



班级: 计01 姓名: 谷建刚 编号: 2020010869 科目: 数电 第 1 页

$$2.6 \quad (1) F = \bar{A}\bar{B} + (AB + A\bar{B} + \bar{A}B)C \quad (2) F = (X+Y)Z + \bar{X}\bar{Y}W + ZW \quad (3) F = AB + \bar{A}C + \bar{B}\bar{C}$$

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

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

$$= \bar{A}\bar{B} + AC + BC$$

$$= \bar{A}\bar{B} + AC + \bar{B}C + BC$$

$$= \bar{A}\bar{B} + C$$

$$= (X+Y)Z + (\overline{X+Y})W + ZW \quad (\text{已是最简})$$

$$= (X+Y)Z + (\bar{X}\bar{Y})W$$

$$= XZ + YZ + \bar{X}\bar{Y}W$$

$$(4) F = AB + \bar{A}\bar{B}C + BC$$

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

$$= AB + \bar{A}C + BC$$

$$= AB + \bar{A}C$$

$$(5) F = \bar{A}B + \bar{A}C + \bar{B}\bar{C} + AD$$

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

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

$$= \bar{A} + \bar{A}C + \bar{B}\bar{C} + AD$$

$$= \bar{A} + \bar{B}\bar{C} + AD$$

$$= \bar{A} + \bar{B}\bar{C} + D$$

$$(6) F = \bar{A}\bar{B} + \bar{A}\bar{C}D + AC + B\bar{C}$$

$$= (\bar{A}\bar{B} + B\bar{C}) + \bar{A}\bar{C}D + AC$$

$$= (\bar{A}\bar{B} + B\bar{C} + \bar{A}\bar{C}) + \bar{A}\bar{C}D + AC$$

$$= \bar{A}\bar{B} + B\bar{C} + \bar{A}\bar{C} + AC$$

$$= \bar{A}\bar{B} + B\bar{C} + AC$$