

SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)



DEPARTMENT OF MATHEMATICS

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	Р	a	7P	Ta	pva	7(PVA)	7PVTA	V(TPVTQ)
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- Company	T	F	F	T	Т	F	T	
distance of	F	T	Т	F	Т	Foli	T	
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Since the entires in the lescutting column are T as well as f, the given expression is a contagency.

Examine whother [(Avg) and to [Ar - 290 fautology

Equilyalence:

Two Statement formulas p and & are equivalent 9th p +> a 9s a tautology. It 8s denoted by $P \Leftrightarrow 6$.

Show that the proposet cons one logically equivalence too the following. In P + a + TPV a (ii) $P \rightarrow (a \vee R) \Leftrightarrow (P \rightarrow Q) \vee (P \rightarrow R)$

P		⇒ 7PV P→ a		TPVA	p→ Q ⇔	TPVA
Т	T	T .	F	Т	Т	T
T	F	F	F	F	т	
F	丁	T	T	T	T	
F	F	T	T	T	TaxorT	433.00

since (P+Q) (TPVQ) is a tautalogy. Hence (P+Q) (TPVQ)



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(iii	Q	R		$(p \rightarrow (p \rightarrow p \rightarrow (a \lor R)))$			(P-> 0)	P+ (QVR) ↔ ↔ (P+Q)V(P+R)	
T	Т	Т	Т	T	Т	Т	Т	Т	4
<u></u>	Т	F	T	T	T .	F	Т	T	
· T	F	T	T	Т	F	T	T	T	
F	Т	T	ナ	T	T	丁	丁	-	
T	F	F	F	F	F	F	F	T.	
F	F	T	T	Т	T	T	T	T	
F	Т	F	T	T	T	丁	T	T ·	
F	r	C	F	Т.	T	丁	T	was Treed	- (1)
r_	+-		, TD ,	. (QVR) -	> (P→	• a) ∨	$(P \rightarrow R$) le a	