

13) What is the output of the following code fragment? (Be careful here.)

```
int n = 1;
while (n <= 5)
    cout << n << ' ';
    n++;
```

- | | | |
|--------------|------------------|------------------|
| 1) 1 2 3 4 5 | 3) 1 1 1 forever | 5) 2 3 4 5 6 |
| 2) 1 2 3 4 | 4) 2 3 4 5 | 6) None of these |

14) When designing a specification for an input file, which of the following would be a poor choice for a sentinel value?

- | | |
|--|-------------------|
| 1) a value of 29 for voter ages | 6) 1 and 2 only |
| 2) a value of 1025 for SAT scores | 7) 1 and 3 only |
| 3) a value of -1 for student heights | 8) 2 and 3 only |
| 4) a value of "No one" for student names | 9) 2 and 4 only |
| 5) All of them | 10) None of these |

15) With respect to the loop in the following main() function, what is missing?

```
#include <iostream>
using namespace std;
int main() {
    int loopCount = 4;
    int Output = 7;
    while (loopCount <= 8) {
        cout << Output << endl;
        Output++;
    }
    return 0;
}
```

- 1) the initialization of the loop control variable
- 2) the testing of the loop control variable
- 3) the update of the loop control variable
- 4) Nothing is missing.

16) Indicate where (if at all) the following loop needs a priming read.

```
int Sum = 0; // line 1
int Number; // line 2
while (inFile) { // line 3
    // line 4
    Sum = Sum + Number; // line 5
    inFile >> Number; // line 6
} // line 7
```

- | | |
|--------------------------|----------------------------------|
| 1) before line 1 | 4) between lines 5 and 6 |
| 2) between lines 2 and 3 | 5) between lines 6 and 7 |
| 3) at line 4 | 6) No priming read is necessary. |

17) To produce the output 2 4 6 8 10, what loop condition should be used in the blank below?

```
int N = 0;
do {
    N = N + 2;
    cout << N << ' ';
} while ( _____ );
```

- | | | |
|------------|-----------|------------------|
| 1) N <= 10 | 3) N < 8 | 5) N > 8 |
| 2) N < 10 | 4) N >= 2 | 6) None of these |
-

18) After execution of the following code, what value is printed for Length?

```
int Length = 5,
    Count = 4;
while (Count <= 6) {
    if (Length >= 100)
        Length = Length - 2;
    else
        Length = Count * Length;

    Count++;
}
cout << "Length = " << Length << endl;
```

- | | | |
|-------|--------|------------------|
| 1) 20 | 3) 100 | 5) None of these |
| 2) 98 | 4) 600 | |
-

19) In the following code fragment, a semicolon appears at the end of the line containing the while condition.

```
cout << 'A';
int loopCount = 1;
while (loopCount <= 3);
{
    cout << 'B';
    loopCount++;
}
cout << 'C';
```

The result will be:

- | | |
|---------------------|-------------------------|
| 1) the output AC | 4) a compile-time error |
| 2) the output ABC | 5) an infinite loop |
| 3) the output ABBBC | 6) None of these |

20) What is the output of the following code fragment?

```
int Sum = 0,
    outerCount = 1;

while (outerCount <= 3) {
    int innerCount = 1;

    while (innerCount <= outerCount) {
        Sum = Sum + innerCount;
        innerCount++;
    }
    outerCount++;
}
cout << Sum << endl;
```

- | | | |
|------|-------|------------------|
| 1) 1 | 3) 10 | 5) 35 |
| 2) 4 | 4) 20 | 6) None of these |

21) Which for loop is equivalent to the following while loop? Equivalent here means that the value of each of the variables would be the same when the code has completed execution.

```
int count = -5, sum = 0;
while (count <= 15) {
    sum = sum + count;
    count++;
}
```

- | | |
|---|------------------|
| 1) int count, sum = 0;
for (count = -5; count <= 15; count++)
sum = sum + count; | |
| 2) int count, sum = 0;
for (count = -5; count <= 15; count++) {
sum = sum + count;
count++;
} | |
| 3) int count, sum;
for (count = -5, sum = 0; count <= 15; count++) {
sum = sum + count;
} | |
| 4) int count, sum = 0;
for (count = 1; count <= 21; count++)
sum = sum + count; | |
| 5) All of these | 8) 1 and 4 only |
| 6) 1 and 2 only | 9) None of these |
| 7) 1 and 3 only | |

22) What is the output of the following code fragment?

```
for (int loopCount = 1; loopCount <= 6; loopCount = loopCount + 2)
    cout << loopCount << ' ';

cout << "Done" << endl;
```

- | | |
|-------------|------------------|
| 1) Done | 4) 1 3 5 Done |
| 2) 1 Done | 5) 1 3 5 7 Done |
| 3) 1 3 Done | 6) None of these |
-

23) What is the output of the following code fragment?

```
for (int loopCount = 1; loopCount > 3; loopCount++)
    cout << loopCount << ' ';

cout << "Done" << endl;
```

- | | |
|-------------|------------------|
| 1) Done | 4) 1 2 3 Done |
| 2) 1 Done | 5) 1 2 3 4 Done |
| 3) 1 2 Done | 6) None of these |
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24) In the following code fragment, the programmer mistakenly placed a semicolon at the end of the for statement heading. What is the result?

```
cout << 'A';
for (int count = 1; count <= 3; count++);
    cout << 'B';
cout << 'C';
```

- | | |
|-------------------------|---------------------|
| 1) a compile-time error | 4) the output ABBC |
| 2) an infinite loop | 5) the output ABBBC |
| 3) the output ABC | 6) None of these |
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25) What is the output of the following code fragment?

```
int n = 2;

for (int loopCount = 1; loopCount <= 3; loopCount++) {
    while ( n <= 4 )
        n = 2 * n;
}
cout << n << endl;
```

- | | |
|-------|------------------|
| 1) 4 | 4) 32 |
| 2) 8 | 5) 64 |
| 3) 16 | 6) None of these |