Doubt Clearing Session

Course on Atomic Structure for Class XI

akhilesh • Lesson 8 • Sept 6, 2021

① He^{2+} = $\underline{\underline{2e}}$

ⓘ $KE = 2e \times 2 \times 10^6$

$= 4 \times 10^6 eV$
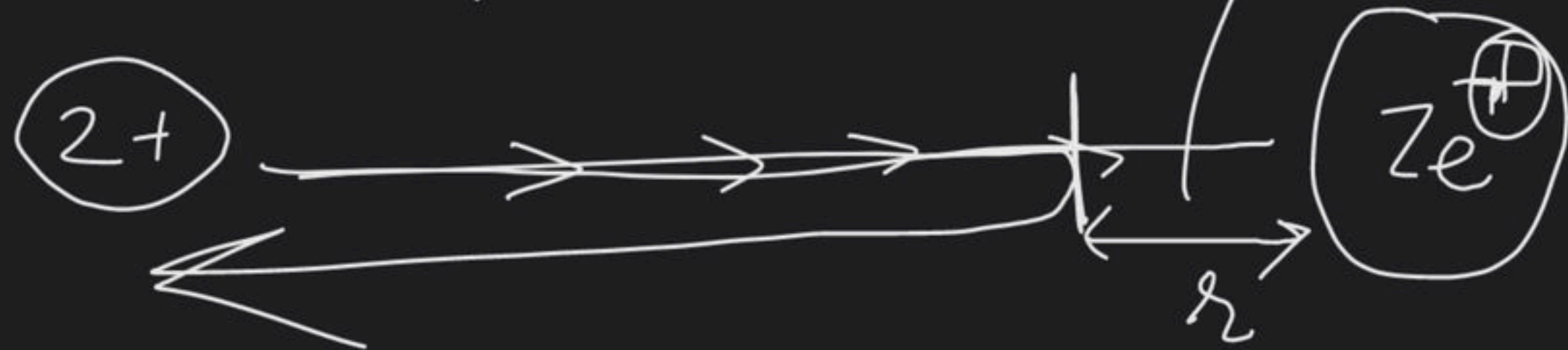
distance of closest approach

(2+) $\longrightarrow$ $\overset{r}{\longleftrightarrow}$ $\underset{r}{Ze}^{\oplus}$

$KE = PE$

Ⓘ $4 \times 10^6 = \dfrac{K(47e)(2e)}{r}$

③

3

$h\nu$

< 13.6

$Z = ?$

$Z = 1$

4
He^+
Li^{2+}

-13.6
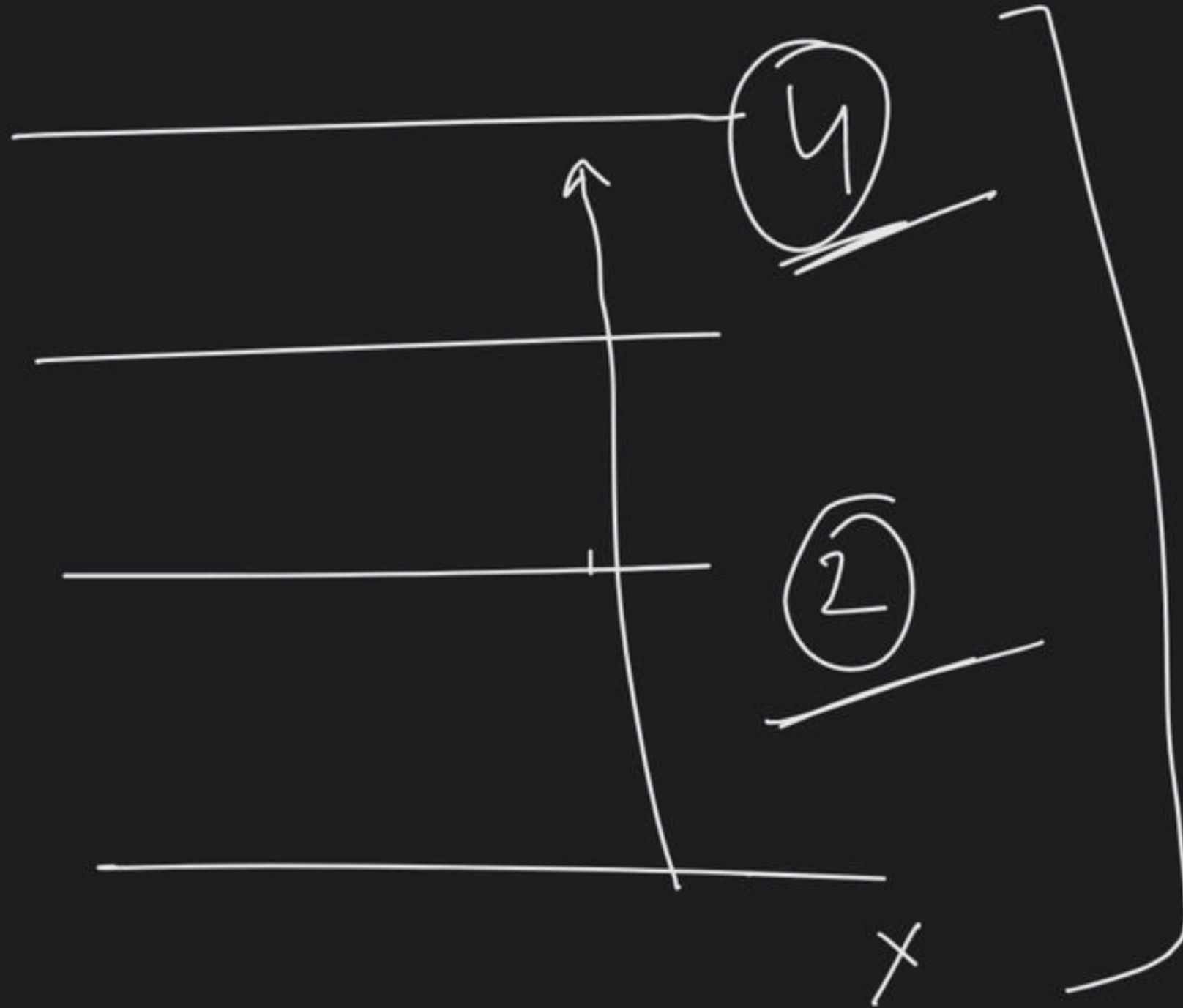
$n=1$
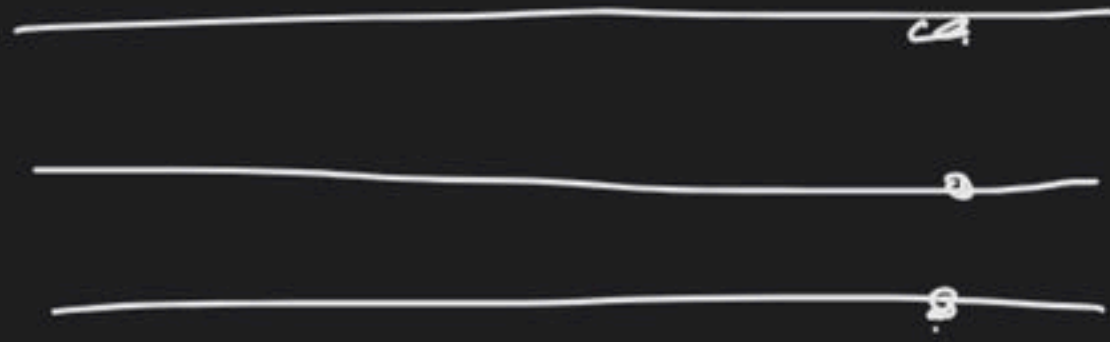
He^+

H-atom

2.55 eV photons

(8)

$$1 \text{ Rydberg} = \frac{21.8 \times 10^{-19} \text{ J}}{1.6 \times 10^{-19}} = \boxed{13.6 \, eV}$$

$$T.E = \frac{Z^2}{n^2} \text{ Rydberg} = 4 \text{ Rydberg}$$

$$\underline{Z = 2}$$

$$T.E = -\frac{4 \text{ Rydberg}}{n^2}$$

—————— $4_g \bar{R}d$

—————— $1 \, Rd$

—————— $4 \, Rd.$

$$T.E = -13.6 \frac{Z^2}{n^2} \, eV$$

$$13.6 \, eV = 1 \, SP$$

$$T.E = -\frac{Z^2}{n^2} \, SP$$

photoelectric effect :→ Ejections of e⁻s from metal plate is called photoelectric effect.

$h\nu$

e^-

photoelectrones
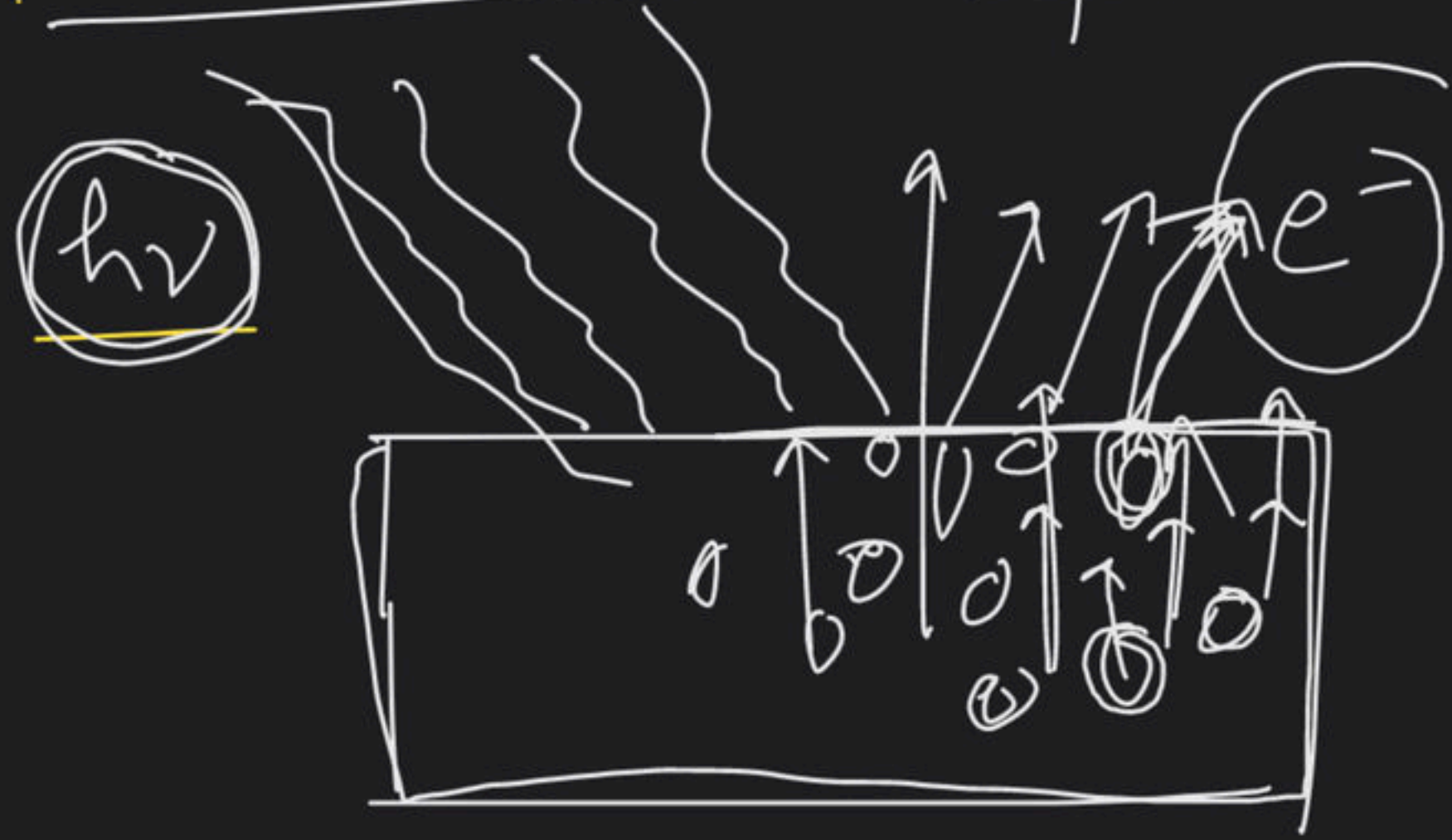
Metal plate

$W = \phi = $ work function $= 5eV$

Threshold energy :- Minimum energy of photon required to eject an e⁻.

$$KE_{max} = h\nu - \phi$$

$$0 < KE \text{ of ejected } e\text{'s} \leq KE$$

$$\text{Quantum yield} = \frac{\text{no. of } e^- \text{ ejected}}{\text{no. of photons striked}} \times 100$$

Intensity of light   Brightness

(energy per unit area per unit time)

As per wave theory of light

Intensity $\propto$ (amplitude)^2

As   P.

As per particle nature of light

$$\text{Intensity} \propto \text{frequency}$$

$$\propto \text{no. of photons striking per second per unit area}$$

(photo-intensity)

KE_{max} depends on frequency of light used and is independent photo-intensity
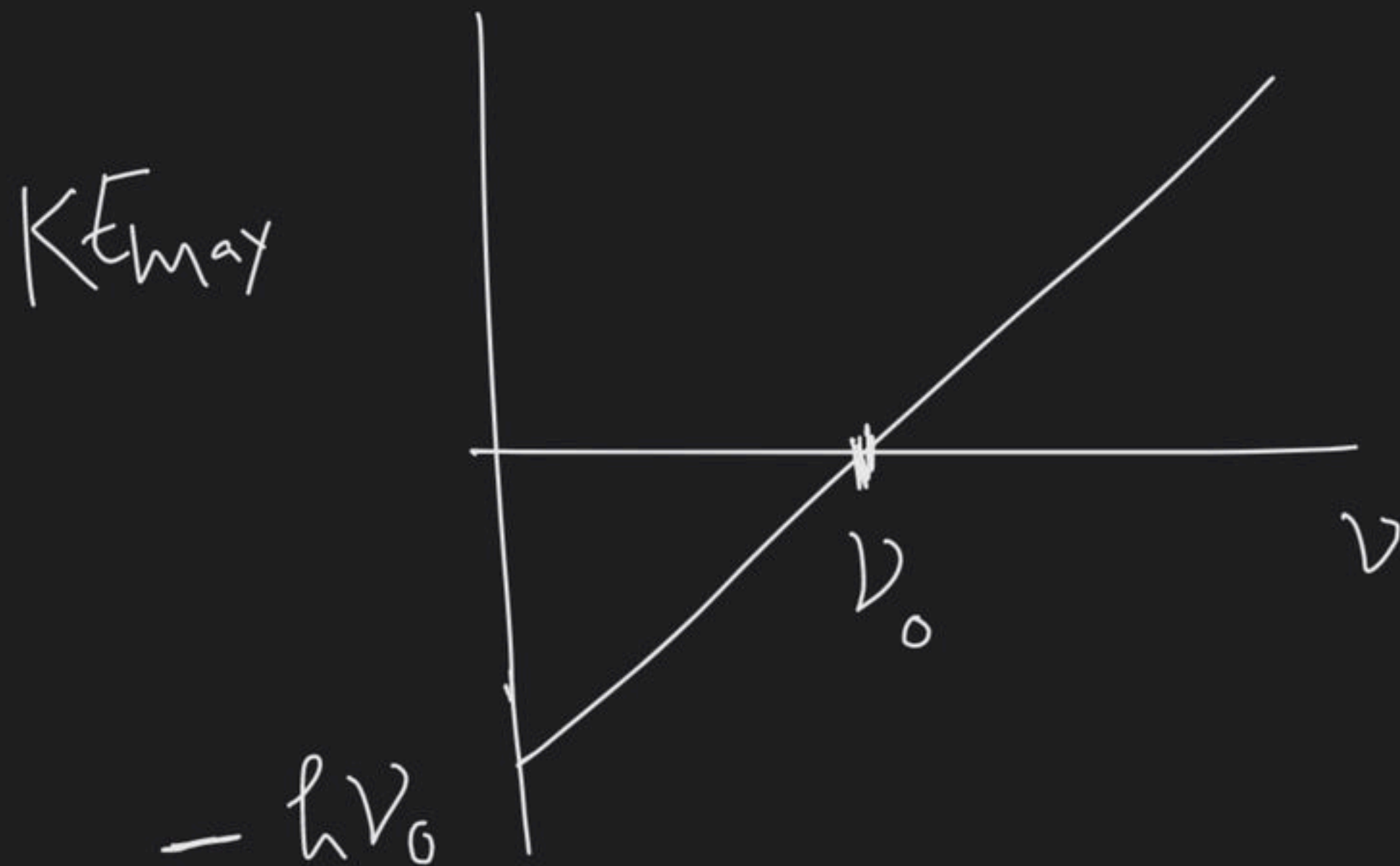
$$KE_{max} = h\nu - \phi$$
$$= h\nu - h\nu_0$$

photocurrent :- →

photons

e^-

i
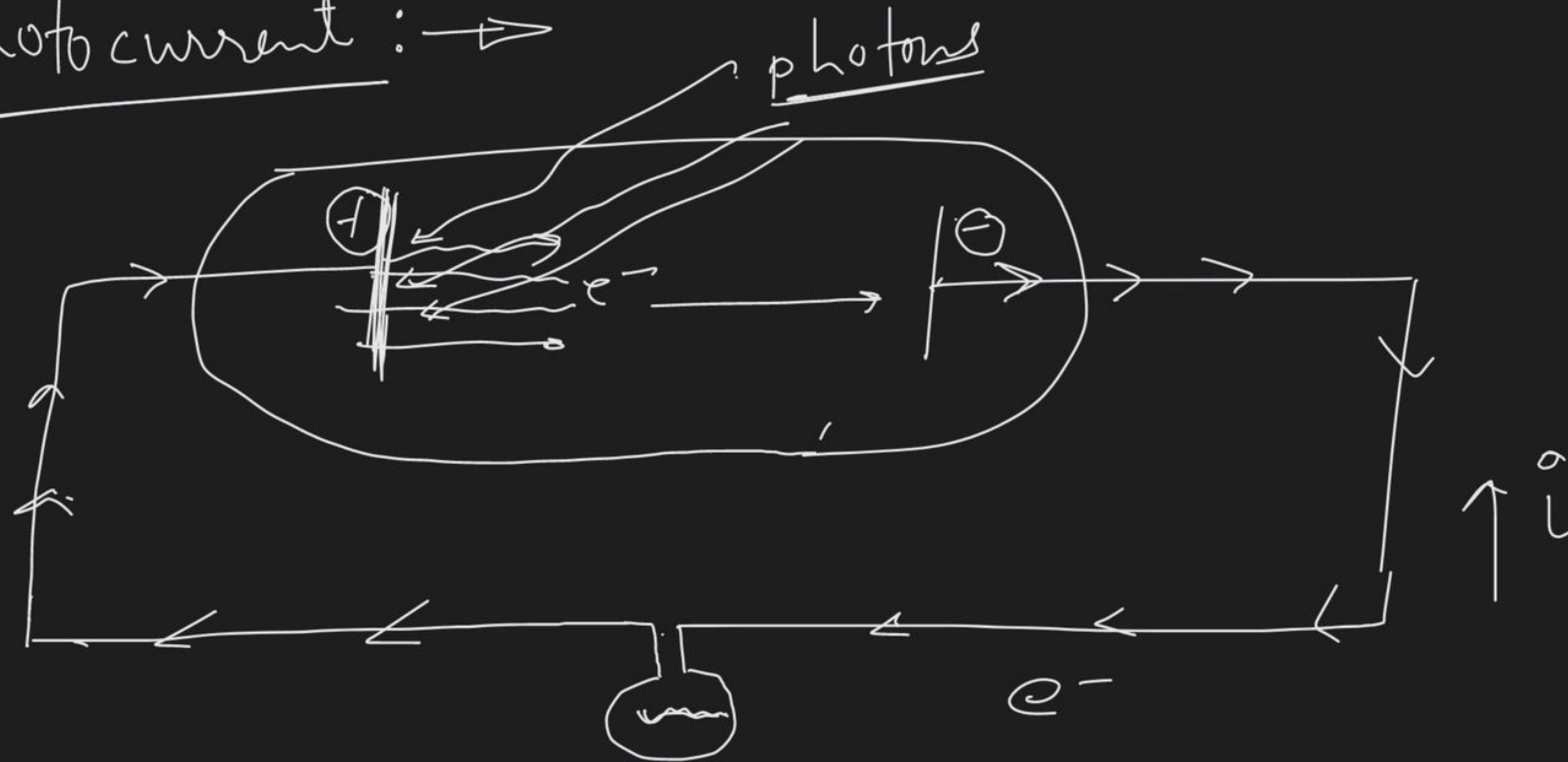
e^-

current produced by photo'e's
is called _____

0 – 19   1,   2,3 ,4,5, 6,7,   8,9

10 , 11 , 12 ,

1 – 12
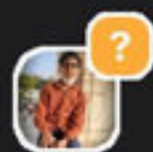
Please help me with this doubt

Good evening sir, Sir 1 issue aa rha tha bhot

Sir 18th September se school m offline exam h aur sir usme
Maths Syllabus m bhot kuch h jo hamne nhi padha abhi toh sir
usme bhi time dena pad rha h ab aur school ke teachers bhi force
kar rhe h ki school ke notes dikhao sab aur exam se pehle check
karwane h.
Sir is time aap sab teachers bhi important chapters padha rhe h
aur isliye sabhi subject m HW bhi jyada mil rha h sir aur 19th ko
hamara Monthly test bhi h Advanced ka, sir bilkul time manage nhi
ho paa rha itna saara work ho rha h aur revision ka time bhi nhi mil rha

Please sir thodi help kar dijiye kis tarah se karoo kuch samajh nhi aa rha

Minimum frequency (ν_0)

Maximum wavelength (λ_0)

$$W = h\nu_0 = \frac{hc}{\lambda_0}$$
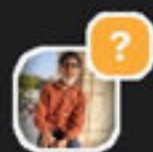
sir ye h Anna sir ki shaadi ki pic

PIC 1

Question
from PJxi Visha...

Please help me with this doubt
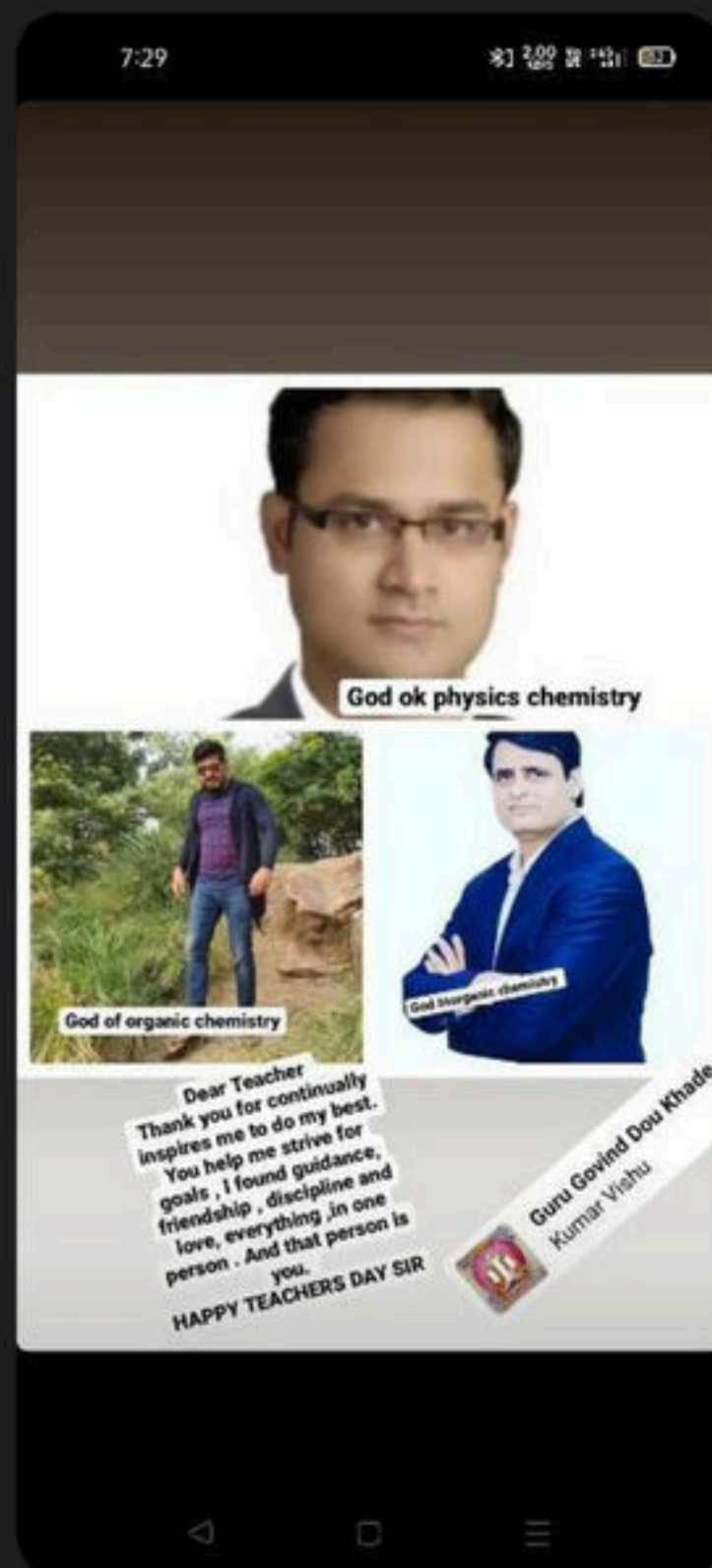
my doubt

PIC 2

Happy Teacher's Day Sir

MY LITTLE WORK. SORRY SIR FOR SENDING LATE. MID ME CLASS NHI THA SO.....

Belated happy Teacher's Day sir

जो बनाए हमें इंसान
और दे सही-गलत की पहचान
देश के उन निर्माताओं को
हम करते हैं शत-शत प्रणाम!

शिक्षक दिवस की हार्दिक शुभकामनाएं.

— Samrat Dutta
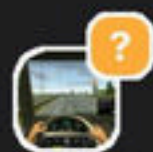
SIR YE WALA Q CLR NAHI HO PAYA PLS EK BAAR AAP
REPEAT KAR SAKTA HAAN IT WOULD BE VERY HELPFUL
FOR ME

Q55. Isotherms of carbon dioxide gas are shown in figure. Mark a path for changing gas into liquid such that only one phase (i.e. either a gas or liquid) exists at any time during the change. Explain how the temperature, volume and pressure should be changed to carry out the change.
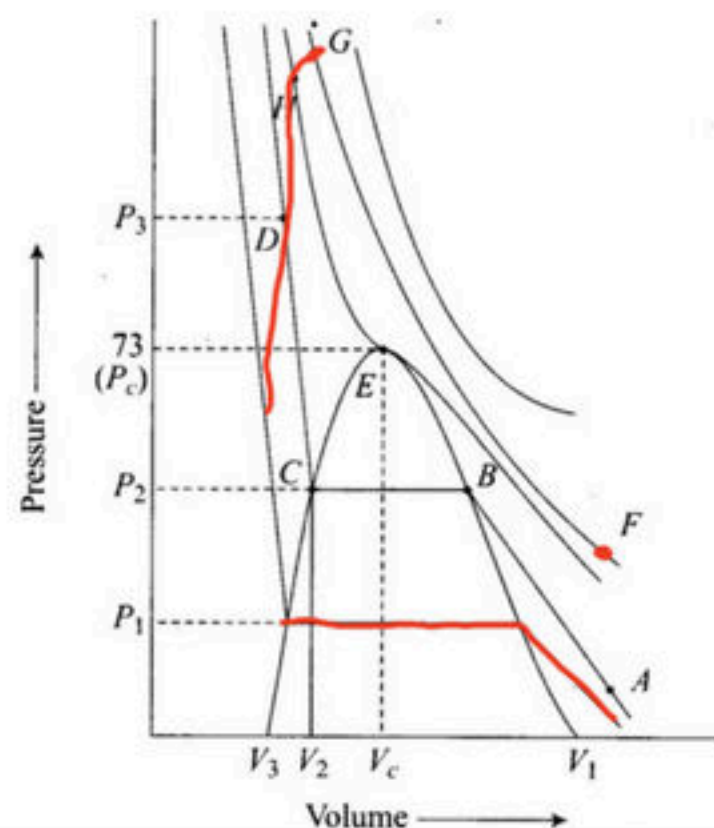
Please help me with this doubt
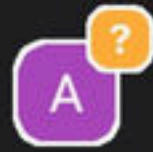
Question

from Ankit Kuma...

Please help me with this doubt

Happy teacher day sirji ek baar VC pls
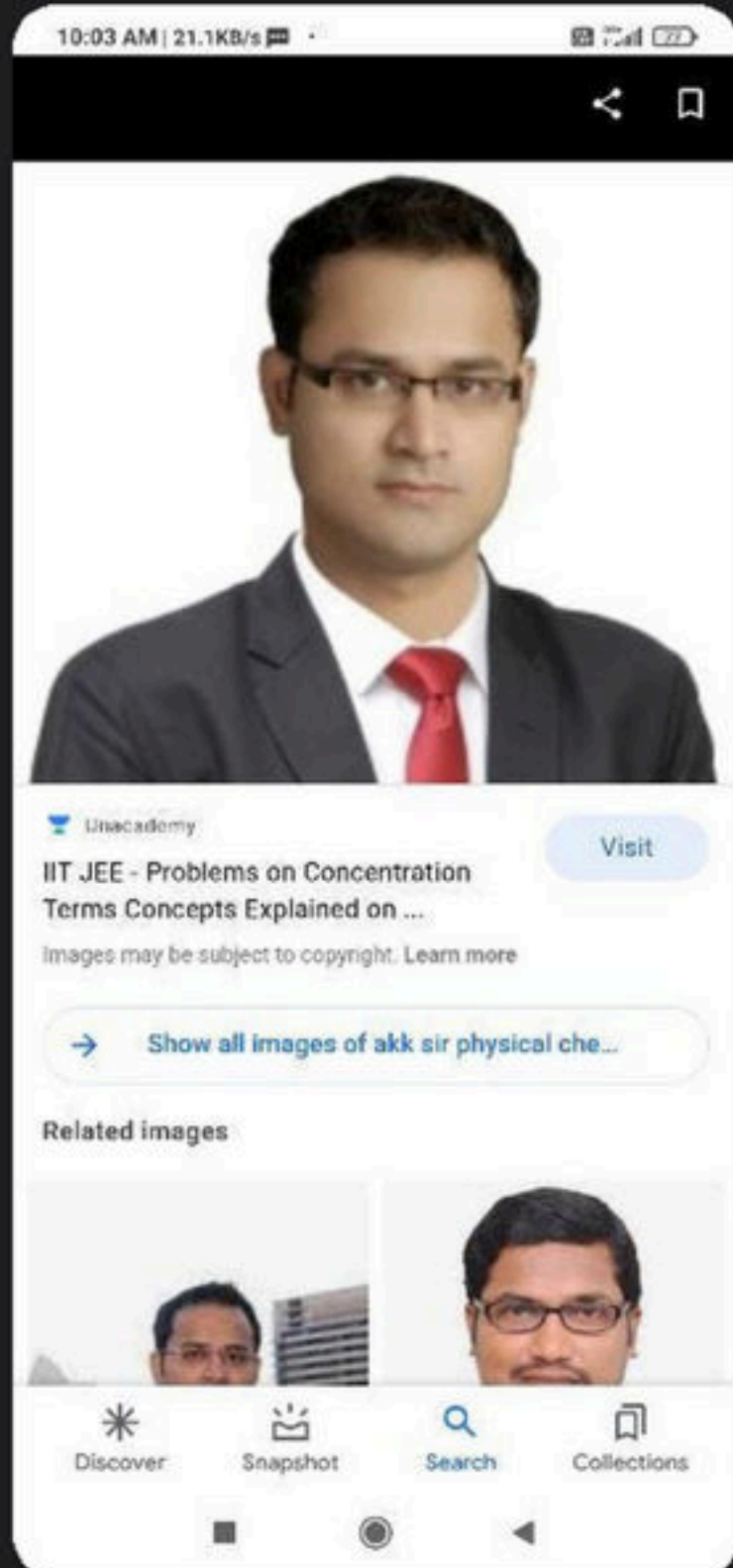
Please help me with this doubt

THEN | NOW

THEN	NOW
Parth Chouksey — sir dpp	**Sounak** — HW no sir
Kishan Singh — dpp	**Kavya** — HW ho sir
Gulshan Sagar — Sir Homework?	**Adarsh Y** — NO HW
Yâsh Chauhan — sir homework PLZZ	**Akshay** — sir pls no hw
Parth Chouksey — sir dpp	**Deepanshu** — no homework sir pls
Kishan Singh — dpp	**SHASWATPAT...** — Sir aaj no hw
Gulshan Sagar — Sir Homework?	**Rishu** — No hw

bahut din se doubt hai plz clear kardo

Please help me with this doubt

Please help me with this doubt

Please help me with this doubt

HAPPY HAPPY TEACHER*S DAY