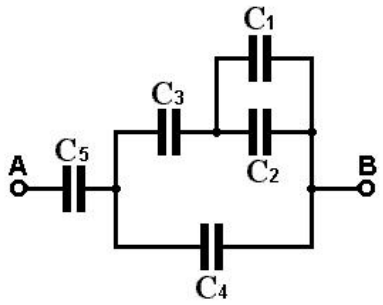
Homework 2

Exercise 1

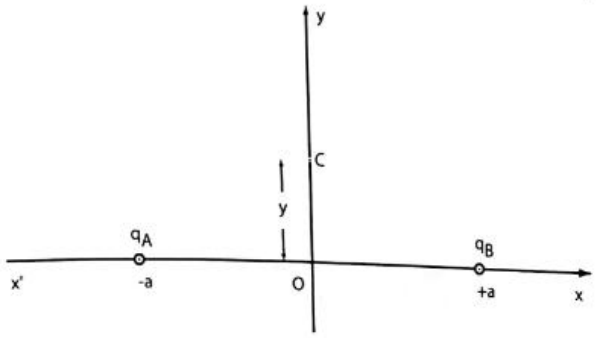
Determine the equivalent capacitance of the total capacitors represented in the figure below
Data:

$$C_1=1\mu F\ ;\ C_2=2\mu F\ ;\ C_3=6\mu F\ ;\ C_4=4\mu F\ ;\ C_5=12\mu F$$



Exercise 2

We have two electric charges q_A ,q_B Equals placed at the two points B،A They are some distance away $d = 2a$
Data:
$a = 3\text{cm}$, $q_A = q_B = 40nC$
Determine the properties of forces $\vec{F}_{A/B}$ $\vec{F}_{B/A}$
We put a third charge q_C On point C On the line bisector of segment AB, determine in terms of Y the resultant of the forces applied to the charge q_C by q_A, q_B
Application $y = a = 3cm$



Exercise 3

We have two electric charges q_A ,q_B placed at the two points B،A
Data:
$a = AB = 3\text{cm}$, $q_A = -20nC, q_B = 10nC$
Calculate the intensity of the electric field at point M, where :$AM = 2\sqrt{2}cm$ and $BM = 1cm$ Then find the angle α Created by an electric field beam $\vec{E}(M)$ With beam With beam
We place a point charge in the point $Q_0 = 15nC$ Calculate the Coulomb force applied to this charge
Calculate the electric potential at the point resulting from the two charges q_A and q_B

Comments

The assignment will be submitted on Sunday, April 28, in the teachers' hall from 8 to 10 p.m
The work is individual
Organization and framing of the answer is mandatory