

**CSE 103**

Student ID: 1705019

Chapter: 1

Section: 1

Problem No. : 39

**39.** Construct a truth table for  $(p \leftrightarrow q) \leftrightarrow (r \leftrightarrow s)$ .Ans: The truth table needs  $2^4 = 16$  rows.

<b>p</b>	<b>q</b>	<b>r</b>	<b>s</b>	<b><math>p \leftrightarrow q</math></b>	<b><math>r \leftrightarrow s</math></b>	<b><math>(p \leftrightarrow q) \leftrightarrow (r \leftrightarrow s)</math></b>
T	T	T	T	T	T	T
T	T	T	F	T	F	F
T	T	F	T	T	F	F
T	T	F	F	T	T	T
T	F	T	T	F	T	F
T	F	T	F	F	F	T
T	F	F	T	F	F	T
T	F	F	F	F	T	F
F	T	T	T	F	T	F
F	T	T	F	F	F	T
F	T	F	T	F	F	T
F	T	F	F	F	T	F
F	F	T	T	T	T	T
F	F	T	F	T	F	F
F	F	F	T	T	F	F
F	F	F	F	T	T	T