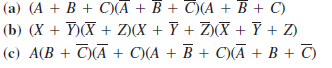
**Chapter-4 (Practice Questions Lecture-17 )**

1. Use a Karnaugh map to find the minimum POS for each expression:



1. Use a Karnaugh map to simplify each expression to minimum POS form:



1. Convert each of the following POS expressions to minimum SOP expressions using a Karnaugh map:



1. Simplify the Boolean function : F(w, x, y, z) = Σ (I, 3, 7,11,15) that has the don't-care conditions : d(w, x, y, z) = Σ (0, 2, 5).
2. Simplify the following Boolean function F together with the don't-care conditions d; then express the simplified function in minimum SOP and minimum POS.

(a) F(x, y, z) = Σ(O, 1,2,4,5) d(x, y, z) = Σ (3,6,7)

(b) F(A, B, C, D) = Σ (0,6,8, 13, 14) ; d (A, B, C, D) = Σ (2, 4, 10)

(c) F(A, B, C, D) = Σ (I, 3, 5, 7, 9,15) ; d (A, B, C, D) = Σ (4, 6, 12, 13)