

SECTION I

Time — 1 hour and 15 minutes

Number of questions — 40

Percent of total grade — 50

1. What is printed when the following statement is executed?

```
System.out.println(17 / 5 % 3 + 17 * 5 % 3);
```

- (A) 1
- (B) 4
- (C) 9
- (D) 42
- (E) 42.5

2. Consider the following method.

```
public void process(String s)
{
    s = s.substring(2, 3) + s.substring(1, 2) +
        s.substring(0, 1);
}
```

What is printed as a result of executing the following statements (in a method in the same class)?

```
String s = "ABCD";
process(s);
System.out.println(s);
```

- (A) ABCD
- (B) CBA
- (C) CDBCA
- (D) CDBCAB
- (E) IndexOutOfBoundsException

3. What is printed as a result of executing the following statements?

```
double x = 2.5, y = 1.99;  
System.out.println((int)(x/y) + (int)(x*y));
```

- (A) 0
- (B) 3
- (C) 4
- (D) 4.0
- (E) 5

4. Which of the following expressions is true if and only if NOT all three variables a, b, and c have the same value?

- (A) `a != b && b != c`
- (B) `a != b || b != c`
- (C) `a >= b && b >= c && c >= a`
- (D) `a > b || b > c || a > c`
- (E) `!(a == b || b == c || a == c)`

5. What is the result when the following code segment is compiled and executed?

```
int m = 4, n = 5;  
double d = Math.sqrt((m + n)/2);  
System.out.println(d);
```

- (A) Syntax error "sqrt(double) in java.lang.Math cannot be applied to int"
- (B) 1.5 is displayed
- (C) 2.0 is displayed
- (D) 2.1213203435596424 is displayed
- (E) ArithmeticException

6. For which of the following pairs of values a and b does the expression

`(a > 20 && a < b) || (a > 10 && a > b)`

evaluate to true?

- (A) 5 and 0
- (B) 5 and 10
- (C) 15 and 10
- (D) 15 and 20
- (E) None of the above