ICSE SEMESTER 1 EXAMINATION
SPECIMEN QUESTION PAPER
COMPUTER APPLICATIONS

Maximum Marks: 50

Time allowed: One hour (inclusive of reading time)

ALL QUESTIONS ARE COMPULSORY.

The marks intended for questions are given in brackets [ ].

Select the correct option for each of the following questions.

SECTION A (30 Marks)

Question 1

Choose the correct answer **[5×1]**

(a) Which of the following are valid comments?

(i) /* comment */

(ii) /* comment

(iii) // comment

(iv) */ comment */

1. (i) & (iii)
2. (i) & (ii)
3. All of the above
4. None of the above

(b) Operators with higher precedence are evaluated before operators with relatively lower precedence. Arrange the operators given below in order of higher precedence to lower precedence.

(i) && (ii) % (iii) >= (iv) ++

1. (iv), (i), (iii), (ii)
2. (iv), (iii), (ii), (i)
3. (iv), (ii), (iii), (i)
4. (i), (ii), (iii), (iv)

(c) Which of the following keyword is used to create an instance of a class?

1. new
2. public
3. class
4. None of the above

(d) What is the final value stored in variable x ?

```
double a =-8.35;
double x = Math.abs(Math.floor(a));
```

1. 9.0
2. 7.0
3. 6
4. 7

(e) Name the type of error in the statement given below:

```
int r=100/0;
```

1. Syntax
2. Runtime
3. Logical
4. None of the above

Question 2

Fill in the blanks with the correct option **[5×1]**

(a) The _____ allows a class to use the properties and methods of another class.

1. Inheritance
2. Polymorphism
3. Encapsulation
4. None of the above

(b) The number of bytes occupied by char data type is _____byte/s

1. 4
2. 8
3. 2
4. None

(c) The _____ is called an instance of a class

1. Object
2. Attributes
3. State
4. None

(d) The _____ are the words which have special meaning

1. Keywords
2. Identifier
3. Methods
4. Package

(e) Method that accepts a string without any space is _____

1. next()
2. nextLine()
3. nextInt()
4. None of the above

Question 3

Name the following **[5×1]**

(a) The keyword to make a variable as a class variable

1. static
2. Static
3. final

(b) Intermediate code obtained after compilation

1. Source code
2. Byte Code
3. Object code

(c) The method with the same name as of the class and which does not have a return data type is called as

1. Constructor
2. Function
3. Method

(d) The statement to stop the execution of a construct.

1. System.exit(0)
2. break
3. STOP

(e) Invoking a method by passing the objects of a class is termed as

1. Call by value
2. call by reference
3. call by method

Question 4

State True Or False **[5×1]**

(a) byte is a non - primitive data type

1. True
2. False

(b) !(2>3&&4>6)

1. True
2. False

(c) Scope of local variable is within a class.

1. True
2. False

(d) The *default* statement is optional in switch- case.

1. True
2. False

(e) The assignment operator(=) is left associative.

1. True
2. False

Question 5

Choose the odd one **[5×1]**

(a)

1. Encapsulation
2. Data abstraction
3. Portable
4. Polymorphism

(b) 1. >

2. ==

3. &&

4. <

(c) 1. return

2. break

3. continue

4. System.exit(0)

(d) 1. int

2. double

3. char

4. String

(e) 1. +

2. %

3. /

4. ||

Question 6

Give the output of the following **[5 × 1]**

(a) x + = x++ + ++ x + --x + x; [x = 5]

1. 29

2. 28

3. 26

(b) if (a > b)

System.out.println(a+b);

System.out.println (a*b); when a = 5 and b = 7

1. 12, 35

2. 35

3. 35, 12

(c) String x = (a >= 90) ? "excellent" : "best"; when a = 90

1. best
2. excellent
3. excellentbest

(d) switch (x)

{ case 'a' : System.out.println("Discipline");

case 'b' : System.out.println ("Dedication"); break;

case 'c' : System.out.println("Commitment");

default : System.out.println("Success");

} when x='A'

1. Discipline
2. Dedication
3. Success

(e) n=1000;

while (n>10)

{ n=n/10;

}

System.out.println(n); How many time the loop is executed and what is the output?

1. Loop is executed 2 times and the output is 100
2. Loop is executed 3 times and the output is 10
3. Loop is executed 2 times and the output is 10.

SECTION B (20 Marks)

Question 7

Given below is a class with the following specifications:

Class name : overload

Member Methods:

void print (int n) – to print the first 'n' natural numbers

boolean print (int m, int n) – to check whether n is a multiple of m or not

Fill in the blanks of the given program with appropriate java statements –

```
class (a)_____________
 {
        void print (int n)
        {
                int k;
                for ( (b)_______; (c)_________; (d)_____________)
                {
                        System.out.println(k);
                }
        }
        boolean print( int m, (e)________)
        {
                if ( (f)____________________)
                return true;
                else
                return false;
        }
}
```

(a) 1. OVERLOAD

2. overload

3. class [1]

(b) 1. k = 1;

2. k = n;

3. k = 0 [1]

(c) 1. k<=n;

2. k>=n;

3. k+n; [1]

(d) 1. k+=2

2. k+=5

3. k++ [1]

(e) 1. int n

2. double n

3. char n [1]

(f) 1. if (n%m == 0)

2. if (m%n==0)

3. if (m/n==0) [1]

Question 8 :

The following program is based on the specification given below. Fill in the blanks with appropriate java statements.

class name : telephone

member variables : int noc [number of calls]

double bill [telephone bill to be paid]

String n [name of the customer]

Member methods :

void input ( ) – to accept the data using the scanner class

void print() – to print the details

void calculate () – to calculate the telephone bill as per the following criteria based on number

of calls

Number of calls	Rate per call
First 100 calls	free
Above 100 calls	Rs.2.50

void main ( ) – to create an object of the class and invoke the functions of the class

class (a)_____

{ int noc; double bill ; String n;

Scanner ob = (b)_____ Scanner(System.in);

void input( )

{ System.out.println("Enter Number of calls");

```
        noc = (c)_____;
        System.out.println("Enter name ");
        n=ob.next();
    }
    void calculate()
    {     if ( (d)_____)
          bill =0;
          else
          bill = (e)_____;
     }
    void print()
    {     System.out.println("Name = "+n);
          System.out.println("Amount to be paid="+bill);
     }
     void main ()
     {     telephone t = new telephone();
           t.input();
           (f)_____;
           t.print();
      }
}
```

(a) 1. telephone

2. class

3. object [1]

(b) 1. old

2. new

3. void [1]

(c) 1. ob.nextDouble()

2. ob.nextLine()

3. ob.nextInt() [1]

(d) 1. noc<100

2. noc < = 100

3. noc > 100 [1]

(e) 1. bill=0+(noc-100)*2.50

2. bill = (noc-100)*3.50

3. bill = noc*2.50 [1]

(f) 1. t.input()

2. t.calculate()

3. t.print() [1]

Question 9

The following program segment calculates the norm of a number, norm of a number is square root of sum of squares of all digits of the number.

Example:

The norm of 68 is 10

6×6 + 8×8 = 36+64 = 100 square root of 100 is 10.

Fill in the blanks with appropriate java statements.

```
void norm ( int n)
{       int d, s =(a)_____;
        while ( (b)_________)
        {       d = n%10;
                s = (c)_________________;
                n=n/10;
        }
        System.out.println("Norm = " + (d)_____________);
}
```

(a) 1. 0

2. 0.0

3. 1 [1]

(b) 1. n>0

2. n<0

3. n>1 [1]

(c) 1. s+d*d

2. s*d+d

3. s*s+d [1]

(d) 1. Math.sqrt(s)

2. Math.SQRT(s)

3. Math.sqrt(n) [1]

Question 10

Read the paragraph given below and answer the questions given below:

Case study 1

Decision control statements are used to check for condition and execute the statements based on the condition. The two decision control statements in java are if and switch, switch is also called as multiple branching statement. An if statement within another if statement is termed as Nested if Statement. 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) What are the two decision control statements in java? [1]

1. if and switch
2. for and while
3. ternary and logical

(b) An if statement within another if statement is termed as [1]

1. Nested
2. Nested while
3. Nested if

(c) Name given for repetitive execution of set of statements. [1]

1. Looping
2. Decision Control
3. Assignment

(d) Which one of the following does not execute even once? [1]

1. for(k = 1; k<=100;k++);
2. for(k=10;k<1;k++);
3. for(k=1;k>=1;k++);