CSE-103

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Subject: Assignment from Book.

Chapter no.:1

Section no.:1

Exercise no.: 29

**29.** How many rows appear in a truth table for each of these

compound propositions?

**a)** *p* →￢*p*

**b)** *(p* ∨￢*r)* ∧ *(q* ∨￢*s)*

**c)** *q* ∨ *p* ∨￢*s* ∨￢*r* ∨￢*t* ∨ *u*

**d)** (*p* ∧ *r* ∧ *t)* ↔(*q* ∧ *t)*

Solution:

(a)The proposition *p* →￢*p* contains only the variable p and this has n=1 variable.

Number of rows=2^n=2^1=2

(b)The proposition *(p* ∨￢*r)* ∧ *(q* ∨￢*s)* contains only the variable p and this has n=4 variable.

Number of rows=2^n=2^4=16

(c)The proposition *q* ∨ *p* ∨￢*s* ∨￢*r* ∨￢*t* ∨ *u* contains only the variable p and this has n=6 variable.

Number of rows=2^n=2^6=64

(d)The proposition (*p* ∧ *r* ∧ *t)* ↔(*q* ∧ *t)* contains only the variable p and this has n=4 variable.

Number of rows=2^n=2^5=32