Домашнее Задание №2

Определить законы изменения во времени токов и напряжений, указанных на схеме стрелками. Построить временные зависимости рассчитанных токов и напряжений. Определить постоянную времени цепи.

Единицы измерения: *e* [В], *i* [А], *R* [Ом], *L* [Гн], *C* [Ф].

Вариант 1.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1 | *e* | *R* | *R1* | *L* | *C* |
| б | 100 | 100 | 100 | 5⋅10-2 | 4⋅10-5 |



Вариант 2.



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 2 | *e* | *R* | *L* | *C* |
| б | 100 | 20 | 6⋅10-3 | 10-5 |

Вариант 3.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 3 | *e* | *J* | *R* | *R1* | *L* | *C* |
| б | 60 | 2 | 60 | 40 | 0,05 | 4⋅10-5 |



Вариант 4.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 4 | *e1* | *e2* | *R1* | *R2* | *L* | *C* |
| б | 30 | 10 | 40 | 40 | 0,05 | 4⋅10-4 |



Вариант 5.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 5 | *e* | *R1* | *R2* | *L* | *C* |
| б | 100 | 20 | 20 | 6⋅10-3 | 10-5 |



Вариант 6.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 6 | *e* | *R* | *R1* | *L* | *C* |
| б | 40 | 20 | 20 | 10-2 | 10-4 |



Вариант 7.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 7 | *e* | *J* | *R1* | *R2* | *L* | *C* |
| б | 250 | 15 | 20 | 20 | 0,05 | 4⋅10-4 |



Вариант 8.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 8 | *e* | *J* | *R1* | *R2* | *L* | *C* |
| б | 24 | 12 | 20 | 16 | 0.5 | 1,25⋅10-3 |



Вариант 9.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 9 | *e1* | *e2* | *R1* | *R2* |  *R3* |  *L* |  *C* |
| б | 90 | 440 | 20 | 16 |  80 |  0,5 | 1,25⋅10-3 |



Вариант 10.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 10 | *e* | *J* | *R1* | *R2* | *L* | *C* |
| б | 180 | 9 | 20 | 16 | 0,5 | 1,25⋅10-3 |



Вариант 11.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 11 | *e* | *J* | *R1* | *R2* | *L1* | *L2* |
| б | 60 | 10 | 8 | 16 | 0,05 | 0,1 |



Вариант 12.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 12 | *e* | *J* | *R* | *L* | *C* |
| б | 200 | 5 | 20 | 0,05 | 4⋅10-4 |



Вариант 13.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 13 | *e* | *J* | *R1* | *R2* | *L* | *C* |
| б | 50 | 5 | 20 | 20 | 0,05 | 4⋅10-4 |



Вариант 14.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 14 | *e* | *J* | *R1* | *R2* | *R3* | *L1* | *L2* |
| б | 240 | 45 | 16 | 16 | 8 | 0,1 | 0,05 |



Вариант 15.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 15 | *e1* | *e2* |  *R1* | *R2* | *L* | *C* |
| б | 150 | 100 |  40 | 40 | 0,05 | 4⋅10-4 |



Вариант 16.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 16 | *e* | *J* | *R1* | *R2* | *L* | *C* |
| б | 200 | 1 | 100 | 100 | 0,25 | 10-4 |



Вариант 17.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 17 | *e* | *J* | *R1* | *R2* | *L* | *C* |
| б | 200 | 1 | 200 | 100 | 0,25 | 10-4 |



Вариант 18.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 18 | *e* | *J* | *R1* | *R2* | *L* | *C* |
| б | 200 | 1 | 100 | 100 | 0,25 | 10-4 |



Вариант 19.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 19 | *e1* | *e2* | *R1* | *R2* | *L* | *C* |
| б | 24 | 42 | 20 | 16 | 0,5 | 1.25⋅10-3 |



Вариант 20.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 20 | *J1* | *J2* | *R1* | *R* | *L* | *C* |
| б | 5 | 5 | 20 | 20 | 0,05 | 4⋅10-4 |



Вариант 21.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 21 | *e* | *J* | *R1* | *R2* | *L* | *C* |
| б | 200 | 5 | 50 | 80 | 0,1 | 2⋅10-4 |



Вариант 22.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 22 | *e* | *J* | *R1* | *R2* | *L* | *C* |
| б | 90 | 1 | 100 | 40 | 5⋅10-2 | 4⋅10-5 |



Вариант 23.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 23 | *e* | *J* | *R1* |  *R2* | *L* | *C* |
| б | 50 | 4 | 100 |  100 | 0,25 | 10-4 |



Вариант 24.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 24 | *e* | *R* | *L* | *C* |
| б | 40 | 20 | 6⋅10-3 | 10-5 |



Вариант 25.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 25 | *J* |  *e*  | *R1* | *R2* | *L* | *C* |
| б | 2,4 | 42 | 16 | 84 | 0,5 | 1.25⋅10-3 |



Вариант 26.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 26 | *e* | *R* | *R1* | *R2* | *L* | *C* |
| б | 100 | 20 | 20 | 20 | 6⋅10-3 | 10-5 |



Вариант 27.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 27 | *e* | *R* | *R1* | *L* | *C* |
| б | 96 | 600 | 300 | 0,01 | 0.25⋅10-6 |



Вариант 28.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 28 | *e* | *R* | *R1* | *L* | *C* |
| б | 50 | 50 | 50 | 0,4 | 2⋅10-4 |



Вариант 29.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 29 | *e* | *J* | *R* | *R1* |  *L* | *C* |
| б | 100 | 2 | 10 | 20 |  0,05 | 4⋅10-4 |



Вариант 30.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 30 | *e* | *R* | *R1* | *L* | *C* |
| б | 100 | 200 | 200 | 10-3 | 10-7 |

