# Hssignment-1

Date 13-11-22

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Class: BSE 1(B)

Enrollment No: 02-13/222-099

Subject. Applied Physics.

Lourse code: GISC-114

## Practice problem 1-1.

Calculate amount of Charge represented by 6-667 billion profons.

#### Data ...

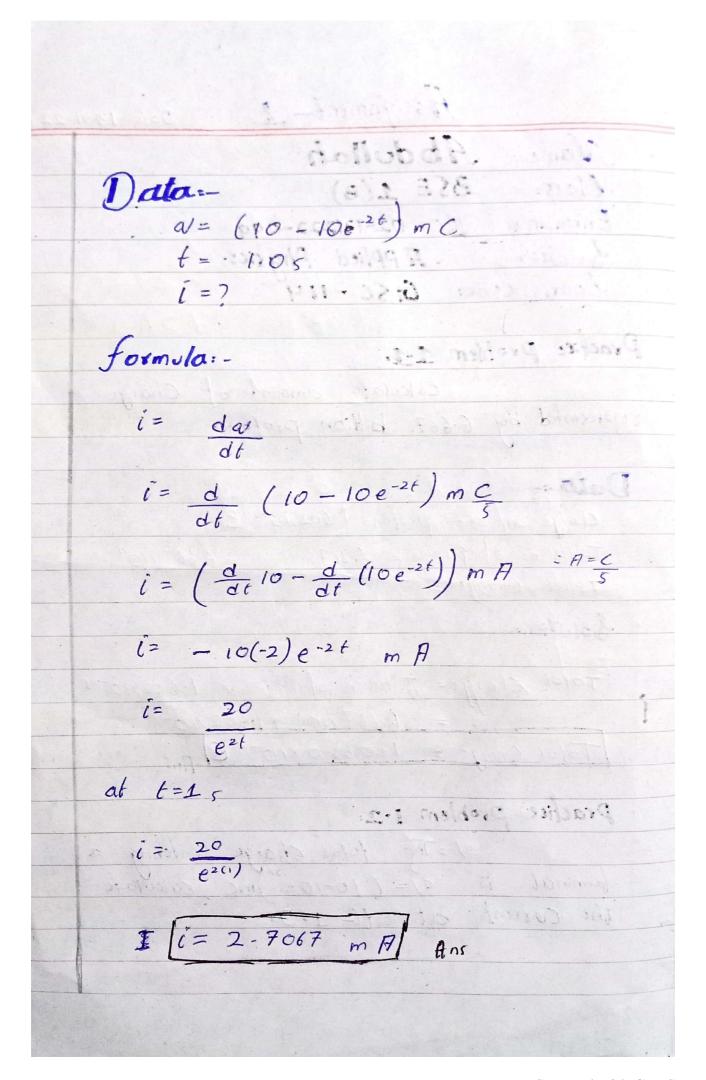
Charge on one profon = 1.602 x10-19E Total no of profon = 6.667 million = 6.667 x109 Total Charge = ?

### Solution:

Total Charge = Total no of profon x 1.602x10-19 = 6.667 x109 x 1.602 x10-19 Total Charge = 1.0680 x10-9 E) Ans

# Practice problem 1-2:

The fotal charge entering a furninal is  $Q = (10-10e^{2t})mC$ , calculate the current at t = 1.05



Practice Proble	n 1-3:		
calculate the	The Com	mt flowing  A OZ	though
	648	$^{2}A, t>$	1
calculate the	charge e	ntering the elen	nen f
0.4		1 20 A 31	
Data:-	7		1
i= ) 4 1	n , 0	$\begin{array}{c} 2 & t & 2 \\ t & > 1 \end{array}$	* *
276	7		
ti= os			
t2 = 25			
To find.			
To find: Charge:	v=?		
		E ce -	
Solution:-			
= formula,			
	Si		
		EE 12 = -12	
a) for time in	toval 0-	1	A I
	A STATE OF THE STA	\	

$Q_i = \int_{t=0}^{t} i \cdot \frac{1}{2t} \sin^2 t \cdot$
$= \int_{0}^{t} 4dt$
= [ut]o
= [4(1)-0]
$a_i = 4c$
b) for time intervol 1-2
$q_2 = \int_1^2 4f^2 df$
HERE IN THE SECTION (CONTROLLED AND SECTION OF SECTION
$= \left(\frac{4t^3}{3}\right)^2$
$= \left[ \frac{4(2)^3}{3} - \frac{4(1)^3}{3} \right]$
1 3 3
32 4
= 28
4/2 = 4.33c
Total Charge = avitave

Q= 4+ 9.23  Q= 13.33 C) Ans.  Practice Problem 1.4:  find the vollage dop Vab  ( voltage at "a" positive with respect to "b")  to move a Charge "a" from point "b"  to a". The energy used is 25 I for this work dome. if in a). que 5 C.  b) q = -10c  Date:-  work done = w= 25 I  q = a) 5 C  b) -10C  To find:  Vab = w  q  for q= 5c	
Practice Problem 1.4:  find the vollage dop Vab  ( vollage at "a" possitive with respect to "b")  to move a Charge "a" from point "b"  to "a". The energy used is 257 for this  work dome. if "a"). que 5".  b) q = -10c  Data=-  work done = w= 257  q = a) 56  b) -10c  To find:  Vab = w  av	
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to wi. The energy used is 25 for this work dome. if work done = w = 25 T  Volfage drop = Vab=?  Formula:  Vab = w  av	fo "b")
work dome. if in.). $a = 5 \cdot c$ .  b) $v = -10c$ .  Dato:-  work done = $w = 25 \cdot T$ . $q = a \cdot 5c$ b) $-10c$ .  To find:  Volfage drop = $Vab = ?$ Formula: $Vab = w$ $q$	6
Date:  Date:  Work done = $w = 25 \text{ T}$ $ay = a$ ) $5C$ $b$ ) $-10C$ To find:  Voltage drop = $Vab = ?$ Formula: $Vab = w$ $ay$	Co. this
Date:- $work dene = w = 25T$ $q = a > 5C$ $b > -10C$ To find: $Vollage drop = Vab = ?$ Formula: $Vab = w$ $q$	Fra
w or $k$ dene = $w$ = 25 $T$ $w$ = $a$ ) 5( $b$ ) -10C  To find: $v$ = $v$	
w or $k$ dene = $w$ = 25 $T$ $w$ = $a$ ) 5( $b$ ) -10C  To find: $v$ = $v$	o lei
Q = a) 5C $b) -10C$ $Voltage drop = Vab=?$ $Vab = U$ $Vab = U$	10 km
Voltage drop = Vab=?  Vab = w  av	
Voltage drop = Vab=?  Formula:  Vab = w  av	
Voltage drop = Vab=?  Formula:  Vab = w  av	202
Formula: $Vab = \frac{\omega}{a}$	
Formula: $Vab = \frac{\omega}{a}$	6-6
$Vab = \frac{\omega}{\alpha}$	er & E
av .	
a	, 1
for Q=5c	10%
	2.0
10000	46.5
$Vab = \frac{25}{5}$	

400	[Vab= 5 V]
	10 10 10 10 10 10 10 10 10 10 10 10 10 1
for	Practice Decident p. 4.
No. (red)	Vab = 25
8 1	service -10 minutes of the specific )
18 M	Vab= -2.5 V
1	the transport of the state of
Prachic	Find the power delivered
	element at $t = 5 \text{ ms}$ if corrent  if positive ferminal is $i = 5 \cos 60 \times t$ H
and u	1 olfage is (a) V= 2iV
	(b) V= (10 +5 (idt))
Dato:	- in seal - App. Single-
	5 c 0 5 6 0 x t A
<i>i</i> =	
t=	$5 \text{ ms} = 5 \times 10^{-3} \text{ s}$
t = roford	$5 ms = 5 \times 10^{-3} s$
t = roford	$5 ms = 5 \times 10^{-3} s$
t= rofond p	

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Solution =-
s formula,
  P= Vxi
  P= Vx ( 5005 6xt) - (1)
 a) for V=2i
    V= 2 ( 50056xt)
   V = 100056x6
 plin (1)
   P= (10 cos 6 x t) (5 cos 6 x t)
   P= 500052676
at t= 5 x10-3 5
 P= 50 cos2 [67 (5 × ×10-3)]
 p= 50 cos2 (0.9424)
P= 50 ((or 0-9424)2
 P= 50 (0-3455)
P= 17-27 w/
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b) for 
$$V = (10 + 5)^{6} idt)V^{3}$$

$$V = \begin{bmatrix} 10 + 5 \end{bmatrix}^{6} (\cos 60\pi t dt) \qquad : t = (\cos 60\pi dt)$$

$$V = \begin{bmatrix} 10 + \frac{25}{60\pi} \end{bmatrix}^{6} (\cos 60\pi t (66\pi) dt)$$

$$= \begin{bmatrix} 10 + \frac{25}{60\pi} \end{bmatrix}^{6} (\cos 60\pi t (5\pi)^{3}) \end{bmatrix}$$

$$= 10 + \frac{25}{60\pi} \begin{bmatrix} \sin [60\pi (5\pi)^{3}] \end{bmatrix}$$

$$= 10 + \frac{25}{60\pi} (0.809) \end{bmatrix}$$

$$= 10 + 0.107$$

$$V = 10.107$$

$$V = 10.107$$

$$At t = 5\pi (0.3)$$

$$P = (10.107) \times (5\cos 60\pi t)$$

$$At t = 5\pi (0.3)$$

$$P = 10.107 (5\cos (60\pi \times 5\pi)^{3})$$

$$P = 29.70 \omega$$