

Multiple Choice Questions | Marks : 150

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Rough Space

120

1. What is the value of $(5 + (12 + 8) * 3 - 3 \% 2) / 2$?

- A. 2
B. 11
C. 16
D. None

2. Fill in the blanks: A switch statement can have _____ case statements and _____ default statements.

- A. at most one, at least one
B. any number of, at most one
C. at least one, any number of
D. at least one, at most one

3. Find the output of the following program.

```
public class Solution{  
    public static void main(String[] args {  
        short x = 127;  
        x += 3;  
        System.out.print(x);  
    }  
}
```

- A. 3
B. 127
C. 130
D. code does not compile.

4. Given the following code snippet, what is the value of movieRating after it is executed?

```
int characters = 5; int story = 3;  
double movieRating = characters <= 4 ? 3 : story > 1 ? 2 : 1;
```

- A. 2.0
B. 3.0
C. The code does not compile but would compile if parentheses were added.
D. code does not compile.

P.O

5. What will be the output following pseudo code?

```
Integer p,q,r
Set p=2, q=5, r=9
If((q+9)<p || (q-p)>p)
    r=(p%p)+q
Else
    p=r+p
End else
r=q+p
Print p+q+r
```

A. 14
B. 18

C. 12
D. 9

6. What will be the output of the following pseudocode for a = 9, b = 7?

```
Integer funn(Integer a, Integer b)
Integer c
Set c = 2
b = b mod c
a = a mod c
return a + b
End function funn()
```

A. 2
B. 17

C. 15
D. -5

7. What will be the output if limit = 6?

```
Read limit
n1 = 0, n2 = 1, n3 = 1, count = 1;
while count <= limit
    count = count + 1
    print n3
    n3 = n1 + n2
    n1 = n2
    n2 = n3
End While
```

A. 112358
B. 123581321

C. 12358
D. 12358132

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p=2, q=5, r=9

~~p = 2 + 5~~
~~= 7~~

r = 0 + 5

r=5 p=2 q=5

p=2, q=5, r=5

r = q + p

= 7

2 + 5 + 7

14

a = 9

b = 7

c = 2

b = b % c = 7 % 2 = 1

a = a % c = 9 % 2 = 1

a + b = 2

limit = 6

n1 = 0

n2 = 1

n3 = 1

count = 1

1 <= 6

c = c + 1

① c = 2 | ② c = 3

n3 = 1 | n3 = 1

n3 = 1 | n3 = 2

n1 = 1 | n1 = 1

n2 = 1 | n2 = 2

8. What is the output of the following application?

```
package dinosaur;
public class Park {
    public final static void main(String[] args){
        int pterodactyl = 6; long triceratops = 3;
        if(pterodactyl % 3 >= 1)
            triceratops++;
            triceratops--;
        System.out.print(triceratops);
    }
}
```

(By Mistake)
A. 5

B. 4

C. 3

D. 2 Ans.

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$p = 6$, $t = 2$
 $0 \geq 1$ false.
 $t = 2$
Ans.

9. Predict the output of the following code snippet?

```
int a = 2, b = 1, c = '2';
int res = a++ + c++/++b - a++*++b/b + c;
System.out.println(res);
```

A. -25

B. 70

C. 75

D. None

$(a++) + (c++) / (++b) - (a++) * (++b) / b + c$
 $2 + 50/2 - 3 * 3/3 + 51$
 $2 + 25 - 3 + 51$
 $= 51 + 2 - 3 + 25$
 $= 50 + 25 = 75$

10. What is the output of the following code snippet?

```
int a='0', b=1;
if (a++ == 0 && --b == 0){
    ++a;
    ++b;
}
if (b++++a == 2 || b++ + ++b == 4){
    a++;
    b--;
}
System.out.println(a + " " + b);
```

Output 49 4

$a = 48$ 49
 $b = 1$ 2 3 4

$2 + 4$

49

4

1

4

$a = 48$ 49

$b = 1$ 2 3 4

$2 + 4 = 6$

11. What will the output of the following code?

```
int a = 5;
a++;
int result = ++(a++);
```

A. 8

B. 7

C. 6

✓ D. code does not compile

12. What is the output of the following application?

```
package dessert;
public class IceCream {
    public final static void main(String[] args) {
        int flavors = 30;
        int eaten = 0;
        switch(flavors) {
            case 30: eaten++;
            case 40: eaten+=2;
            default: eaten--;
        }
        System.out.print(eaten);
    }
}
```

A. 1

✓ B. 2

C. 3

D. The code does not compile.

13. Predict the output-

```
public class Quiz {
    public static void main(String[] args) {
        int a = 010, b = 1;
        System.out.println(a+b);
    }
}
```

✓ A. 9

B. 11

C. 011

D. code does not compile

eaten = 0 1 3 2

$$a = 010 = 0 \times 8^0 + 1 \times 8^1 = 8$$

a = 8 b = 1

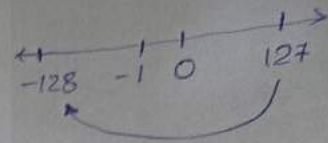
a + b = 9 Ans.

14. Predict the output -

```
byte i;  
for (i = 1; i > 0; i++) {  
  
}  
System.out.println(i);
```

- ☒ A. -128
B. -127

- C. infinite loop
D. code does not compile



15. What is the output of the following application?

```
package recreation;  
public class Dancing {  
    public static void main(String[] vars) {  
        int leaders = 10 * (2 + (1 + 2 / 5));  
        int followers = leaders * 2;  
        System.out.print(leaders + followers < 10 ?  
            "Too few" : "Too many");  
    }  
}
```

- A. Too few
B. None

- ☒ C. Too many
D. code does not compile

$$\begin{aligned}\text{leaders} &= 10 * (2 + (1 + 2/5)) \\ &= 10 * (2 + (1 + 0.4)) \\ &= 10 * (2 + 1.4) \\ &= 10 * 3.4 \\ &= 34\end{aligned}$$

leader = 34
followers = 68
34 + 68 = 102 < 10 ? No

Coding Section A (Attempt any two)

1. Write a Java program to find the number of days in a month.

100

Example 1:

Input: month number: 2 year: 2016

Output: February 2016 has 29 days

Example 2:

Input: month number: 12 year: 2020

Output: December 2020 has 31 days

2. Write a program to print the following pattern

150

Example 1:

Input: n=6

```
1
0 1
1 0 1
0 1 0 1
1 0 1 0 1
0 1 0 1 0 1
```

3. Check Whether the Number is an Abundant Number or not.

100

If the sum of all the factors of a number except the number itself is greater than the number, it is an Abundant Number.

Example 1:

Input: 18

Output: Yes, it's an Abundant Number

Example 2:

Input: 21

Output: No, it's not an Abundant Number

Coding Section B (Attempt any one)

1. Given an array `nums`. We define a running sum of an array as `runningSum[i] = sum(nums[0]...nums[i])`.
Return the running sum of `nums`.

100

Input: `nums = [1,2,3,4]`

Output: `[1,3,6,10]`

Input: `arr = [1,1,1,1,1]`

Output: `[1,2,3,4,5]`

2. Given an sorted array `A` of size `N`. Find number of elements which are less than or equal to given element `X`.

100

Input: `N = 6 A[] = {1, 2, 4, 5, 8, 10} X = 9`

Output: 5

Input: `N = 7 A[] = {1, 2, 2, 2, 5, 7, 9} X = 2`

Output: 4