

**NORTH-EX PUBLIC SCHOOL, JAIN NAGAR**  
**HALF-YEARLY EXAMINATION, 2019-20**  
**CLASS - XII**  
**SUBJECT – INFORMATICS PRACTICES**

**TIME : 3 hrs**

**MM:70**

**All questions are compulsory.**

- Q1 (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. 1
- (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? 1  
LAN, MAN, PAN, WAN
- (c) Arrange the following communication channels in ascending order of their data transmission rates. 2  
Ethernet Cable, Optical Fiber, Telephone Cable, Co-axial Cable
- (d) Write two characteristics of Open Source Software? 2
- (e) Jai Khanna is confused between the terms Domain Name and URL. Explain the difference with the help of appropriate examples of each. 2
- (f) Define any two threats to Network Security. 2
- (g) Differentiate between Star and Bus Topology of networks. 3
- (h) What is ASCII Code? How is it different from ISCII Code? 2
- Q2 (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? 1
- (b) What is the purpose of default clause in a switch statement? 2
- (c) Which HTML tag inserts a horizontal straight line on a web page? 1
- (d) How is <P> tag different from <BR> tag in HTML? 2
- (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? 2

<p><b>Loop1:</b>  int sum = 0, i = 5;  do  { sum += i;i++;} while (i&lt;5);</p>	<p><b>Loop2:</b>  int sum = 0, i = 5;  while (i&lt;5)  { sum += i;i++;}</p>
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- (f) What is the difference between isSelected and setSelected methods used with JCheckBox? 2
- (g) How are tags used in XML different from tags in HTML? Write 2 points. 2
- (h) Name the method which is used to extract value of index while using listbox in java. 1
- (i) Name any two common methods of JComboBox and explain them. 2
- Q3 (a) Define a class with reference to object oriented programming. 2
- (b) What will be the content of jTextField1 after executing the following code: 2
- ```
int Num = 6;
Num = Num + 1;
if ( Num > 5)
    jTextField1.setText(Integer.toString(Num));
else
    jTextField1.setText(Integer.toString(Num+5));
```
- (c) Rewrite the following program code using switch statement: 2
- ```
if (d == 1)
    day = "Monday";
else if (d == 2)
    day = "Tuesday";
else if (d == 3)
    day = "Wednesday";
else
    day = "-";
```
- (d) What will be the contents of jTextField1 and jTextField2 after executing the following code: 2
- ```
String s = "ABC Micro Systems";
jTextField1.setText(s.length()+" ");
jTextField2.setText(s.toLowerCase());
```

(e) Distinguish between “/” and “%” operators.

- Q4. (i) Seema is a junior programmer at 'Avon Shoe Factory'. She has created the following GUI in Net beans.

3 items namely Shoes S and as and S Uppers are manufactured by the factory. A buyer can buy more than one item at a time. Each pair of shoes costs Rs. 1,500.00, each pair of Sandals costs Rs. 1,000.00 and each pair of slippers cost Rs. 500.00. The item bought will be selected by the user and the Quantity (number of pairs) bought wit be entered by the user. Amount to be paid for that item wit be displayed in front of the item. For example if 'Shoe' is selected and Quantity entered is 20, then Amount should be displayed as 30000.

Help Seema write code for the following:

- (a) When 'Calculate' button is clicked, the amount should be displayed in front of each item (in the appropriate textfield) and Total amount (sum total of all the amounts) should be displayed in the appropriate' textfield. (3)
- (b) When Clear button is clicked, all the Textfields and Checkboxes should be cleared. (1)
- (c) When stop button is clicked, the application should close. (1)

- (ii) Vijay has developed a software for planning personal budget. A screenshot of the same is shown below:

Total Income, Expenses of Bills (Water/Electricity), Groceries, Entertainment, other expenses and whether money is to be sent to Hostel are entered by the user. Sum of Expenses, Grand Total of Expenses and Savings are calculated and displayed by the program. Write the code to do the following :

- (a). When 'CALCULATE' button is clicked, Sum of Expenses, Total Expenses and Savings

should be calculated and displayed in appropriate text fields. (3)

- Sum of Expenses is calculated by adding expenses on Bills(Water/Electricity), Groceries, Entertainment and other expenses.
- Grand Total of Expenses is calculated according to the following criteria:  
If 'Money to be sent to Hostel' checkbox is selected, 3000.00 is to be added to the sum of expenses. If it is not selected, Grand Total of Expenses is the same as sum of expenses.
- Savings = Total Income - Grand Total of Expenses.

(b). When 'CLEAR' button is clicked, all text fields and checkbox should be cleared. (1)

(c). When 'CLOSE' button is clicked, the application should close. (1)

Q5. (i) The following code has error(s). Rewrite the correct code underlining all the corrections made: (2)

```
int x = 10;
int y = 50;
do;
{
    x+5 = x;
    y-5 = y;
while ( x <= y );
```

(ii) Rewrite the following code using WHILE loop: (2)

```
int sum = 0;
for(int i=9;i>=1;i--)
{
    if(i%3==0)
        sum = sum + i;
    else
        sum = sum - i; }
```

(iii) Write the contents of jTextField1, jTextField2, jTextField3 and jTextField4 when the following statements are executed: (2)

```
String x;
String str = "Java";
x = str.concat("study");
double a = 7.8765;
jTextField1.setText(x.length()+" ");
jTextField2.setText(x.toUpperCase());
jTextField3.setText(x.substring(2,5) );
jTextField4.setText(Math.round(7.8765)+" ");
```

(iv) What will be displayed in jTextField1 and jTextField2 after the following code is executed: (2)

```
int t; int s ;
s = 2;
t = (4*s++)/2;
jTextField1.setText(" "+t);
jTextField2.setText(" "+s);
```

(v) What is the purpose of break statement in switch statement? (2)

Q6. (a) 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);
```

(b) What is polymorphism? Give its two examples. (2)

(c) Explain the term abstract classes. What is their purpose? (2)

(d) List 2 measures to secure a network. (2)

(e) Distinguish between MAC address and IP address with the help of example of each. (2)

