**King suad unvirsaty**

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

**Name: ID: .**

**The first question**

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

1. $a\_{11}a\_{22}…………a\_{nn}$**is called the main diagonal of the matrices. ( )**
2. **Ф ϵ {0}. ( )**
3. **The negation of “To day is Friday “ is “To day is not Friday”. ( )**
4. $\left[\begin{matrix}5&2\\3&4\end{matrix}\right]=\left[\begin{matrix}a+2&2\\3&b\end{matrix}\right]$**, Then a = b = 4. ( )**
5. $p˄F≡T$**. ( )**

**The second question:**

**A-Show that p ↔ q ≡ (p ˄ q) ˅ ( ¬p ˄ ¬q )**

B-Determine whether the argument given here is valid or invalid



C- Let R={(1,1),(1,2),(2,1),(3,3)} and S= {(1,2),(2,3 ),(3,4)} ,Find

1-R∪S= ………………………………………………………..

2-R∩S=…………………………………………………………

3- R-S=………………………………………………………….

4-R°S=…………………………………………………………..

**The third question:**

**A-Find A+B if :**

**A=**$\left[\begin{matrix}1&0&5\\4&-3&5\end{matrix} \begin{matrix}6\\2\end{matrix}\right]$ **B=**$\left[\begin{matrix}3&9&-3\\0&2&1\end{matrix} \begin{matrix}4\\2\end{matrix}\right]$

Choose the correct answer of the following:

A\ $p˅F≡$

1. p b- T c- F

B\ {x\x is real number such that x2 =1}

1. {-1} b- {-1 ,1 } c- {1}

C\ If $xϵA^{c}$

1. $xϵA$ b- $x\notin A$ c-$ x\notin A^{c}$

D\ If A={1,2,3,4} and R={(1,1), (1,2), (2,1), (2,3), (3,2)}, then R is

 a- reflexive b- symmetric c- transitive

E\ Let A=$\left[\begin{matrix}-1&2\\0&3\end{matrix}\right]$ Then (A)T is

1. {-1,3} b- $\left⌊\begin{matrix}-1&0\\2&3\end{matrix}\right⌋$ c- $\left⌊\begin{matrix}1&-2\\0&-3\end{matrix}\right⌋$