**ЗАДАЧА 1.**

Найти: все неизвестные токи, используя законы Кирхгофа; показать, что баланс мощностей имеет место.

Схема

Исходные данные

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Вариант | Е, [В] | R1 [Ом] | R2 [Ом] | R3[Ом] | R4[Ом] | R5[Ом] |
| 1 | 100 | 5 | 15 | 40 | 35 | 85 |
| 2 | 95 | 10 | 20 | 30 | 30 | 90 |
| 3 | 90 | 5 | 25 | 50  | 25 | 95 |
| 4 | 85 | 10 | 15 | 20 | 15 | 85 |
| 5 | 80 | 5 | 20 | 10 | 10 | 90 |
| 6 | 75 | 10 | 25 | 40 | 5 | 95 |
| 7 | 70 | 5 | 15 | 30 | 35 | 85 |
| 8 | 65 | 10 | 20 | 50  | 30 | 90 |
| 9 | 60 | 5 | 25 | 20 | 25 | 95 |
| 10 | 105 | 10 | 15 | 10 | 15 | 85 |
| 11 | 110 | 5 | 20 | 40 | 10 | 90 |
| 12 | 115 | 10 | 25 | 30 | 5 | 95 |
| 13 | 120 | 5 | 15 | 50  | 35 | 85 |
| 14 | 125 | 10 | 20 | 20 | 30 | 90 |
| 15 | 130 | 5 | 25 | 10 | 25 | 95 |
| 16 | 90 | 5 | 15 | 40 | 35 | 85 |
| 17 | 95 | 5 | 20 | 30 | 30 | 90 |
| 18 | 90 | 5 | 20 | 50  | 25 | 95 |
| 19 | 85 | 10 | 15 | 25 | 15 | 70 |
| 20 | 80 | 5 | 20 | 10 | 5 | 90 |
| 21 | 100 | 5 | 15 | 40 | 35 | 70 |
| 22 | 95 | 10 | 20 | 30 | 35 | 90 |
| 23 | 90 | 5 | 25 | 55 | 25 | 95 |
| 24 | 80 | 10 | 10 | 20 | 15 | 85 |
| 25 | 80 | 10 | 20 | 10 | 10 | 90 |

**ЗАДАЧА 2.**

Найти: все неизвестные токи, используя законы Кирхгофа; показать, что

баланс мощностей имеет место.

Схема

Исходные данные

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Вариант | R1 [Ом] | R2 [Ом] | R3[Ом] | R4[Ом] | R5[Ом] | R6[Ом] | E1 [В] | E2 [В] | E3 [В] | J[А] |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | 10 | 10 | 2 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 15 | 15 | 15 | 3 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 20 | 20 | 20 | 4 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 25 | 25 | 25 | 5 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 30 | 30 | 30 | 6 |
| 6 | 5 | 5 | 5 | 5 | 5 | 5 | 25 | 25 | 25 | 7 |
| 7 | 4 | 4 | 4 | 4 | 4 | 4 | 20 | 20 | 20 | 8 |
| 8 | 3 | 3 | 3 | 3 | 3 | 3 | 15 | 15 | 15 | 9 |
| 9 | 2 | 2 | 2 | 2 | 2 | 2 | 10 | 10 | 10 | 10 |
| 10 | 1 | 1 | 1 | 1 | 1 | 1 | 35 | 35 | 35 | 11 |
| 11 | 2 | 2 | 2 | 2 | 2 | 2 | 20 | 20 | 20 | 12 |
| 12 | 3 | 3 | 3 | 3 | 3 | 3 | 10 | 10 | 10 | 13 |
| 13 | 4 | 4 | 4 | 4 | 4 | 4 | 10 | 10 | 10 | 14 |
| 14 | 5 | 5 | 5 | 5 | 5 | 5 | 20 | 20 | 20 | 15 |
| 15 | 5 | 5 | 5 | 5 | 5 | 5 | 15 | 15 | 15 | 16 |
| 16 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | 10 | 10 | 17 |
| 17 | 2 | 2 | 2 | 2 | 2 | 2 | 15 | 15 | 15 | 18 |
| 18 | 3 | 3 | 3 | 3 | 3 | 3 | 20 | 20 | 20 | 19 |
| 19 | 4 | 4 | 4 | 4 | 4 | 4 | 25 | 25 | 25 | 20 |
| 20 | 5 | 5 | 5 | 5 | 5 | 5 | 30 | 30 | 30 | 21 |
| 21 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | 10 | 10 | 22 |
| 22 | 2 | 2 | 2 | 2 | 2 | 2 | 15 | 15 | 15 | 23 |
| 23 | 3 | 3 | 3 | 3 | 3 | 3 | 20 | 20 | 20 | 24 |
| 24 | 4 | 4 | 4 | 4 | 4 | 4 | 25 | 25 | 25 | 25 |
| 25 | 5 | 5 | 5 | 5 | 5 | 5 | 30 | 30 | 30 | 26 |

**ЗАДАЧА 3 .**

Найти: ток через источник Е, используя метод эквивалентных преобразований.

Схема

Исходные данные

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Вариант | R1 [Ом] | R2 [Ом] | R3[Ом] | R4[Ом] | R5[Ом] | E [В] |
| 1 | 5 | 15 | 40 | 35 | 85 | 100 |
| 2 | 6 | 10 | 30 | 34 | 84 | 101 |
| 3 | 7 | 15 | 20 | 33 | 83 | 102 |
| 4 | 8 | 10 | 40 | 32 | 82 | 103 |
| 5 | 9 | 15 | 30 | 31 | 81 | 104 |
| 6 | 10 | 10 | 20 | 30 | 80 | 105 |
| 7 | 5 | 15 | 40 | 35 | 79 | 106 |
| 8 | 6 | 10 | 30 | 34 | 78 | 107 |
| 9 | 7 | 15 | 20 | 33 | 77 | 108 |
| 10 | 8 | 10 | 40 | 32 | 76 | 109 |
| 11 | 9 | 15 | 30 | 31 | 75 | 110 |
| 12 | 10 | 10 | 20 | 30 | 74 | 111 |
| 13 | 5 | 15 | 40 | 35 | 73 | 112 |
| 14 | 6 | 10 | 30 | 34 | 72 | 113 |
| 15 | 7 | 15 | 20 | 33 | 71 | 114 |
| 16 | 5 | 10 | 40 | 35 | 79 | 106 |
| 17 | 6 | 10 | 20 | 34 | 78 | 107 |
| 18 | 7 | 15 | 20 | 30 | 77 | 108 |
| 19 | 8 | 10 | 40 | 32 | 75 | 109 |
| 20 | 9 | 15 | 30 | 31 | 75 | 100 |
| 21 | 10 | 10 | 20 | 15 | 74 | 111 |
| 22 | 5 | 15 | 30 | 35 | 79 | 106 |
| 23 | 7 | 10 | 30 | 34 | 78 | 107 |
| 24 | 7 | 15 | 20 | 30 | 77 | 108 |
| 25 | 6 | 10 | 30 | 32 | 76 | 110 |