JAVA EXAM 23 June

Answer all questions.

1. Write the output of following lines of code?

```
int datacount = 1;
while(datacount <= 6) {
if(datacount % 2 == 2)
System.out.println ("First Set");
else if(datacount % 3 == 0)
System.out.println ("Second Set");
else
System.out.println ("Third Set");
Datacount++;}
```

2. Give the output and show the dry run. - 120

```
public static void abc()
    {
    int x=1, i=2;
    do
    {
    x*=i;
    }while(++i<=5);
    System.out.println(x);
    }
```

3. Analyse the given program segment and answer the following questions
    a. How many times in total will the inner loop execute?
    b. Write the output of the program segment?

4. What is the final value of ctr when the iterative process given below executes?

```
int ctr = 0;
for(int i=1; i<5;i++)
for(int j=1; i<=5; j+=2)
System.out.println(++ctr);
```

5. Analyse the following program segment and determine how many times the loop will be executed and what will be the output of the program segment.

```
int k=1,i=2;
while(++i<6)
k*=i;
System.out.println(k);
```

6. Write the output of the program.

```
public class t200
{
public static void main()
{
int i,n=5,s=0;
double f=0;
for(i=n;i>0;i–)
{
s=i*i;
f=(Math.pow(s,2))-i;
System.out.println(f);
}
}
}
```

7. Convert the following while loop to the corresponding for loop:

```
int m = 5, n = 10;
while (n>=1)
{
System.out.println(m*n);
n--;
}
```

8. Convert the following if-else-if construct into switch case:

```
if(var == 1)
System.out.println("good");
else if(var == 2)
System.out.println("better");
else if(var == 3)
System.out.println("best");
else
System.out.println("invalid");
```

9. Give the output of the following code fragment when
    a. opn = ‘b’
    b. opn = ‘x’

```
switch (opn)
{
case ‘a’:
System.out.println(“Simply Coding”);
break;
case ‘b’:
System.out.println(“Online Tutor”);
case ‘c’:
System.out.println(“Online Courses”);
default:
System.out.println(“Invalid Input”);
}
```

10. Given the following code fragment

```
String[] nums = {"One", "Two", "Three", "Four", "Five",
"Six", "Sev"};
for(int i = 0; i < nums.length; i++) {
  if (nums[i++].length() % 3 == 0) {
    continue;
  }
  System.out.println(nums[i]);
  break;
}
```

What is the output? Choose one

a. Three
b. Four
c. Five
d. Three
   Four
   Five
e. No output

11. Write a program to print out all Armstrong numbers between 1 and 500. If sum of cubes of each digit of the number is equal to the number itself, then the number is called an Armstrong number.
For example, 153 = (1 * 1 * 1) + (5 * 5 * 5) + (3 * 3 * 3)

```
public class Armstrong
{
   public static void main(String[] args)
    {
      int n, count = 0, a, b, c, sum = 0;
      System.out.print("Armstrong numbers from 1 to 1000:");
```

```
            for(int i = 1; i <= 1000; i++)
            {
                n = i;
                while(n > 0)
                {
                    b = n % 10;
                    sum = sum + (b * b * b);
                    n = n / 10;
                }
                if(sum == i)
                {
                    System.out.print(i+" ");
                }
                sum = 0;
            }
        }
    }
```

12. Write a program to print Fibonacci series of n terms where n =100

```
class Main {

  public static void main(String[] args) {


    int n = 10, firstTerm = 0, secondTerm = 1;

    System.out.println("Fibonacci Series till " + n + " terms:");


    for (int i = 1; i <= n; ++i) {
```

```
    System.out.print(firstTerm + ", ");


    // compute the next term
    int nextTerm = firstTerm + secondTerm;
    firstTerm = secondTerm;
    secondTerm = nextTerm;
   }
  }
}
```

13. Write a program to print following

```
     1
    222
   33333
  4444444
 555555555

public class PatternNumber {
	public static void main(String[] args) {
		for (int i = 1; i &lt;=5 ; i++) {
			for (int j = 5; j &gt; i ; j--) {
				System.out.print(" ");
			}
			for (int k = 1; k &lt;= 2*i - 1 ; k++) {
				System.out.print(i);
			}
			System.out.println();
		}
	}
}
```

14. Write a program to calculate HCF of Two given number.\

```
int num1 = 24, num2 = 36, hcf = 0;
        for (int i = 1; i <= num1 || i <= num2; i++) {
            if (num1 % i == 0 && num2 % i == 0)
                hcf = i;
        }
```