**Lucrarea de laborator nr. 3**

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Varianta: XVIII

**Elemente și funcții logice elementare**

**Scopul lucrării:**

1 Obţinerea deprinderilor de minimizare a funcţiilor logice.

2 Obţinerea deprinderilor de construire a schemelor electrice principiale.

**Experimentul nr. 1 Proiectarea schemei electrice numerice principiale**

1. De completat tabelul de adevăr şi de minimizat (prin metoda Karnough) funcţiile logice

prezentate în următorul tabel:

|  |  |
| --- | --- |
| Nr. d/o | Functia logica |
| 18 | |  | | --- | | f(a,b,c,d,e,f) = Σ(8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 50, 51, 52, 53, 55) | |

|  |  |  |
| --- | --- | --- |
| Nr | a b c d e f | F(a,b,c,d,e,f) |
| 0 | 000000 | 0 |
| 1 | 000001 | 0 |
| 2 | 000010 | 0 |
| 3 | 000011 | 1 |
| 4 | 000100 | 1 |
| 5 | 000101 | 1 |
| 6 | 000110 | 1 |
| 7 | 000111 | 1 |
| 8 | 001000 | 1 |
| 9 | 001001 | 1 |
| 10 | 001010 | 1 |
| 11 | 001011 | 1 |
| 12 | 001100 | 1 |
| 13 | 001101 | 1 |
| 14 | 001110 | 1 |
| 15 | 001111 | 1 |
| 16 | 010000 | 1 |
| 17 | 010001 | 1 |
| 18 | 010010 | 1 |
| 19 | 010011 | 1 |
| 20 | 010100 | 0 |
| 21 | 010101 | 1 |
| 22 | 010110 | 1 |
| 23 | 010111 | 1 |
| 24 | 011000 | 1 |
| 25 | 011001 | 1 |
| 26 | 011010 | 1 |
| 27 | 011011 | 1 |
| 28 | 011100 | 1 |
| 29 | 011101 | 1 |
| 30 | 011110 | 1 |
| 31 | 011111 | 1 |
| 32 | 100000 | 1 |
| 33 | 100001 | 1 |
| 34 | 100010 | 1 |
| 35 | 100011 | 1 |
| 36 | 100100 | 1 |
| 37 | 100101 | 1 |
| 38 | 100110 | 1 |
| 39 | 100111 | 0 |
| 40 | 101000 | 0 |
| 41 | 101001 | 0 |
| 42 | 101010 | 1 |
| 43 | 101011 | 1 |
| 44 | 101100 | 1 |
| 45 | 101101 | 1 |
| 46 | 101110 | 1 |
| 47 | 101111 | 1 |
| 48 | 110000 | 0 |
| 49 | 110001 | 0 |
| 50 | 110010 | 0 |
| 51 | 110011 | 0 |
| 52 | 110100 | 0 |
| 53 | 110101 | 1 |
| 54 | 110110 | 1 |
| 55 | 110111 | 1 |
| 56 | 111000 | 0 |
| 57 | 111001 | 0 |
| 58 | 111010 | 0 |
| 59 | 111011 | 0 |
| 60 | 111100 | 0 |
| 61 | 111101 | 0 |
| 62 | 111110 | 1 |
| 63 | 111111 | 1 |