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**TUGAS MATEMATIKA INFORMATIKA KELAS A REG B1**

1. B, Karena Proposisi adalah kalimat deklaratif yang bernilai benar (true) atau salah (false). Tetapi tidak dapat sekaligus keduanya. Maka dari itu jawaban yang tepat adalah B. 2+2 = 4.
2. A. p ∧ ~q

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **p** | **q** | **~p** | **~q** | **p^~q** |
| B | B | S | S | S |
| B | S | S | B | S |
| S | B | B | S | S |
| S | S | B | B | S |

B. p ∧ ~p ∨ q

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **p** | **q** | **~p** | **~q** | **p ∧ ~p ∨ q** |
| B | B | S | S | B |
| B | S | S | B | S |
| S | B | B | S | B |
| S | S | B | B | S |

C. P ∨ ~q

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **p** | **q** | **~p** | **~q** | **P ∨ ~q** |
| B | B | S | S | B |
| B | S | S | B | B |
| S | B | B | S | B |
| S | S | B | B | B |

D. P ∨ ~q ∧ r

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **p** | **q** | **r** | **~p** | **~q** | **P ∨ ~q ∧ r** |
| B | B | B | S | S | B |
| B | B | S | S | S | S |
| B | S | B | S | B | B |
| B | S | S | S | B | B |
| S | B | B | B | S | B |
| S | B | S | B | S | S |
| S | S | B | B | B | B |
| S | S | S | B | B | S |

1. **(a) (¬p ∧ q) → r**

= ( p ∨ ¬¬ q ) → r

= ( ¬ q ∨ p ) → r

(**b) p → ((q ∧ r) → s )**

= p → (( ¬ q ∨ r ) v → s

= p → ( ¬ q ∨ r ∨ s)

= T

**(c) ¬ (p ∨ ¬q ) ∧ (s → t)**

= (( p ∨ q ¬q ∧ ((s → t)

= ( p ∨ ¬q ∧ s → t )

**(d) (p → q) → r**

= ( p → ( q → r )) ( p → q ) ¬r

= ((p ∨ q ) ∧ ( ¬r → r )

**(e) ¬ (p ∧ q) ∧ (p ∨ q)**

= (( p ∧ ¬q ) ∧ p ) ∧ (( q ∧ ¬p ) v ¬q )

= (( p ∧ q ∧ ( ¬ p ∧ p ))

= ( p ∧ q ) ∧ ( ¬p ∧ ¬q )

4. **a. p ( p q r)**

( p q r) (q r)

= (q r) ( r p)

= (q r) r

= (q r)

**(b) ( p q ) (p q)**

(p q) (p q)

**(c) (p q)**

p q

= (p q)

= (p q)

**(d) (p q) r**

(p q) ( p r)

= (p (q r ))

**(e) ( p q ) (p 9)**

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