总得分是95分

1. 将下列二进制数转换为等值的十进制数。

- (1) (11011) 2 (2) (10010111) 2
- (3) $(1101101)_2$ (4) $(11111111)_2$
- (5) (0.1001)₂ (6) (0.0111)₂
- (7) $(11.001)_2$ (8) $(101011.11001)_{/2}$

#: 10 (11011)= (2+2+2+1)=(2)..

- (1) $(100|0111)_{2} = (\frac{7}{4} + \frac{2}{4} + 2 + 1)_{10} = (151)_{10}$
- (1010) = (16 + 2 + 2 + 2 + 1) 10 = (109))
- (4) (1111111) = (255), = (255),
- (5) (0.1001) = (2"+2"4) = (0.5625)10
- (b) (0.0111)2 = (2-2+2-3+2-4) = (0.4775)10
- (7) $(11.001)_2 = (2+1+2^{-3})_{10} = (3.125)_{10}$
- (8) (101011.11001) = (3+2+++++2++2++2+)==(43.78125),

2. 将下列二进制数转换为等值的十六进制数

- (1) (1010111) 2 (2) (110111011) 2
- (3) (10110.011010) 2 (4) (101,100.110011) 2

3.列出步骤将下列十进制数转换为等值二进制

- 4. 将下列十进制数表示为8421BCD 码。
- (1) (43) $_{10}$ (2) (95.12) $_{10}$
- (3) (67.58) ₁₀ (4) (932.1) ₁₀

3.
$$Y_3 = \overline{A}\overline{B}\overline{C} + \overline{A}\overline{B}\overline{D} + \overline{B}\overline{C}\overline{D} + A\overline{B}\overline{D} + A\overline{B}C$$

4.
$$Y_4 = \overline{BC} + \overline{A}C\overline{D}$$
 ,约束项,AB+AC=0

(2)
$$\chi = \tilde{B}(A\tilde{c} + \tilde{A}C + AC + AC) + \tilde{A}BC$$

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

$$= A\overline{B} + \overline{B}C + \overline{A}BC$$

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

批注[宝贝1]: (2)应进一步化简为 AB'+A'C, 扣分 (-1)

(3)
$$Y_3 = \overline{ABC} + \overline{ABD} + \overline{BCD} + \overline{ABD} + \overline{ABC}$$

$$= \overline{B}(\overline{AC} + \overline{AD} + \overline{CD} + A\overline{D} + AC)$$

$$= \overline{B}(\overline{AC} + |\overline{A} + A)\overline{D} + \overline{CD} + AC)$$

$$= \overline{B}(\overline{AC} + \overline{D} + \overline{CD} + AC)$$

$$= \overline{B}(\overline{AC} + AC + \overline{D})$$

$$= \overline{B}(AOC + \overline{D})$$
(4) $Y_4 = \overline{BC} + \overline{ACD}$ (约束项 $AB + AC = 0$)
$$\therefore \overline{AB + AC} = D$$

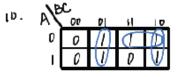
$$\therefore \overline{AB + AC} = D$$

$$\therefore \overline{AB + AC} = 1$$

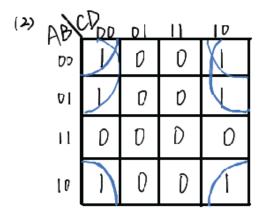
$$\overline{A + \overline{AB} + \overline{AC}} = 1$$

$$\overline{A} = 1$$

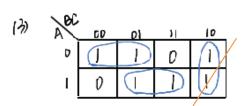
$$\Rightarrow Y_4 = \overline{BC} + \overline{CD}$$



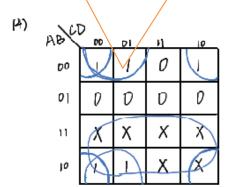
Y(A,B,C) = EC + AB + BC



 $Y_2(A,B,C,D) = \overline{A}\overline{D} + \overline{B}\overline{D}$



$$Y_3(A,B,C) = \overline{A}\overline{B} + AC + B\overline{C}$$



Y. (A, B, C.D) = A+ BD+ BC

(1)
$$F = ABC+BC = (\overline{A}+\overline{B}+\overline{C})(\overline{B}+\overline{C}) = \overline{A}+\overline{B}+\overline{C}+\overline{B}+\overline{C}$$

(*)
$$F = (A+C)(A+B+C)(A+B+C)$$

= $(A+C)(A+B+C)$
= $(A+C)+(A+B+C)$

批注[宝贝2]: 应化简,最后只有包含,(B'+C')'项,扣分(-1)

批注[宝贝3]: 应化简只包含(A+C)"项,扣分(-1)

批注[宝贝4]: 应为下面方式,扣分(-1

$$(3) F = ABCD + BCD + ABD$$

$$= BCD + ABD$$

$$= [\overline{B} + \overline{c} + \overline{D}](\overline{A} + \overline{B} + \overline{D})$$

$$= [\overline{B} + \overline{c} + \overline{D}] + [\overline{A} + \overline{B} + \overline{D}]$$

答案应为:F=BCD+ABD=BD(A+C)=((BD)'+(A+C)')'=(B'+D'+(A+C)')'

$$F(A,B,C,D) = \overline{B}\overline{D} + A\overline{B} + \overline{A}\overline{B}C + A\overline{C}D$$

$$= \overline{(B+D)(\overline{A}+B)(A+B+\overline{C})(\widehat{A}+C+\overline{D})}$$

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

F=B'D'+B'C+AC'D=((B+D)'+(B+C')'+(A'+C+D')')''

批注[宝贝5]: 有误,正确如下,扣分 (-1)