**РГР 1**

 **Задание 1. На схемах** 1.1 – 1.50 заданы сопротивления и ЭКК.Нужно:

 1.Составить уравнения согласно 1 и 2 законов Кихгофа;

 2.Методом контурных токов найти токи в ветвях;

 3.Проверить расчет методом узловых напряжений. Предварительно преобразовать соединенные

 в треугольник R4, R5, R6 в звезду;

 4.Методом эквивалентного генератора определить ток на R6;

 5.Определить показание вольтметра.Баланс мощностей;

 6.Построить потенциальную диаграмму для внешнего контура

 Нужен 22 вариант!

R5

R4

R6

E1

E2

E3

R2

R1

R3

R01

 **V**

R03

R5

R4

R6

E2

E1

R1

R3

R02

 **V**

R01

E3

Рис.1.21

Рис.1.22

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Номера | Е1,В | Е2,В | Е3, В | R01, Ом | R02, Ом | R03, Ом | R1, Ом | R2 ,Ом | R3 ,Ом | R4, Ом | R5, Ом | R6,Ом |
| вариана  | рисунка |
| 0 | 1.1 | 22 | 24 | 10 | 0.2 | - | 1.2 | 2 | 1 | 8 | 4 | 10 | 6 |
| 1 | 1.2 | 55 | 18 | 4 | 0.8 | - | 0.8 | 8 | 4 | 3 | 2 | 4 | 4 |
| 2 | 1.3 | 36 | 10 | 25 | - | 0.4 | 0.5 | 4 | 8 | 3 | 1 | 2 | 7 |
| 3 | 1.4 | 16 | 5 | 32 | - | 0.6 | 0.8 | 9 | 3 | 2 | 4 | 1 | 5 |
| 4 | 1.5 | 14 | 25 | 28 | 0.9 | 1.2 | - | 5 | 2 | 8 | 2 | 2 | 6 |
| 5 | 1.1 | 20 | 22 | 9 | 0.1 | - | 1.1 | 1 | 2 | 6 | 3 | 8 | 4 |
| 6 | 1.6 | 5 | 16 | 30 | 0.4 | - | 0.7 | 6 | 4 | 3 | 2 | 5 | 3 |
| 7 | 1.7 | 10 | 6 | 24 | 0.8 | 0.3 | - | 3.5 | 5 | 6 | 6 | 3 | 1 |
| 8 | 1.8 | 6 | 20 | 4 | - | 0.8 | 1.2 | 4 | 6 | 4 | 4 | 3 | 3 |
| 9 | 1.9 | 21 | 4 | 10 | - | 0.2 | 0.6 | 5 | 7 | 2 | 8 | 1 | 1 |
| 10 | 1.10 | 4 | 9 | 18 | 0.8 | - | 0.7 | 2.7 | 10 | 4 | 8 | 10 | 2 |
| 11 | 1.11 | 4 | 24 | 6 | 0.9 | - | 0.5 | 9.0 | 8 | 1 | 6 | 10 | 4 |
| 12 | 1.12 | 16 | 8 | 9 | 0.2 | 0.6 | - | 2.5 | 6 | 6 | 5 | 10 | 5 |
| 13 | 1.13 | 48 | 12 | 6 | 0.8 | 1.4 | - | 4.2 | 4 | 2 | 12 | 6 | 2 |
| 14 | 1.14 | 12 | 36 | 12 | - | 0.4 | 1.2 | 3.5 | 5 | 1 | 5 | 6 | 9 |
| 15 | 1.15 | 12 | 6 | 40 | 1.2 | 0.6 | - | 2.0 | 3 | 8 | 5 | 7 | 8 |
| 16 | 1.16 | 8 | 6 | 36 | 1.3 | - | 1.2 | 3.0 | 2 | 1 | 6 | 8 | 6 |
| 17 | 1.17 | 72 | 12 | 4 | 0.7 | 1.5 | - | 6.0 | 1 | 10 | 4 | 12 | 4 |
| 18 | 1.18 | 12 | 48 | 6 | - | 0.4 | 0.4 | 2.5 | 1 | 4 | 15 | 2 | 2 |
| 19 | 1.19 | 12 | 30 | 9 | 0.5 | - | 0.5 | 3.5 | 2 | 3 | 3 | 1 | 3 |
| 20 | 1.20 | 9 | 6 | 27 | - | 1.0 | 0.8 | 4.5 | 2 | 8 | 13 | 4 | 3 |
| 21 | 1.21 | 15 | 63 | 6 | 1.0 | - | 1.2 | 5.0 | 3 | 1 | 2 | 12 | 3 |
| 22 | 1.22 | 54 | 27 | 3 | 1.2 | 0.9 | - | 8.0 | 3 | 1 | 4 | 2 | 2 |
| 23 | 1.23 | 36 | 9 | 24 | - | 0.8 | 0.8 | 3.0 | 4 | 2 | 1 | 5 | 1 |
| 24 | 1.24 | 3 | 66 | 9 | - | 0.7 | 1.2 | 1.0 | 4 | 2 | 2 | 7 | 3 |
| 25 | 1.25 | 12 | 30 | 25 | 1.0 | 0.4 | - | 1.0 | 5 | 1 | 1 | 6 | 4 |
| 26 | 1.26 | 30 | 16 | 10 | 0.6 | 0.8 | - | 2.0 | 5 | 3 | 1 | 8 | 5 |
| 27 | 1.27 | 10 | 32 | 10 | 0.6 | - | 1.0 | 1.5 | 6 | 1 | 7 | 1 | 5 |
| 28 | 1.28 | 5 | 10 | 36 | 0.3 | - | 0.8 | 1.2 | 6 | 3 | 2 | 2 | 2 |
| 29 | 1.29 | 40 | 25 | 8 | - | 0.2 | 0.2 | 3.0 | 3 | 2 | 4 | 3 | 2 |
| 30 | 1.30 | 8 | 40 | 10 | 0.8 | 1.0 | - | 5.0 | 3 | 3 | 3 | 2 | 1 |
| 31 | 1.31 | 22 | 24 | 10 | 0.2 | - | 1.2 | 2 | 1 | 8 | 4 | 10 | 6 |
| 32 | 1.32 | 55 | 18 | 4 | 0.8 | - | 0.8 | 8 | 4 | 3 | 2 | 4 | 4 |
| 33 | 1.33 | 36 | 10 | 25 | - | 0.4 | 0.5 | 4 | 8 | 3 | 1 | 2 | 7 |
| 34 | 1.34 | 16 | 5 | 32 | - | 0.6 | 0.8 | 9 | 3 | 2 | 4 | 1 | 5 |
| 35 | 1.35 | 14 | 25 | 28 | 0.9 | 1.2 | - | 5 | 2 | 8 | 2 | 2 | 6 |
| 36 | 1.36 | 5 | 16 | 30 | 0.4 | - | 0.7 | 6 | 4 | 3 | 2 | 5 | 3 |
| 37 | 1.37 | 10 | 6 | 24 | 0.8 | 0.3 | - | 3.5 | 5 | 6 | 6 | 3 | 1 |
| 38 | 1.38 | 6 | 20 | 4 | - | 0.8 | 1.2 | 4 | 6 | 4 | 4 | 3 | 3 |
| 39 | 1.39 | 21 | 4 | 10 | - | 0.2 | 0.6 | 5 | 7 | 2 | 8 | 1 | 1 |
| 40 | 1.40 | 4 | 9 | 18 | 0.8 | - | 0.7 | 2.7 | 10 | 4 | 8 | 10 | 2 |
| 41 | 1.41 | 4 | 24 | 6 | 0.9 | - | 0.5 | 9.0 | 8 | 1 | 6 | 10 | 4 |
| 42 | 1.42 | 16 | 8 | 9 | 0.2 | 0.6 | - | 2.5 | 6 | 6 | 5 | 10 | 5 |
| 43 | 1.43 | 48 | 12 | 6 | 0.8 | 1.4 | - | 4.2 | 4 | 2 | 12 | 6 | 2 |
| 44 | 1.44 | 12 | 36 | 12 | - | 0.4 | 1.2 | 3.5 | 5 | 1 | 5 | 6 | 9 |
| 45 | 1.45 | 12 | 6 | 40 | 1.2 | 0.6 | - | 2.0 | 3 | 8 | 5 | 7 | 8 |
| 46 | 1.46 | 8 | 6 | 36 | 1.3 | - | 1.2 | 3.0 | 2 | 1 | 6 | 8 | 6 |
| 47 | 1.47 | 72 | 12 | 4 | 0.7 | 1.5 | - | 6.0 | 1 | 10 | 4 | 12 | 4 |
| 48 | 1.48 | 12 | 48 | 6 | - | 0.4 | 0.4 | 2.5 | 1 | 4 | 15 | 2 | 2 |
| 49 | 1.49 | 12 | 30 | 9 | 0.5 | - | 0.5 | 3.5 | 2 | 3 | 3 | 1 | 3 |
| 50 | 1.50 | 9 | 6 | 27 | - | 1.0 | 0.8 | 4.5 | 2 | 8 | 13 | 4 | 3 |