

k. Java is a case sensitive language. Which is the most appropriate statement with respect to this context :

- i. Upper and Lower case letters are ignored
- ii. Only uppercase letters are ignored
- iii. Only Lowercase letters are ignored.
- iv. Upper and Lower case letters are distinguished

l. Consider the following code :

```
If(c > d)
```

```
x = c;
```

```
else
```

```
x = d;
```

Choose correct option if it is written using ternary operator

- i. $x = (c > d) ? c : d;$
- ii. $x = (c > d) : d : d;$
- iii. $x = (c > d) : d : c;$
- iv. $x = (c > d) : c : c;$

m. Which of the following for loops will cause the body of loop to be executed 5 times?

- i. `for(i = 0; i <= 5; i++)`
- ii. `for(i = 5; i > 1; i--)`
- iii. `for(i = 1; i < 5; i++)`
- iv. `for(i = 0; i < 5; i++)`

n. Which of the operators is an unary operator?

- i. `&&`
- ii. `||`
- iii. `!`
- d. `>>`

o. Choose the statement which is NOT correct:

- i. Applets are programs which are internet based.
- ii. Java works on OOPs principle.
- iii. Java is not a case sensitive language.
- iv. Java uses both compiler and interpreter.

p. Which of the following is not a Wrapper class?

- i. Byte
- ii. int
- iii. Long
- iv. Double

q. Choose the odd one :

- i. switch
- ii. if
- iii. ifelse
- iv. for

r. The code which can execute on any machine and is independent of architecture is _____ .

- i. source code
- ii. machine code
- iii. byte code
- iv. object code

s. Which is not a valid relational operator in Java?

- i. `==`
- ii. `&&`
- iii. `<=`
- iv. `!=`

t. Single line comments can be added using _____ .

- i. `//`
- ii. `\\`
- iii. `/*`
- d. `*\`

Q.2- a. State the total size in bytes, of the arrays `a[4]` of char datatype and `p[4]` of float data type.

b. If `intn[] = {1, 2, 3, 5, 7, 9, 13, 16}` what are the values of `x` and `y`? [2]

```
x = Math.pow(n[4], n[2]); [2]
```

```
y = Math.sqrt(n[5]+n[7]);
```

c. State 2 differences between `parseInt()` and `parseFloat()` functions. [2]

d. Write the wrapper class and also the return type of function `isLetterOrDigit()`. [2]

e. Convert the following if-else-if construct into switch case: [2]

```
if(var == 'A')
{
    System.out.println("good");
}
else if(var == 'B')
{
    System.out.println("very good");
}
else
{
    System.out.println("work hard");
}
```

f. How many times will the following loop execute and what will be the output? [2]

```
char d = 'd';
do
{
    System.out.println(d++);
    ++d;
} while(d <= 'n');
```

g. Differentiate between linear and binary searching. [2]

h. Rewrite the following code using ternary operator. [2]

```
if(num%2 == 0)
    System.out.print("even");
else
    System.out.print("odd");
```

i. State the datatype and value of res after the following is executed. [2]

```
char ch = '9';
res = Character.isDigit(ch);
```

j. Rewrite using while loop [2]

```
int x, c;
for(x = 10, c = 20; c >= 10; c = c - 2)
    x++;
```

SECTION - B [60 MARKS]

Attempt any FOUR questions from this Section.

The answers in this section should consist of the programs either Blue J environment or any program environment with JAVA as the base.

Each program should be written using **variable description/mnemonic codes** such that the logic of the program clearly depicted. Flow charts and algorithms **are not required**.

Q.4- Write a program to create an integer array of 20 elements. Sort the elements of the array in ascending order using bubble sort technique. Display the sorted array. [15]

Q.5- Write a program to input a number. Display the product of the successors of even digits of the number entered by the user.
 Example : Input : 2745 :: the even digits are 2 and 4 so the product of the successor of 2 & 4 will be $3 * 5 = 15$. [15]

Q.6- Write a program to create an array of 25 integer values. Create another array in which all the even numbers should be in the first places and all the odd numbers after the even numbers. The order of the appearance of the numbers in the original array should not change in the second array. Display both the arrays. [15]

Eg Input ::

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----|----|---|---|---|----|----|----|----|----|----|----|----|----|----|---|---|----|----|----|---|---|----|----|----|
| 12 | 15 | 3 | 4 | 6 | 10 | 67 | 27 | 53 | 18 | 26 | 24 | 86 | 79 | 34 | 9 | 1 | 33 | 16 | 11 | 7 | 6 | 16 | 10 | 21 |
|----|----|---|---|---|----|----|----|----|----|----|----|----|----|----|---|---|----|----|----|---|---|----|----|----|

Output ::

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----|---|---|----|----|----|----|----|----|----|---|----|----|----|---|----|----|----|----|---|---|----|----|---|----|
| 12 | 4 | 6 | 10 | 18 | 26 | 24 | 86 | 34 | 16 | 6 | 16 | 10 | 15 | 3 | 67 | 27 | 53 | 79 | 9 | 1 | 33 | 11 | 7 | 21 |
|----|---|---|----|----|----|----|----|----|----|---|----|----|----|---|----|----|----|----|---|---|----|----|---|----|

Q.7- A computerized bus charges fare from each of its passengers based on the distance travelled as per the tariff given below :

| Distance (in kms) | Charges |
|-------------------|-----------|
| First 10 km | ₹ 50 |
| Next 15 kms | ₹ 4.50/km |
| Next 25 kms | ₹ 4.00/km |
| More than 50 kms | ₹ 3.50/km |

Write a program to accept the name and distance to be travelled by the customer and calculate the amount to be paid by the customer. The output should be in the following format

| | | | |
|----------------------|--------------------|-------------------|------|
| Name of the customer | Distance travelled | Amount to be paid | [15] |
|----------------------|--------------------|-------------------|------|

Q.8- Write a menu driven program to display the following patterns on the screen depending on the user's choice. [15]

a. * # * # *
 * # * #
 * # *
 * #
 *

b. 5
 4 5
 3 4 5
 2 3 4 5
 1 2 3 4 5

Q.9- a. Write a program to create an array of 10 character values and display the total number of alphabets, digits and special characters in the array. [7]

b. Write a program create a double array of 20 values and print the range of the array, range is the difference between the largest and the smallest elements of the array. [8]

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