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Program pascal Aritmatika

```pascal
program Pascal_fisika;
uses crt;
begin
clrscr;
 writeln('1. a. R pengganti?');
 writeln('   b. I dari sumber tegangan');
 writeln('   c. I masing-masing resistor');
 writeln('JAWAB');
  writeln('a)Rp1 = 1+1');
  writeln('     = 2 Ω');
  writeln('1/Rp2 = 1/3+1/6');
  writeln('     = 2/6+1/6');
  writeln('     = 3/6');
  writeln('  Rp2 = 2 Ω');
  writeln('1/Rpt = 1/2+1/2');
  writeln('     = 2/2');
 writeln('  Rpt = 1 Ω');
   writeln('b)I = V/R');
   writeln('   = 15/1 ');
   writeln('   = 15 A ');
     writeln('c)I3 = 15/3 ');
     writeln('    = 5 A');
     writeln('  I6 = 15/6');
     writeln('    = 2,5 A');
```

```
    writeln(' Is1 = 15/2');
    writeln('    = 7,5 A');
writeln('_____');
 writeln('2. a.Nilai kapasitor pengganti');
 writeln('   b.Muatan yang mampu disimpan oleh kapasitor');
 writeln('JAWAB');
 writeln('a). Cp1 ⇒ 1/Cp1 = 1/5+1/20');
 writeln('          = 4/20+1/20');
 writeln('          = 5/20');
 writeln('      Cp1 = 4 mF');
 writeln('      Cp2 = 4+6+20');
 writeln('          = 30 mF');
 writeln('Cptotal ⇒ 1/Cp = 1/30+1/60');
 writeln('          = 2/60+1/60');
 writeln('          = 3/60');
 writeln('          = 20 mF');
  writeln('b). V = 15 Volt');
  writeln('  Q = ?');
  writeln('  Q = C.V');
  writeln('  Q = 20.10⁻¹².15');
  writeln('   = 300.10⁻¹² ⇒ 3.10⁻¹⁰ Coulomb');
writeln('_____');
 writeln('3. V = 110 V');
 writeln('  I = 2,8 A');
 writeln('  R = 110/2,8');
 writeln('   = 39,285 Ω');
writeln('_____');
 writeln('4. I = 5,5 A');
 writeln('  V = 110 V');
```

```
writeln('  R = 110/5,5');
writeln('    = 20 Ω');
writeln('a). 110x10% ⇒ 110x10/100');
writeln('  penurunannya = 11 V');
writeln(' Vskrg = 110-10');
writeln('      = 99 V');
writeln('    I = 99/20');
writeln('      = 4,95 A');
 writeln('b). R = 20 Ω ⇒ 20x10/100');
 writeln('  penurunannya = 2 Ω');
 writeln('Rskrg = 20-2');
 writeln('     = 18 Ω');
 writeln('   I = 110/18');
 writeln('     = 6,1 A');
writeln('_____');
 writeln('5. Dik : ℓ = 4 cm = 4.10⁻² m');
 writeln('      A = 0,5 cm = 0,5x10⁻⁴ m²');
 writeln('         = 5.10⁻⁵ m²');
 writeln('      N = 200 lilitan');
 writeln('a). L = N².Mo.A/ℓ');
 writeln('   = (200²).(4.π.10⁻⁷).(5.10⁻⁵)/4.10⁻²');
 writeln('   = (4.10⁴).(4.π.10⁻⁷).(5.10⁻⁵)/4.10⁻²');
 writeln('   = 80.10⁴.10⁻⁷.10⁻⁵.π/4.10⁻²');
 writeln('   = 80.10⁻⁸.π/4.10⁻²');
 writeln('   = 20.10⁻⁶π');
 writeln('   = 2.π.10⁻⁵');
 writeln('   = 2(3,14).10⁻⁵');
 writeln('   = 6,28.10⁻⁵ H');
 writeln('b)');
```

```pascal
writeln ('P = 0.04');

writeln ('A = 0.00005');

writeln ('N = 200');

writeln ('Menghitung Induksi Solenoid');

writeln ('I2 := SQR(N) * 4000 * 0.0000004 * 3.14 * 0.00005 / 0.04');

writeln ('Induksi2 = ',12);

writeln('_____');

writeln('8. C = 7500 pF → F ');

writeln('   Q = 16,5x10⁻⁸ C');

writeln('   V = ? ⇒ Q/C');

writeln('JAWAB');

writeln('Q = C.V');

writeln('V = Q/C');

writeln('  = 16,5x10⁻⁸/7,5.10⁻⁹');

writeln('  = 22 Volt');

end.
```

```
1. a. R pengganti?
   b. I dari sumber tegangan
   c. I masing-masing resistor
JAWAB
a) Rp1 = 1+1
       = 2 Ω
1/Rp2 = 1/3+1/6
      = 2/6+1/6
      = 3/6
  Rp2 = 2 Ω
1/Rpt = 1/2+1/2
      = 2/2
  Rpt = 1 Ω
b) I = V/R
     = 15/1
     = 15 A
c) I3 = 15/3
      = 5 A
  I6 = 15/6
     = 2,5 A
 Is1 = 15/2
     = 7,5 A

2. a.Nilai kapasitor pengganti
   b.Muatan yang mampu disimpan oleh kapasitor
JAWAB
a). Cp1 ⇒ 1/Cp1 = 1/5+1/20
               = 4/20+1/20
               = 5/20
          Cp1 = 4 mF
          Cp2 = 4+6+20
              = 30 mF
Cptotal ⇒ 1/Cp = 1/30+1/60
               = 2/60+1/60
               = 3/60
               = 20 mF
b). V = 15 Volt
  Q = ?
  Q = C.V
  Q = 20.10⁻¹².15
    = 300.10⁻¹² ⇒ 3.10⁻¹⁰ Coulomb

3. V = 110 v
  I = 2,8 A
  R = 110/2,8
    = 39,285 Ω

4. I = 5,5 A
  V = 110 v
  R = 110/5,5
    = 20 Ω
a). 110x10% ⇒ 110x10/100
  penurunannya = 11 V
 Vskrg = 110-10
       = 99 V
     I = 99/20
       = 4,95 A
```

b). R = 20 Ω $\Rightarrow$ 20x10/100
   penurunannya = 2 Ω
Rskrg = 20-2
      = 18 Ω
     I = 110/18
       = 6,1 A

_____

5. Dik : ℓ = 4 cm = 4.10^{-2} m
       A = 0,5 cm = $0,5x10^{-4}$ m²
         = 5.10^{-5} m²
      N = 200 lilitan
a). L = $N^2.Mo.A/\ell$
    = $(200^2).(4.\pi.10^{-7}).(5.10^{-5})/4.10^{-\Diamond}$
    = $(4.10^4).(4.\pi.10^{-7}).(5.10^{-5})/4.10^{-2}$
    = $80.10^4.10^{-7}.10^{-5}.\pi/4.10^{-2}$
    = $80.10^{-8}.\pi/4.10^{-2}$
    = $20.10^{-6}\pi$
    = $2.\pi.10^{-5}$
    = $2(3,14).10^{-5}$
    = $6,28.10^{-5}$ H
b)
P = 0.04
A = 0.00005
N = 200
Menghitung Induksi Solenoid
I2 := SQR(N) * 4000 * 0.0000004 * 3.14 * 0.00005 / 0.04
Induksi2 = 12

_____

8. C = 7500 pF $\rightarrow$ F
   Q = $16,5x10^{-8}$ C
   V = ? $\Rightarrow$ Q/C
JAWAB
Q = C.V
V = Q/C
  = $16,5x10^{-8}/7,5.10^{-9}$
  = 22 Volt

...Program finished with exit code 0
Press ENTER to exit console.