

3. Karnaugh maps and Boolean algebra can be used to simplify logical expressions.

$$F = (A + \bar{B}).(\bar{A} + C).(B + \bar{C})$$

$$G = W.X + \bar{W}.X.\bar{Y}.Z + \bar{W}.X.Y.Z + W.\bar{X}.\bar{Y}.\bar{Z}$$

(a) Reduce F to its simplest form using a Karnaugh map or Boolean algebra. [8]

(b) Reduce G to its simplest form using Boolean algebra. [9]

(c) Design a logic circuit that implements F . [8]