2)**

Ans. easy error finding and easy to expand. 1 mark for difference and 1 for diagram

- j. **Write the full form for the following: (2)**

i. TTF

ii. LAMP

Ans. True type font, Linux Apache Mysql Php

2. **Answer the following questions: (2)**

- a. **Which property of the radio button should be set to make the radio buttons mutually exclusive? (1)**

Ans. Button Group property

- b. **Name one control for each of the following categories. (1)**

i. Top level container

ii. Middle level container

Ans. Name one container for each of the following categories.

(i) Top level container (JFrame or Jdialog)

(ii) Middle level container (Jpanel or JtabbedPane)

- c. **How many times does the following loop execute? What is the value of num after the execution? (2)**

```
int num=5;
```

```
do
```

```
{
```

```
System.out.println("Hello world");
```

```
num--;  
}while (num>2);
```

Ans. 3 times and value of num=

- d. **Write the sample code to extract 7th element from jList and store it in a variable Item. (1)**

Ans. `int n=0;`
`String Item="";`
`jList1.setSelectedIndex(6);`
`Object s1=jList1.getSelectedValue();`
`Item=(String)s1;`
`System.out.println(Item);`

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

Ans. `double x1=12.5;`
`double x2=14.5;`
`int sum=0;`
`sum=(int)(x1+x2);` or `sum=(int)Math.round(x1+x2)`

- f. **What is the difference between `setEnabled()` and `setEditable()` method? (1)**

Ans. `setEnabled` : Sets whether or not this component is enabled. A component that is enabled may respond to user input, while a component that is not enabled cannot respond to user input.

`SetEditable` : Sets the specified boolean to indicate whether or not this `TextComponent` should be editable. A `PropertyChange` event ("editable") is fired when the state is changed.

- g. **Give one example for Abstract class in Java. (1)**

Ans. Abstract class : The classes for which it is not essential to declare objects to use them are known as abstract classes like `JOptionPane`. Abstract classes are normally used as base class in inheritance for which no direct object is required to be created.

h. **Differentiate between exit control loop and entry control loop with the help of suitable example. (2)**

Ans. Loop that will check the condition before entering into a loop eg. For and while loop. Exit loop first enters and then checks the condition eg do-while loop

3. **Answer the following questions:**

a. **Mr.Ramesh has created a table SUPPLIER in the database. One of the fields in the table is city. Write the command to display city by avoiding duplication. (1)**

Ans. select DISTINCT city from Supplier.

b. **Mr.Sunil created a table “BOOK” in MySQL. He forget to set the PRIMARY KEY for the table. Which command should he used to set it for the field “Bid”. (1)**

Ans. ALTER TABLE ADD

c. **What is the purpose of the following query? (1)**

SELECT COUNT(mark) FROM STUDENT

Ans. To find the total marks using Student table or Total students attended exam.

d. **Can a table have multiple primary keys? Explain. (1)**

Ans.

e. **Columns EmpNam and Sal of EMP table are given below: (2)**

EmpName	Sal
Saravanan	2800
Neehu	3200
Lekshmi	3500
Ganesh	2700

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

i. SELECT COUNT(*) FROM EMP WHERE Sal>=3000;

ii. SELECT EmpName,Sal FROM EMP WHERE Sal IS NULL;

Ans. a) 2

b) No output

f. **What is the significant of DROP TABLE command? (1)**

Ans. To remove the table Schema

g. **A table ACCOUNTS in a database has 14 columns and 4 records. What is its degree if two more rows are added into the table? (1)**

Ans. Cardinality: 6 Degree: 14

h. **Given below is the 'Stu' table: (2)**

RNO	NAME
1	Amit
2	Bhishm

The following statements are entered :

```
SET AUTOCOMMIT = 0;
```

```
INSERT INTO Stu VALUES(5, 'Rahul');
```

```
COMMIT;
```

```
UPDATE Stu set name='Rahuliya' where Rno= 5;
```

```
SAVEPOINT A;
```

```
INSERT INTO Stu VALUES(6, 'Cristina');
```

```
SAVEPOINT B;
```

```
INSERT INTO Stu VALUES(7, 'Fauzia');
```

```
SAVEPOINT C;
```

```
ROLLBACK TO B;
```

Now what will be the output of the following statement?

```
SELECT * FROM Stu;
```

Ans. RNO NAME

- i. Amit
- ii. Bhishm
- iii. Rahuliya
- iv. Cristina

4. Answer the following questions:

a. What is an interface? (1)

Ans. An interface defines a protocol of behavior. The aim of interfaces in Java is to dictate common behavior among objects from diverse classes.

b. Given a string Object namely month having value as “11” stored in it. What will be the result of following code? (1)

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

Ans. Output: 13

**c. What will be the content of jTextField1 after executing the following statement?
jTextField1.setText(“Informatics”.substring(3)); (1)**

Ans. Output: ormatICS

d. Given the following for loop write equivalent while loop for the given code: (2)

```
int sz= 25;  
for(int i=0, sum=0;i<sz; i++)  
sum=sum + 1;
```

Ans. int sz=25, i=0, sum=0;

```
while(i<sz)
```

```
{
```

```
sum=sum + 1;
```

```
}
```

e. The following code has some error(s).Rewrite the correct code underlining all the corrections made. (2)

```
m=1;
```

```
n=0;
```

```
for (; m+n<19; ++n)
```

```
System.out.println(“Hello”
```

m= M+ 10;

Ans. int m=1;

int n=0;

for (; m+n<19;++n)

System.out.println("Hello\n");

m= m+ 10;

- f. **What will be the contents of JTextField1 and JTextFiled2 after executing the following (1)**

code

jTextField1.setText("Business".substring(3,4));

jTextField2.setText("studies".toUpperCase());

Ans. Output: I, STUDIES

- g. **The company charges for an item in two forms. Wholesalers and Retailers. The cost is calculated on unit basis as follows. Special customers are given an extra discount of 10%**

For units	Price of wholesaler per unit	Price for retailer per unit	Discount (%)
1-15	Rs 50/-	Rs 60/	2
16-30	Rs 45/	Rs 55/	4
>31	Rs 40/	Rs 50/	6

- Write the code to disable the text box for discount cost. (1)
- Write a code for calculate cost command button to display the discounted price and to display total cost. (Total cost=units * price-discount price). (4)
- Write a code for clear button to clear all the text fields. (1)
- Write a code for exit button to exit from the applications. (1)

Ans. i. formula

ii. radiobutton is Selected(),

iii. if-self

iv. System.exite() and setText()

5. Answer the following questions: (1)

- a. **Give one social impact of e-learning. (1)**

Ans. - Availability of same course to millions

-Boon for working class

-Cultural differences obstruct the true aim of e-learning

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

Ans. - Reduction in transaction and other costs.

-Improved customer service

- c. **Mr. Das is working as a Manager in the Shivam Enterprises. He wants to create controls on a form for the following functions. Choose appropriate controls from Text field, Label, Radio Button, Check box, List, Combo Box, Button. (2)**

S.No.	Controls Used to:
-------	-------------------

1	Enter First name, Address, Basic Salary
2	Select Gender (M/F)
3	Choose type of employee (Permanent / Regular)
4	Display the picture of the employee

Ans.

S.No.	Control Used to:	Control
1	Enter First Name, Address, Basic Salary	Text Field
2	Selected Gender (M/F)	Radio button
3	Choose type of employee (Permanent/Regular)	Radio button
4	Display the picture of the employee	Label

6. Do as directed:

- a. Suraj created a composite primary key (Columns C1 and C2 set as primary key) on table T1 now he does not want column C1 as the primary key can he remove C1 as the primary key? Justify your answer. (1)

Ans. Yes he can remove C1 as the primary key only if column C2 does not have any duplicate entries present in it. If there are any, then the statement trying to remove C1 column from the table will result in an error and the C1 column will not be removed. If there are no duplicate entries in the C2 column, then C1 column will be removed.

- b. Write a command to create table Customer according to the following specifications: (2)

Field Name	Type	Constraint
Cust_No	Integer	PRIMARY KEY
D_Name	Varchar(15)	

Cust_Name	Varchar(30)	NOT NULL
Amount	Decimal(6,2)	
Purchase_Date	Date	

Ans. Create Table Customer(Cust_No integer Primary Key,D_Name varchar(15),Cust_Name varchar(30) Not NULL,Amount decimal(6,2), Purchase_Date Date);

c. What will be the output of the following SQL statements: (3)

- SELECT ROUND(65.95,1) - TRUNCATE(65.95,1);
- SELECT SUBSTRING('PAPER QUALITY',INSTR('QUALITY','IT'),9);
- SELECT MOD(ROUND(124.60),5);
- SELECT POW(INSTR('ABC@GMAIL.COM','@'),2);
- SELECT DAYOFWEEK(CURDATE());
- SELECT LENGTH(TRIM(" XYZ AND ABC "));

Ans. i. 0.1

ii. R QUALITY

iii. 0

iv. 16

v. 11

d. In database there are two tables "Student" and "Stream" as below: (2)

Sid	SName	Age	StrId
1	Roondy	10	1
2	Joseph	12	1
3	Trinchu	14	2
4	Prithlon	11	3
5	Ahol	10	2

StrId	Stream
1	Medical

2	Commerce
3	Non Medical
4	Humanities

- What is the cardinality and degree of both the tables?
- Name the table that has the foreign key and write the name of the foreign key.

Ans. Cardinality:5 and 4

Degree:4 and 2

Foreign key is : strID

- Pranay, who is an Indian, created a table named “Friends” to store his friend’s detail.**

Table “Friends” is shown below.

S_NO	NAME	AGE	CITY	COUNTRY	EMAIL_ID
1	AMIT	14	WASHINGTON	USA	amit@gmail.com
2	CHARU	12	COPENHAGEN	DENMARK	charu@yahoo.com
3	ANGEL	16	CHICAGO	USA	angel@gmail.com
4	JASMINE	15	SYDNEY	AUSTRALIA	jasmine@yahoo.com
5	RAJ	14	NEW DELHI	INDIA	raj@gmail.com
6	JAIDEEP	13	NYKOBING	DENMARK	jaideep@gmail.com
7	MARK	15	MELBOURNE	AUSTRALIA	NULL
8	SHASHI	16	BANGALORE	INDIA	NULL

- To display list of all foreigner friends. (1)
- To list name, city and country in descending order of Email_id. (1)
- To count how many friends have email id on gmail. (1)
- To list name and city of those friends who don’t have an email id. (1)
- Write the output for the following: (3)
 - SELECT NAME,COUNTRY FROM FRIENDS WHERE AGE>12 AND NAME LIKE 'A%';

- ii. SELECT UCASE(CONCAT(NAME,'*',CITY)) FROM FRIENDS WHERE COUNTRY LIKE 'DENMARK';
- iii. SELECT MID(NAME,1,4) AS 'UID' FROM FRIENDS WHERE COUNTRY LENGTH(COUNTRY)<5;

Ans. mysql> SELECT * FROM FRIENDS WHERE COUNTRY NOT IN('INDIA');
 mysql> SELECT NAME,CITY,COUNTRY FROM FRIENDS ORDER BY EMAIL_ID DESC;
 mysql> SELECT COUNT(NAME) FROM FRIENDS WHERE EMAIL_ID LIKE '%GMAIL.COM';
 mysql> SELECT NAME,CITY FROM FRIENDS WHERE EMAIL_ID IS NULL;

```
+-----+-----+
| name | country |
+-----+-----+
0| AMIT | USA |
| ANGEL | USA |
+-----+-----+
+-----+
| ucase(concat(name,'*',city)) |
+-----+
| CHARU*COPENHAGEN |
| JAIDEEP*NYKOBING |
+-----+
+-----+
| UID |
+-----+
| AMIT |
| ANGE |
```