**King suad unvirsaty**

**The first monthly test in (Math 1101) for the second semester of 1433\1434 A.H**

**Name: ID: .**

**The first question**

**Choose the correct answer of the following:**

A. The value of 1.0+($\leftharpoonaccent{0+1)}$ is:

1. 1 b) 0 c) $\leftharpoonaccent{1}$

B. Translate ( 1 . 1 )+$\leftharpoonaccent{0}$=1 into a logical equivalence is:

1. ( T ˅ T ) ˄¬F ≡ T b) ( T ˄ T ) ˅¬F ≡ T c) ( T ˄ T ) ˅ F ≡ T

C) The duals of x.(y + 1)

a) x+(y . 1) b) x+(y . 0) c) x+(y + 0)

D) A full m – ary tree with i internal vertices contains ……………. Vertices

a) n= mi-1 b) n= mi+1 c) m= ni+1

**Solve The question**

1. If *K*6 , Find number edges ?....................................
2. If G is 4-regualr graph and |V|=6 , Find number edges ? ……………………………

3- How many edges are there in a graph with 5 vertices, each of degree 8 …………………..

**The Second question**

**Find the outputs of the giving circuit**

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**Find the sum – of – products expansion for the function** $F\left(x,y,z\right)=\left(x+y\right)\leftharpoonaccent{z}.$

**The third question**

**Construct circuits that produce the following outputs:** $\left(x+y+z\right)(\leftharpoonaccent{x}\leftharpoonaccent{y}\leftharpoonaccent{z})$

**What are the degrees of the vertices in the graph and is connected**

**f**

**The fourth question**

**Put ( p ) or ( X ) :**

1.The sequence of 3,3,3,3,2,1 is graphic ( )

2. A vertex of degree one is called isolated but a vertex of degree zero is called pendant. ( )

3. ( T ˄ T ) ˅¬F≡T ( )

4. The dual of a Boolean expression is obtained by interchanging 0 by 1 ( )

5. In graph, if edges that connect a vertex to itself are called loops. ( )

6. A rooted tree is called binary if every internal vertex has m= 2 ( )

**Use K-maps to minimize the sum – of – products expansion:**

$$x\leftharpoonaccent{y}z+x\leftharpoonaccent{y}\leftharpoonaccent{z}+\leftharpoonaccent{x}yz+\leftharpoonaccent{x}\leftharpoonaccent{y}z+\leftharpoonaccent{x}\leftharpoonaccent{y}\leftharpoonaccent{z}$$