

**CompSci 101 Test  
First Semester 2007**

**ANSWER BOOKLET**

Surname .....

Forenames .....

Student ID .....

Login name(UPI) .....

**Examiner to complete:**

Question	Mark
1 – 18	(/36)
19	(/6)
20	(/6)
21	(/16)
22	(/6)
23	(/2)

Question	Mark
24	(/3)
25	(/3)
26	(/4)
27	(/6)
28	(/12)

TOTAL
(/100)

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**SECTION A: MULTIPLE CHOICE QUESTIONS**

**Questions 1 – 18.**

Each question in this section is worth 2 marks.

**Circle** the letter corresponding to your choice. There is only one correct answer for each question. If you make a mistake, mark a cross through your wrong choice and circle your next alternative.

**IMPORTANT**

Write the **VERSION NUMBER** of your question booklet below:

<b>ONE</b>
------------

- 1.     a    b    c    d    e
- 2.    a    b     c    d    e
- 3.    a     b    c    d    e
- 4.    a    b     c    d    e
- 5.    a     b    c    d    e
- 6.    a    b    c     d    e
- 7.    a     b    c    d    e
- 8.    a    b     c    d    e
- 9.    a     b    c    d    e
- 10.   a    b    c     d    e
- 11.   a    b     c    d    e
- 12.   a    b    c    d     e
- 13.   a    b    c     d    e
- 14.   a     b    c    d    e
- 15.   a     b    c    d    e
- 16.   a    b    c    d     e
- 17.   a    b    c     d    e
- 18.   a    b    c    d     e

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## SECTION B

Write your answers in the spaces provided.

**Question 19 (6 marks)**

Fill in the spaces below:

- a) Should evaluate to 5:

```
int number = calculate( 0 , 5 );
```

*NB: this is one of many possible answers*

- b) Should evaluate to 2:

```
int number = calculate( 0 , 2 );
```

*NB: this is one of many possible answers*

(6 marks)

**Question 20 (6 marks)**

Show the output below.

```
1. Result: 17
```

```
2. Result: 9
```

(6 marks)

**Question 21 (16 marks)**

Complete the code in the space provided below

- a) 

```
private int getRandomNumber(int value) {
```

```
    return (int) (Math.random() * value);
```

```
}
```

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b) private void printDescription(String name, int age) {

```
System.out.println(name + " is age: " + age);
```

}

c) private String getLonger(String word1, String word2) {

```
    if (word1.length() >= word2.length() ) {
        return word1;
    }
    return word2;
```

}

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d) private char getFirstLetter(String word) {

```
return word.charAt(0);  
}
```

(16 marks)

**Question 22 (6 marks)**

State what the error is:

```
- the identifier "result" is out of scope
```

Suggest how the error could be fixed:

```
- the variable "result" could be declared outside of the  
conditional block, or the println() method could be included in  
each branch of the conditional block
```

Once the error is fixed, what would the output of this program be:

```
no
```

(6 marks)

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**Question 23 (2 marks)**

Show the output of the program below.

```
5
```

(2 marks)

**Question 24 (3 marks)**

Show the output of the program below.

```
put  
no
```

(3 marks)

**Question 25 (3 marks)**

Give the result of the following expressions.

```
a)      true  
b)      false  
c)      invalid, "5 < a" evaluates to true but can't compare boolean against int  
         (i.e., "true < 12").
```

(3 marks)

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**Question 26 (4 marks)**

Give the corresponding while loop.

```
int a = 0;
while (a < 10) {
    System.out.println(a);
    a++;
}
```

(4 marks)

**Question 27 (6 marks)**

State the letter of the lines on which the errors occur, and give a correction for each error.

```
Line b: Conditional test is actually an assignment statement.
This should be changed to x == 5

Line c: The statement, return 10.0, does not match the return
type of the method.
This should be changed to return 10, or the return type should
be changed to be double
```

(6 marks)

**Question 28 (12 marks)**

Complete the method definition below.

```
private int[ ] duplicate(int[ ] original) {
    int [ ] copy = new int [original.length];
    for (int i = 0; i < original.length; i++) {
        copy[i] = original[i];
    }
    return(copy);
}
```

(12 marks)

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**ROUGH WORKING**  
(Will not be marked)

