

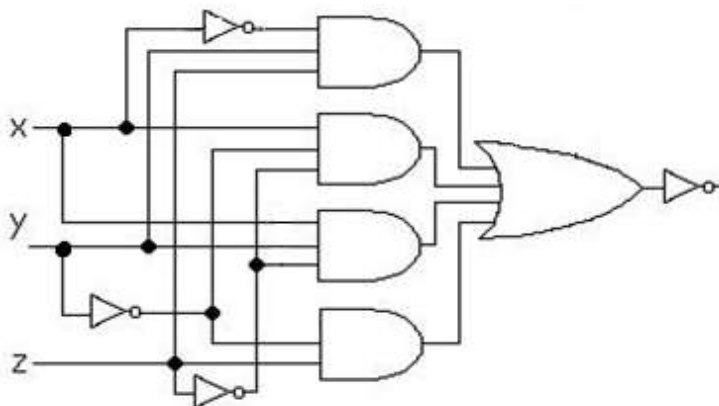
## General Informatics - Sample Test Questions

- 1) Given the sequence of bits: 1111010111111.01111 specify his equivalent in Octal: a) 13232.360; b) 17277.360; c) 03231.23; d) 75663.27; e) none of
- 2) Which of the following are alternative definitions for information: a) data that have been processed for a purpose; b) a series of facts obtained by observation and research and recorded; c) data that have been processed so that they are meaningful; d) a and b; e) a and c;
- 3) The logical function  $f(x, y) = \bar{x} \cdot (x + \bar{y}) + x \cdot \bar{y}$  is equivalent to: a) y; b)  $x \cdot y$ ; c)  $\bar{y}$ ; d) 1; e) none of these
- 4) The following code structure:

<pre> Function fx(x As String, y As String) As String     fx=y     If x &gt;= y Then fx = x End Function                 </pre>	Returns: <ol style="list-style-type: none"> <li>a) the max value from x and y if x and y are numbers;</li> <li>b) the min value from x and y if x and y are double;</li> <li>c) the max value from x and y if x and y are of any comparable datatype;</li> <li>d) the min value from x and y if x and y are of any comparable datatype;</li> <li>e) the max value from x and y if x and y are long;</li> </ol>
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- 5) Given the arithmetic expression  $f(x, y) = \frac{x^2 + 2xy + 3y}{2x^3}$  and considering the rules of evaluation of expressions which of the following expression is a valid algorithmic representation:
  - a)  $f(x, y) = (x^2 + 2 * x * y + 3 * y) / 2 * x^3$ ; b)  $f(x, y) = (x^2 + 2 * x * y + 3 * y) / (2 * x^3)$ ; c)  $f(x, y) = ((x^2 + 2 * x * y + 3 * y) / 2 * x^3)$ ; d) a and c; e) b and c

6) Build the truth table and the expression of the logical function modeled by the following digital circuitry. Apply the fundamentals theorems of Boolean algebra and simplify the expression.



Input			Output
x	y	z	
0	0	0	
0	0	1	
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	
1	1	1	

7) Find out the mathematic formula modeled by the following code sequence:

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Function fx(n As Integer) As Double
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  If n = 1 Then
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    fx = 1
```

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  Else
```

```
    fx = n * fx(n - 1)
```

```
  End If
```

```
End Function
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