

Candidate's Name in CAPITAL letters

Sec.

Branch

Roll No. :

Candidate's Signature

Invigilator's Signature

TIME : 1 Hr.

Date : \_\_\_\_\_

M.M. : 50

**GENERAL INSTRUCTIONS :-**

1. ALL QUESTIONS ARE COMPULSORY.
2. The marks intended for questions are given in brackets [ ].
3. Choose the most appropriate answer and write a, b, c or d in the circle near each question.

**Subject : COMPUTER APPLICATIONS**

**SECTION - A [30 MARKS]**

Q.1- Who invented Java language?

- a. Dennis Ritchie
- b. James Gosling
- c. Larry Page
- d. Serge Page

Q.2- What is a Compiler?

- a. A Compiler converts all instructions in one go.
- b. A compiler converts source code to low-level code
- c. Compilers work fast
- d. All the above

Q.3- What is the use of Access modifier

"public" in Java language?

- a. To hide the main method from misuse
- b. To call the main method outside of Class or Package by JVM
- c. To protect main method
- d. None of the above

Q.4- Which of these method is a rounding

function of Math class?

- a. max()
- b. min()
- c. abs()
- d. None of the mentioned

Q.5- An IF-ELSE statement is better than a SWITCH statement in which given

scenario?

- a. Checking for More-than condition
- b. Checking for Less-than condition
- c. Checking for Ranges
- d. All

Q.6- Fill in the blanks :

i. The process by which a class acquires the properties from

another class is \_\_\_\_\_.

- a. Object
- b. Inheritance
- c. Encapsulation
- d. Data Abstraction

ii. Keyword to allot space in dynamic memory for storage of an

object is \_\_\_\_\_.

- a. new
- b. case
- c. default
- d. break

iii. An 'if' statement in Java is also a

\_\_\_\_\_ statement.

- a. boolean
- b. conditional
- c. iterative
- d. optional

- iv. A break statement inside a loop like while, for, do while and Enhanced-for causes the program execution \_\_\_\_\_ Loop.
- a. Exit  
b. Continuation with next iteration  
c. Never exit  
d. None
- v. Return type of Math.round() is \_\_\_\_\_.
- a. double      b. float  
c. int            d. long

Q.7- Tick the correct option:-

- i. If the name of the class is 'Number', what can be the possible name for its constructor?
- a. number      b. num  
c. Number      d. no
- ii. First line of the function is known as :
- a. Header  
b. Prototype  
c. Both (a) and (b)  
d. None
- iii. The function which performs some action without returning any output
- a. pure function  
b. impure function  
c. replace function  
d. none
- iv. If constructors are overloaded, what differentiates it?
- a. return type  
b. parameter list  
c. both (a) and (b)  
d. none
- iv. The change in the formal arguments reflects on the actual parameters is :
- a. call by reference  
b. call by value  
c. call by method  
d. none

- Q.8 i. In call by reference the change in the formal arguments reflects back to the actual parameters
- a. false      b. true

- ii. Constructor can have void as its return type.
- a. true      b. false
- iii. '\?' escape sequence is used for inserting new line.
- a. true      b. false
- iv. Absence of break statement in \_\_\_\_\_ which causes fall through.
- a. true      b. false
- v. Java is not a case sensitive language,
- a. false      b. true

Q.9 Give the output of the following:-

- i. 

```
int marks = 55;
if(marks >= 80)
System.out.println
("DISTINCTION");
else if(marks >=35)
System.out.println("PASS");
else
System.out.println("FAIL");
```
- a. DISTINCTION  
b. PASS  
c. FAIL  
d. Compiler error
- ii. if y = 14 find
- $z = (++y)*(y++ + 5)$
- a. 300      b. 310  
c. 315      d. 320
- iii. Evaluate n if value of p = 5 and q = 19 ::  $n = (q - p) > (p - q) ?$
- $(q - p) : (p - q);$
- a. 13      b. 14  
c. 15      d. 16
- iv. if a = 48 and b = 13 : find
- $a+ = b++ * 5/a++ + b$
- a. 64      b. 63  
c. 49      d. 50
- v. 

```
char c = 'A';
int n = c + 1 ;

System.out.println(n);
```
- a. 67      b. 97  
c. 66      d. 65

Q.10- Choose the correct option:-

- i. Which of the following are not Java modifiers?
- a. public      b. private  
c. friendly      d. transient

ii. Parameters used in function call

are known as

- a. formal parameters
- b. actual parameters
- c. passed parameters
- d. defined parameters

iii. Which is not a java

keyword?

- a. case
- b. break
- c. public
- d. total

iv. 'Division by 0' is which type

of error?

- a. Syntax Error
- b. Run time Error
- c. Logical Error
- d. None

v. Which of the following is not

applicable for a constructor?

- a. it has the same name as that of the class
- b. it has no return type
- c. it is used for initialization
- d. it can be invoked using an object like any other member function

### SECTION B (20 Marks)

Q.11- The following program segment finds and display the factorial of a number input by the user (the factorial of a non-negative integer n,

```
public static void fact(__1__)
{
    int i, f = 1;
    for(i = 1; __2__ ; __3__)
    {
        f = __4__;
    }
    System.out.println(__5__)
}
```

i.

- a. int n
- b. int n\*n
- c. int a, int b

ii.

- a. i == n
- b. i <= n
- c. i != n

iii.

- a. i = i/10
- b. i \* i
- c. i++

iv.

- a. f = f + i
- b. f = f - i
- c. f = f \* i

v.

- a. f
- b. n
- c. i

Q.12- An Armstrong number of three digits is an integer such that the sum of the cubes of its digits is equal to the number itself

$$\begin{aligned} \text{e.g. } 371 &= 3^3 + 7^3 + 1^3 \\ &= 27 + 343 + 1 \\ &= 371 \end{aligned}$$

```
public static void Armstrong(int n)
```

```
{
    int s = 0, i, d;
    for(i = n; __1__ ; __2__)
    {
        d = __3__ ;
        s = s + __4__ ;
    }
    if(__5__)
        System.out.println("Armstrong
number");
    else
        System.out.println("Not
Armstrong number");
}
```

i.

- a. i == 0
- b. i != 0
- c. i >= 0

ii.

- a. i = i \* 10
- b. i = i - 10
- c. i = i/10

iii.

- a. i/10
- b. i + 10
- c. i % 10

iv.

- a. d \* 3
- b. d \* d \* d
- c. d + 3

v.

- a. d == n
- b. n == s
- c. i == s

Q.13- Define a class called Library with the following description :

**Instance variables/data members :**

int acc\_num : stores the accession number of the book

String title : stores the title of the book

String author : stores the name of the author

**Member methods :**

- (i) void input ( ) : To input and store the accession number, title and author.
- (ii) void compute( ):To accept the number of days late, calculate the display the fine charged at the rate of ₹2 per day.
- (iii) void display( ) :To display the details in the following format :

```
Accession Number Title Author
import java.____1____*;
class Library
{
int acc_num;
String title, author;
Scanner sn=new Scanner(____2____);
void input( )
{
System.out.println("enter the
accession number, title and author");
acc_num=sn.nextInt();
title = sn.nextLine();
author = sn.nextLine();
}
void compute()
{
int n = sn.nextInt();
int fine=____3____;
System.out.println("fine : "+fine);
}
void ____4____
{
System.out.println("Accession
Number \t\t Title \t\t Authpr");
System.out.println("acc_num+"
\t\t"+title+"\t\t"+ author);
}
public static void main()
{
Library ob=new ____5____();
ob.input();
ob.compute();
ob.display();
}
}
```

- i.  a. io      b. awt  
 c. util
- ii.  a. System.out    b. System.in  
 c. System.exit
- iii.

- a. n\*2      b. n + 2
- c. n/2
- iv.  a. print()      b. display()  
 c. output()
- v.  a. Main()      b. Display()  
 c. Library()

Q.14- Read the paragraph given below and answer the questions given below:

**Case study 1**

Repetitive execution of a set of statements is termed as looping. The two types of looping statements are entry controlled and exit controlled loops. Both while and for are termed as entry-controlled loops. A for loop is used when the number of iterations is known. A while is used when the set of statements are executed as long as the condition is true, it is executed when the number of iterations are not known. A loop which doesn't contain any statement in its body is known as null loop or empty loop. break and continue statements are used to bring the control from one place to another.

- i. Name given for repetitive execution of set of statements. 
  - a. Looping
  - b. Decision Control
  - c. Assignment
- ii. Which one of the following does not execute even once? 
  - a. for(k = 1; k <= 100; k++);
  - b. for(k = 10; k = 1; k++);
  - c. for(k = 1; k >= 1; k++);
- iii. Which of the following are entry controlled loop? 
  - a. for & while
  - b. for & do - while
  - c. while & do - while
- iv. Name the jump statements used with loops. 
  - a. break & continue
  - b. continue
  - c. break
- v. A loop without any statement is known as : 
  - a. null loop    b. empty loop
  - c. both a & b

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