

QUIZ 1 (SECT1013-03) - DISCRETE STRUCTUREQuestion 1

a) $A \cup B \cup C \cup D$
 $= \{3, 7, 8, 9, 13, 15\}$

$$A = \{3, 8, 13\}$$

$$B = \{7, 13\}$$

$$C = \{8, 13\}$$

$$D = \{3, 9, 15\}$$

b) $(A \cap B) \times (C \times D)$

$$= \{13\} \times \{(8, 3), (8, 9), (8, 15), (13, 3), (13, 9), (13, 15)\}$$

$$= \{(13, (8, 3)), (13, (8, 9)), (13, (8, 15)), (13, (13, 3)), (13, (13, 9)), (13, (13, 15))\}$$

Question 2 (SECI1013-03) - DISCRETE STRUCTURE

$$(r \vee q) \wedge ((\neg r \vee (p \wedge q)) \wedge (r \vee q))$$

p	q	r	$(r \vee q)$	$(p \wedge q)$	$((\neg r \vee (p \wedge q)))$	$(r \vee q) \wedge ((\neg r \vee (p \wedge q))) \wedge (r \vee q)$
T	T	T	T	T	T	T
T	T	F	T	T	T	T
T	F	T	T	F	F	F
T	F	F	F	F	T	F
F	T	T	T	F	F	F
F	T	F	T	F	T	T
F	F	T	T	F	F	F
F	F	F	F	F	T	F