

EXERCISES FOR SECTION 3.2

PART I

1.

P	Q	P	→	Q
T	T	T	T	T
T	F	T	F	F
F	T	F	T	T
F	F	F	T	F

2.

P	Q	~	P	→	Q
T	T	F	T	T	T
T	F	F	T	T	F
F	T	T	F	T	T
F	F	T	F	F	F

4.

P	Q	~	P	→	~	Q
T	T	F	T	T	F	T
T	F	F	T	T	T	F
F	T	T	F	F	F	T
F	F	T	F	T	T	F

5.

P	Q	~	(P	→	Q)
T	T	F	T	T	T
T	F	T	T	F	F
F	T	F	F	T	T
F	F	F	F	T	F

6.

A	B	A	&	B
T	T	T	T	T
T	F	T	F	F
F	T	F	F	T
F	F	F	F	F

8.

A	B	A	&	~	B
T	T	T	F	F	T
T	F	T	T	T	F
F	T	F	F	F	T
F	F	F	F	T	F

9.

A	B	~ A	&	~ B
T	T	F	T	F
T	F	F	T	F
F	T	T	F	F
F	F	T	F	T

10.

A	B	~ (A & B)
T	T	F
T	F	T
F	T	T
F	F	T

11.

F	G	F	∨	G
T	T	T	T	T
T	F	T	T	F
F	T	F	T	T
F	F	F	F	F

12.

F	G	~ F	∨	G
T	T	F	T	T
T	F	F	F	F
F	T	T	T	T
F	F	T	T	F

13.

F	G	F	∨	~ G
T	T	T	T	F
T	F	T	T	T
F	T	F	F	F
F	F	F	T	T

14.

F	G	~ F	∨	~ G
T	T	F	F	F
T	F	F	T	T
F	T	T	T	F
F	F	T	T	T

16.

R	S	R	\leftrightarrow	S
T	T	T	T	T
T	F	T	F	F
F	T	F	F	T
F	F	F	T	F

18.

R	S	R	\leftrightarrow	\sim	S
T	T	T	F	F	T
T	F	T	T	T	F
F	T	F	T	F	T
F	F	F	F	T	F

19.

R	S	\sim	R	\leftrightarrow	\sim	S
T	T	F	T	T	F	T
T	F	F	T	F	T	F
F	T	T	F	F	F	T
F	F	T	F	T	T	F

20.

R	S	\sim	(R	\leftrightarrow	S)
T	T	F	T	T	T
T	F	T	T	F	F
F	T	T	F	F	T
F	F	F	F	T	F