Sample Paper-2015
Subject – Informatics Practices (065)

Time : 3 hrs.   **MM:70**

General Instructions:

(i)   All questions are compulsory.

(ii)   Answer the questions after carefully reading the text.

(iii)   This question paper is divided into three sections.

(iv)   Section – A consists 10 marks.

(v)   Section – B consists 33 marks,

(vi)   Section – C consists 27 marks

(vii)   This question paper consists of 6 pages

SECTION – A (10 Marks)

QA   Answer the following questions:

A.1 Which protocol is used for transfer of hyper text documents on the internet?

1

A.2 Which of the following is not a characteristic of open source software?

1

- Its source code is available for modification

- Its owned by a company or an individual

- It can be downloaded by Internet

A.3 Akhil is transferring songs from his mobile to his friend's mobile via Bluetooth connection. Name the network used by Akhil.

1

A.4 Navneet 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 Navneet is using?

1

A.5 What is the difference between IP address and MAC address?

2

A.6 Differentiate between a hub and a switch.

2

A.7 What are the following software used for?

2

A.7.1   Apache

A.7.2   Tomcat

A.7.3   PHP

A.7.4   Python

SECTION B (33 Marks)

QB   Answer the following questions:

B.1   While working in netbeans ,ranjeeta included a listbox in the form. Now she wants the list of her friend's names to be displayed in it . Which property of listbox control should she use to do this?

1

B.2   What will be the contents of jTextarea1 after executing the following code:

1

jTextArea1.setText("RED\n SCHOOL\t CHHUCHHAKWAS");

B.3   Rewrite the following code fragment using switch :

2

```
if(ch = = 'E')
        east++;
if(ch = = 'W')
        west++;
if(ch = = 'N')
        north++;
if(ch = = 'S')
        south++;
else
JOptionPane.showMessageDialog(null, "unknown");
```

B.4   Convert the following code into while loop.
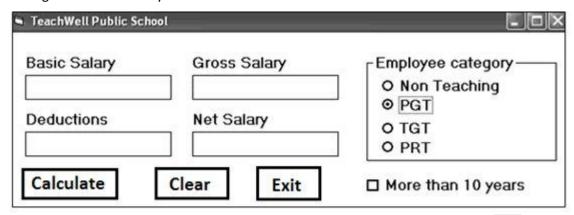
2

```
int m,n;
```

```
m=5; n=9;
for ( int j=0; j<=10; j+=2 )
{
        System.out.println( m + " " + n );
        m = m + 10;
        n = n + 5;
}
```

B.5   Write two differences between a listbox and combobox.

2

B.6   The following code has some error(s). Rewrite the correct code and underlining all the corrections
made:

```
int sum; value; inct;
int I;
for(i = = 0, i <= 10, i++)
```

2

```
        sum += i;
        inct ++;
```

B.7   What will be the contents of jTextfield1 and jTextfield2 after executing the following   code: 1

```
String  s="RED CHHUCHHAKWAS"
jTextField1.setText(s.Length()+" " );
jTextField2.setText(Math.pow(2,3)+"");
```

B.8   What will be the value of x and y after execution of the following code:

3

```
int x , y = 0;
for(x = 1; x <= 5 ; x + + )
    y = x + + ;
    - -y;
System.out.println( x + " " + y );
```

B.9   Write a method in JAVA that takes a number as parameter and returns its reverse

3

B.10   **Read the following case study and answer the questions that follow**.

TeachWell Public School wants to computerize the employee salary section. The School is having two
categories of employees: Teaching and Non Teaching. The Teaching employees are further categorized into

PGTs, TGTs and PRTs having different Basic Salary. The School gives addition pay of 3000 for employees who are working for more than 10 years.

Employee Type	Basic Salary	DA (% of Basic Sal)	HRA (% of Basic Sal)	Deductions (% of Basic sal)
Non Teaching	12500	31	30	12
PGT	14500	30	30	12
TGT	12500	21	30	12
PRT	11500	20	25	12

Object Type	Object Name	Description
Text Field	basicTF	To show basic salary
	dedTF	To show deductions
	grossTF	To show gross salary
	netTF	To show net salary
Radio Button	nonRB	To select Non-Teaching as a selection of Employee Category
	pgtRB	To select PGT as a selection of Employee Category
	tgtRB	To select TGT as a selection of Employee Category
	prtRB	To select PRT as a selection of Employee Category
Check Box	tenyearsCB	Check for the employee who is working for more than 10 years.
Command Button	calculateBTN	To calculate the basic salary, deductions, gross salary and net salary
	clearBTN	To clear text fields, uncheck check box and radio buttons

B.10.1   Write the code to calculate the Basic salary, deductions, gross salary and net salary based on the given specification.   3

Add 3000 to net salary if employee is working for more than 10 years.

Gross salary=Basic salary + DA + HRA

Net salary = Gross salary – deductions

B.10.2   Write the code to clear all TextFields, uncheck checkbox and set non-teaching as the default category.

1

B.10.3   Write the code to exit the application. Also display a message "Thank you" before exiting the application.

1

B.11   What is the output of the following code, if the value of variable k is 10?

1

int result = ++k + k++ + k ;

System.out.println (result) ;

B.12   Write a program in JAVA to input a number in jTextField1 and calculate its factorial.   2

B.13   What are expressions? How many types of expressions are there? Name them.   2

B.14   Differentiate between Entry-Controlled Loop and Exit-Controlled Loop.   2

B.15   Write the code for the following :

2

1

1   2

1   2   3

1   2   3   4

B.16   Differentiate between Call By Value and Call By Reference.

1

SECTION - C (27 Marks)

QC   **Answer the following questions:**

C.1   Define a class Resort in Java with the following description:

3

Private Members:

Room_no   To store room number

Name   To store customer name

ChargesTo store per day charges

Days   To store number of days of stay

compute( )   A function to calculate and return amount as days * charges and if the value of day*charges

              is more than 11000 then as 1.02*days*charges

Public Members:

getInfo( )   A function to enter the content as Room number, name, charges and days.

dispInfo( )   A function to display Room number, Name, Charges, Days and Amount

              (Amount to be displayed by calling function compute ( ))

C.2   Define a class TravelPlan in Java with the following specification: 3

Private Member:

Plain_Code   long type

Place   string type

No_of_travelers   integer type

No_of_bus   integer type

Public member

A **constructor** to assign initial values of Plain_Code as 101, Place as 'Delhi', No of travelers as 5, No of buses

as 1.

A function **newPlan( )** which allows used to enter Plan Code, Place and No of travelers and No of buses as

following condition:

Number of Travelers	Number of Buses
Less Than 20	1
Equal to and more than 20 and less than 40	2
Equal to and more than 40	3

A function **showPlan( )** to display the content of all the data member.

C.3   Write a code to print current date/time using Date class.

                                                                                              2

C.4   Write any two packages using in Netbeans IDE.   1

C.5   Make a base class **Employee** which contains the details of an employee and a derived class

Salary which calculates the employee's net salary . The details of two classes are given below:

Class Employee   3

Data Members:

        Empno :   stores the employee number

        Name   :   stores the employee name

        Desig   :   stores the employee's designation

Member Function:

Employee( )	:	parameterized constructor to assign values of employee number, name and designation
Display( )	:	displays the employee's details

Class Salary

Data Member:

Basic	:	to store the basic salary

Member Function:

Salary ( )	:	parameterized constructor to assign the values of data members
Calculate( )	:	calculate the employee's net salary according to the following rules:

DA 10% of the basic

HRA 15% of basic

Salary = basic + DA + HRA

PF 8% of Salary

Net Salary = Salary – PF

And display the employee's details and net salary.

C.6   Consider the following class definitions and determine the output that would be generated by the code segment.   3

```
public class A {
        public void method() { System.out.println("A"); }
}
public class B extends A {
        public void method() { System.out.println("B"); }
}
A a = new A();
a.method();
a = new B();
a.method();
B b = new B();
b.method();
```

C.7   What is a table-model? What is its significance?   2

C.8   Write the code to add and remove a specific row from the table.   2

C.9   Explain the following terms: (i) URL   (ii) Web Browser

2

C.10   What is Client/Server computing?

         2

C.11   Difference between Font and Basefont tags.

         2

C.12   Differentiate between Model and Modeless Dialog Boxes.

         2

Answer Key

A.1   http

A.2   Its owned by a company or an individual

A.3   PAN

A.4   Shareware

A.5 IP address	MAC address
1. It is a 4-bytes long	1. It is a 6-bytes long
2. It is address of a computer	2. It is a address of a NIC card.

A.6 Hub	Switch
1. Signal for all connected computers	1. Dedicated link
2. Connect two or more computers	2. Connect sub-networkes

A.7.1   Apache – It is a web server can be run on different platform.

A.7.2   Tomcat – it works just like a servelets.

A.7.3   PHP – It is a open source programming language can be run on different platform.

A.7.4   Python – It is also a programming language.

SECTION B (32 Marks)

B.1   Model

B.2   RED

SCHOOL CHHUCHHAKWAS"

B.3   switch(ch)

{

         case 'E':east++; break;

         case 'W':   west++;break;

         case 'N':   north++;   break;

         case 'S':south++;   break;

```
                default:JOptionPane.showMessageDialog(null, "unknown"); break;
        }
B.4     int m,n;
m=5; n=9;
int j = 0;
while( j<=10)
{
        System.out.println( m + " " + n );
        m = m + 10;
        n = n + 5;
        j+=2;                   }
B.5     Listbox – It has large storing area.From this we can select more than one items at a time. We cannot
modify any value at run time.
Combobox - It has less storing area. From this we can select only one item at a time. We can modify any value
at run time.
B.6     int sum, value, inct;
int i;
for(i = 0; i <= 10; i++)
{                                                                                                                2
        sum += i;
        inct ++;
}
B.7     16, 8
B.8     x=7 , y=4
B.9     int method(int num )
{
        while(num > 0 )
        {
        int digit = num % 10 ;
        rev = ( rev * 10 ) + digit ;
        num = num / 10;
        }
        return rev;
}
```

B.10 self

B.11 result = 34

B.12 int n = Integer.parseInt(jTextField1.getText());

while(n > 0)

{

    F = F * n;

    n - - ;

}

System.out.println(n);

B.13 Expressions – combination of variables, operators and constants. Two types:

1. Implicit 2. Explicit

B.14 Entry-Controlled Loop – where condition is checked at entry time. – for and while

Exit-Controlled Loop – where condition is checked at exit time of loop – do-while

B.15 for(int i=1;i<4;i++)

{

    for(int j=1;j<=I;j++)

    System.out.print(j);

    System.out.println(" ");

}

B.16 Call By Value - where value of actual parameter is passed to formal parameters. If any change is there in formal will not affect on original parameters.

Call By Reference - where address of actual parameter is passed to formal parameters. If any change is there in formal will affect on original parameters.

SECTION - C (28 Marks)

C.1 class Resort

{

private int Room_no;

private String Name;

private float Charges;

private int Days;

float compute( )

{

```
                    amount = days * charges;

                    if(amount >11000)

                    return (1.02*amount);

                    else

                    return amount;

}

public void getInfo( )

{

                    Room_no=123;

                    Name="Wilson";

                    Charges=90.89;

                    Days=10;

}

public void dispInfo( )

{


        System.out.println(Room_ no +  Name + Charges + Days);

        Amount =compute ( ) ;

} }


C.2      class TravelPlan

{

private long     Plain_Code;

String Place;

int No_of_travelers, No_of_bus;

public TravelPlan()

{ Plain_Code = 101; Place= 'Delhi'; No_ of_ travelers =5, No_ of_ bus= 1;}

Public void newPlan( ) { Plan Code=105; Place="kolkatta";No_ of_ travelers=100;

If(No_of_ Travelers>20) No_of_bus = 1;

else if (no_of_Travelers>=20)     No_of_bus= 2;

else if (no_of_Travelers>=40)     No_of_bus= 3;

}

void showPlan( ) {

System.out.println(Plain_code + place + no_of_travelers+ no_of_bus);
```

```
        }

C.3     Date dt=new Date();

C.4     java.util and java.lang

C.5     class Employee

{

Private:

int Empno;

String Name, Desig;

Employee( int eno,String nm,String des)

{

        Empno = eno; Name = nm; Desig = des;

}

void Display( )

{

        System.out.println(Empno + Name + Desig );

}

}

Class Salary extends Employee

{

        double Basic;

        Salary(double bas, int eno,String name,String des)

        {

                Super(eno,name,des);

                Basic=bas;

        }

        void Calculate( )

        {

                double DA = Basic*0.10;

                double HRA =Basic*0.15;

                double Salary = basic + DA + HRA

                double PF =Salary*0/8;

                double = NetSalary = Salary – PF

        }}

C.6     System.out.println("A")
```

System.out.println("B")

System.out.println("B")

C.7   table-model- it is a control is used to display all the records stored in a table.

C.8   tm.addRow(array) and tm.removeRow(index)

C.9   URL – the complete path of a website\

Web Browser – it is a program used to connect our computer with the internet.

C.10   Client/Server computing – It is s process to create the link between server and client and share the data and information also.

C.11   Font- it is a container tag. It is used to change the font, style and size of the enclose betweeb starting and ending clause.

Basefont – It is the basic tag in html. It is used to change the font, style and size of the text and we can change the font size of the specific paragraph.

C.12   Model – it is a dialog. It is used to block all other dialog when it is active.

Modeless Dialog Boxes – It is also a dialog but it does not block all other dialog when it is active.