

Problem 2 :

(2.1)

$$C = A \vee B$$

$$C_1 = A \vee B \vee G$$

Since C_1 has G , C_2 should have $\neg G$

In addition to this it may have A or B or both or none

\therefore Possible values of C_2 are

(i) $C_2 = \neg G \vee A$

(ii) $C_2 = \neg G \vee B$

(iii) $C_2 = \neg G \vee A \vee B$

(iv) $C_2 = \neg G$

(2.2)

$$C = R(B, x) \vee P(x, A)$$

$$C_1 = S(B, y) \vee R(z, x)$$

Since C_1 has $S(B, y)$, C_2 should have $\neg S(B, y)$ through some substitutions

\therefore Possible values of C_2 are

(i) $C_2 = P(x, A) \vee \neg S(z, y) \quad \theta = \{z/B\}$

(ii) $C_2 = P(x, w) \vee \neg S(z, y) \quad \theta = \{z/B, w/A\}$

(iii) $C_2 = P(x, A) \vee \neg S(z, y) \vee R(z, x) \quad \theta = \{z/B\}$

(iv) $C_2 = P(x, w) \vee \neg S(z, y) \vee R(z, x) \quad \theta = \{z/B, w/A\}$

(v) $C_2 = P(x, A) \vee \neg S(B, y) \quad \theta = \{z/B\}$

(vi) $C_2 = P(x, w) \vee \neg S(B, y) \quad \theta = \{z/B, w/A\}$

(vii) $C_2 = P(x, A) \vee \neg S(B, y) \vee R(z, x) \quad \theta = \{z/B\}$

(viii) $C_2 = P(x, w) \vee \neg S(B, y) \vee R(z, x) \quad \theta = \{z/B, w/A\}$