



SIR PRATEEK JAIN

- . IIT JEE & NEET FACULTY (KOTA)
- . TOP PHYSICS FACULTY ON UNACADEMY.
- . 8+ YEARS OF TEACHING EXPERIENCE
- . RESEARCH WORK WITH HC VERMA SIR AT IIT KANPUR
- . PRODUCED RANKS LIKE AIR 6, AIR 10 ETC.

H.C. Verma Physics

Questions for Short Answers

C-30 Gauss Law

By PRATEEK JAIN SIR





Prateek Jain

#1 Educator in Physics · NEET UG

Senior Physics Faculty (KOTA) | 8+ yrs exp. | Produced AIR 6, AIR 10 etc. | Research work with HC VERMA sir at IIT K.

Following

124M Watch mins

9M Watch mins (last 30 days)

71K Followers

7K Dedications



Prateek Jain

#2 Educator in Physics · IIT JEE

Senior Physics Faculty (KOTA) | 8+ yrs exp. | Produced AIR 6, AIR 10 etc. | Research work with HC VERMA sir at IIT K.

Following

130M Watch mins

10M Watch mins (last 30 days)

74K Followers

7K Dedications



Dedications



Gold Hat

Dedicated at 100k minutes



Pjj Simran Milan • 11 hours ago

Thank you so much sir for making Physics this much awesome ❤️



Dhrubo • 1 day ago

Thanks,.....



Ttt neha prasad Prasad • 1 day ago

Sir Prateek jain, You are like fire flies for me you enlightened my life by making me understand physics. Thank you so much sir. You are the best physics teacher in this universe.



PJJ Nipurna Vora • 3 days ago

I am grateful to be your student. Thank you for challenging me to be my best and instilling in me a passion for learning.

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GOLDEN HATS
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BATCH STARTING FROM 14TH JULY



Manoj Chauhan



Prateek Jain



Sachin Rana



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Amarnath Anand



Prateek Jain



Surendra K Mishra



Vishal Joshi



Akhilesh

← Top Educators
NEET UG • Watch mins (last 30 days)

- 1 Prateek Jain 10.9M mins Follow
- 2 Dr Amit Gupta 5.4M mins Follow
- 3 Shubh Karan choudha... 8M mins Follow
- 4 Ramesh Sharda ✓ 6.4M mins Follow
- 5 Ajay Mishra (AKM) 7M mins Follow
- 6 Dr S K Singh 11.8M mins Follow
- 7 Pranav Pundarik ✓ 7.8M mins Follow
- 8 Chandramauli maurya 4.4M mins Follow
- 9 Tamanna Chaudhary 4.2M mins Follow
- 10 Shailendra Tanwar ✓ 4.5M mins Follow

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H.C. Verma Physics

Questions for Short Answers

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By PRATEEK JAIN SIR



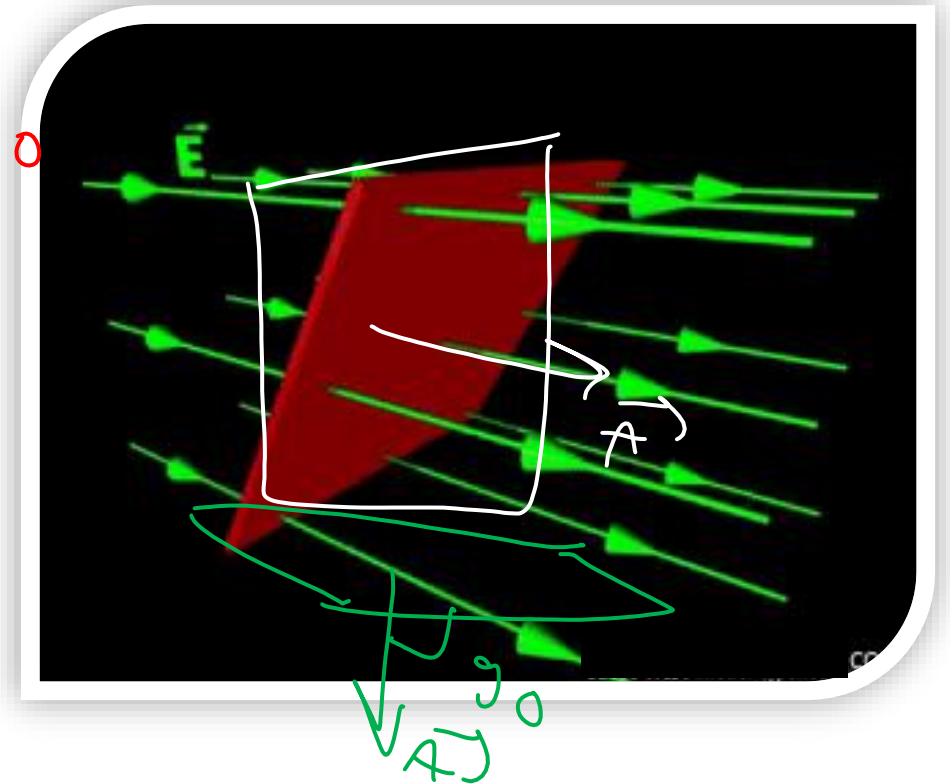
Q) A small plane area is rotated in an electric field. In which orientation of the area is the flux of electric field through the area maximum? In which orientation is it zero?

$$\Phi = \vec{E} \cdot \vec{A}$$

$$\Phi_{\max} = EA \cos 0 = EA$$

$$\Phi_{\min} = EA \cos 90 = 0$$

only mag wise



Q) A circular ring of radius r made of a non-conducting material is placed with its axis parallel to a uniform electric field. The ring is rotated about a diameter through 180° . Does the flux of electric field change? If yes, does it decrease or increase?

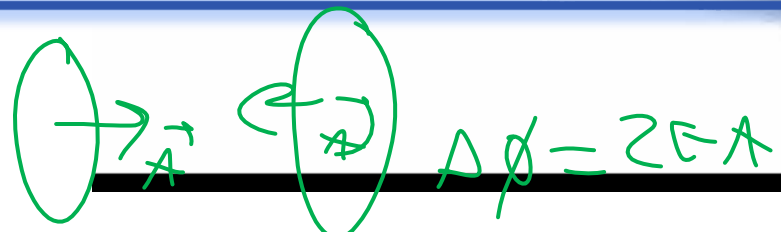
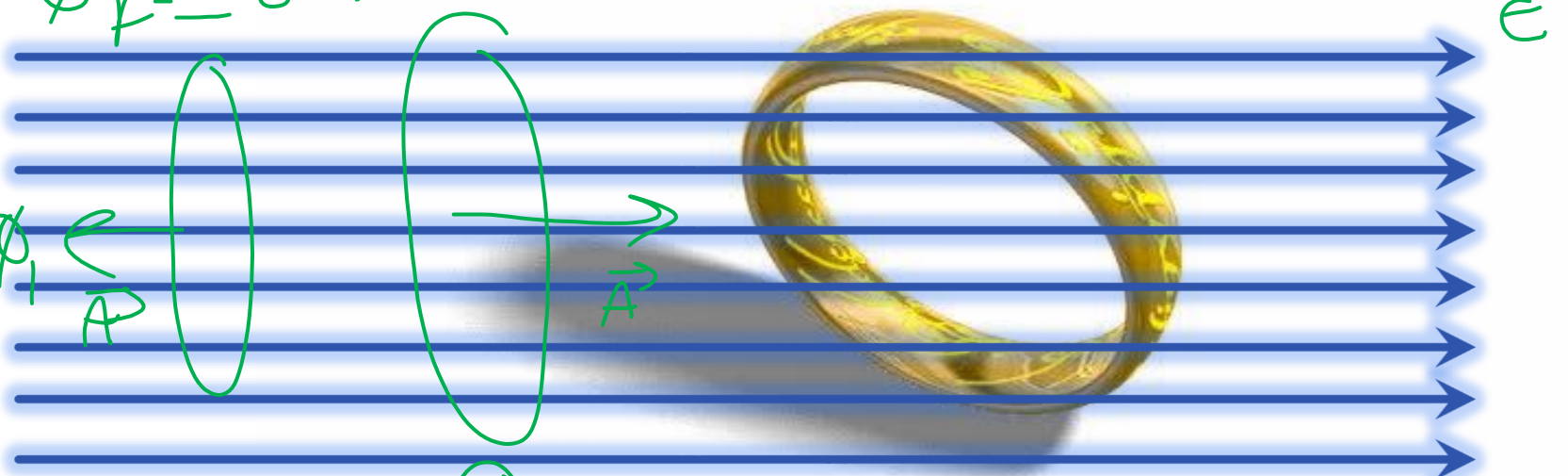
$$\phi_1 = \vec{E} \cdot \vec{A} = EA \cos 0 = EA$$

$$\phi_f = \vec{E} \cdot \vec{A} = EA \cos(180^\circ) = -EA$$

$$\Delta Q = \frac{\Delta \phi_B}{R}$$

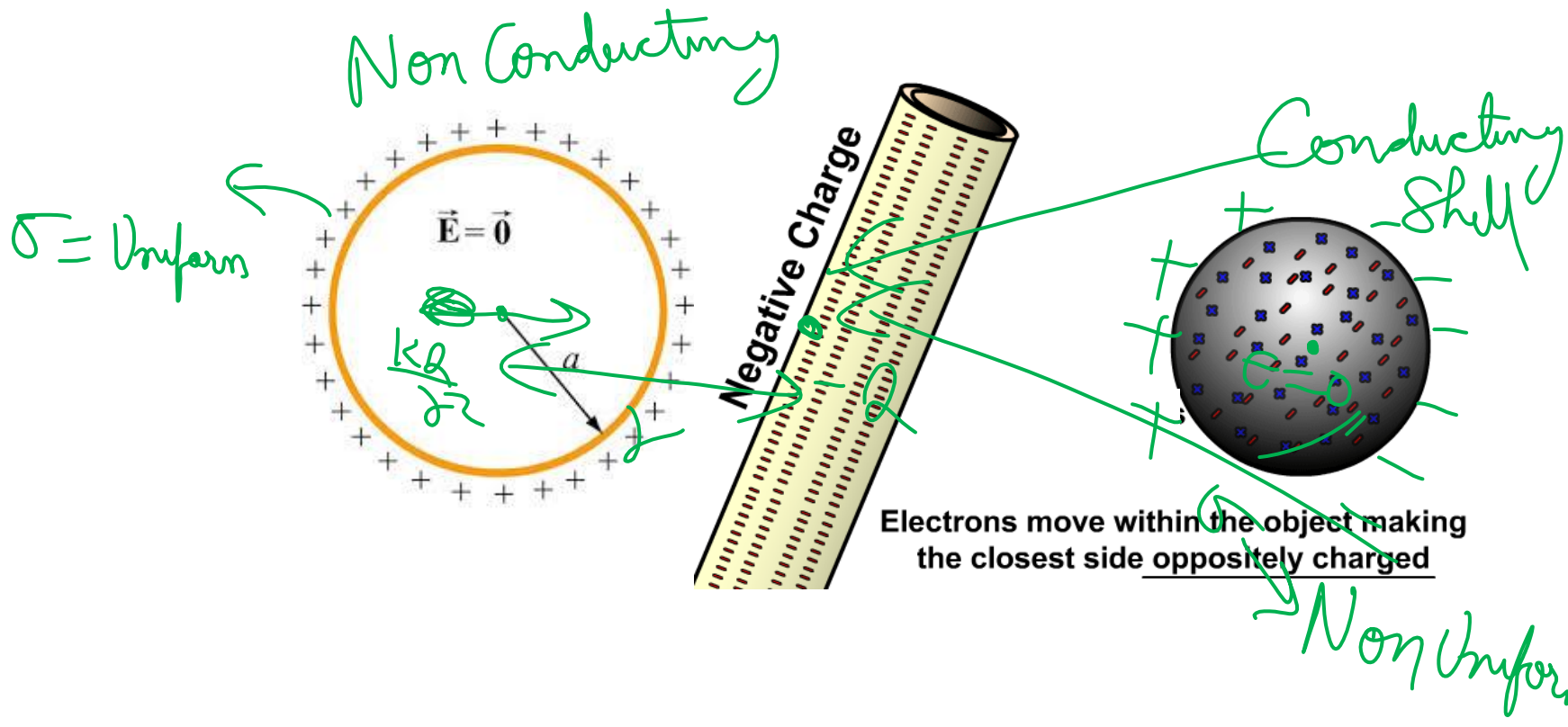
Yes

$$\Delta \phi = \phi_f - \phi_1 = -2EA$$

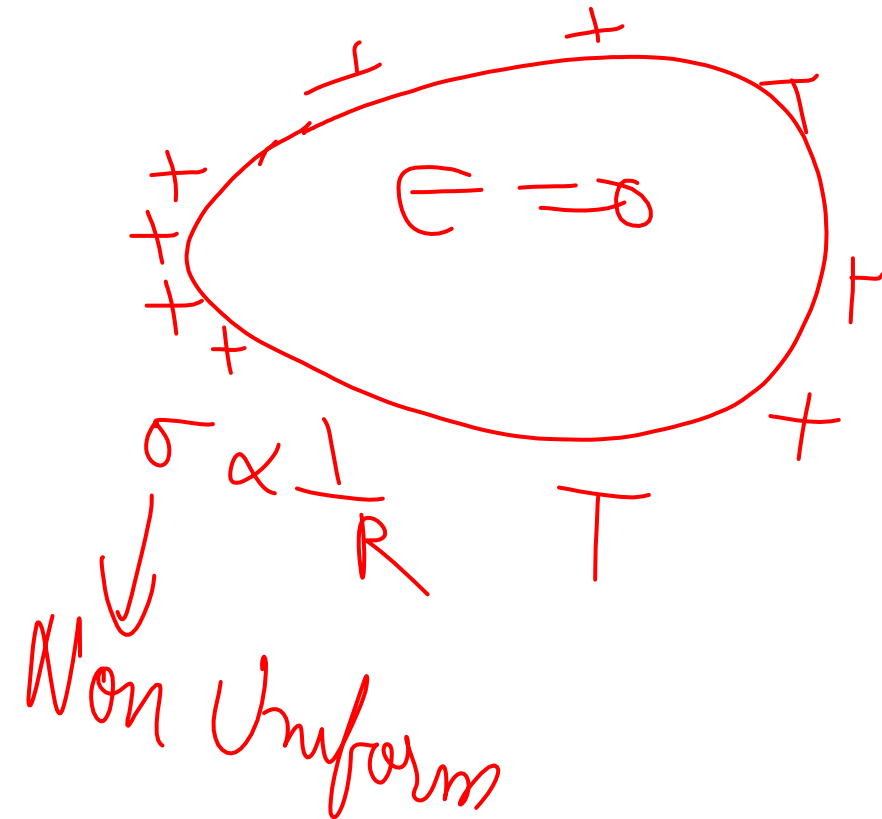
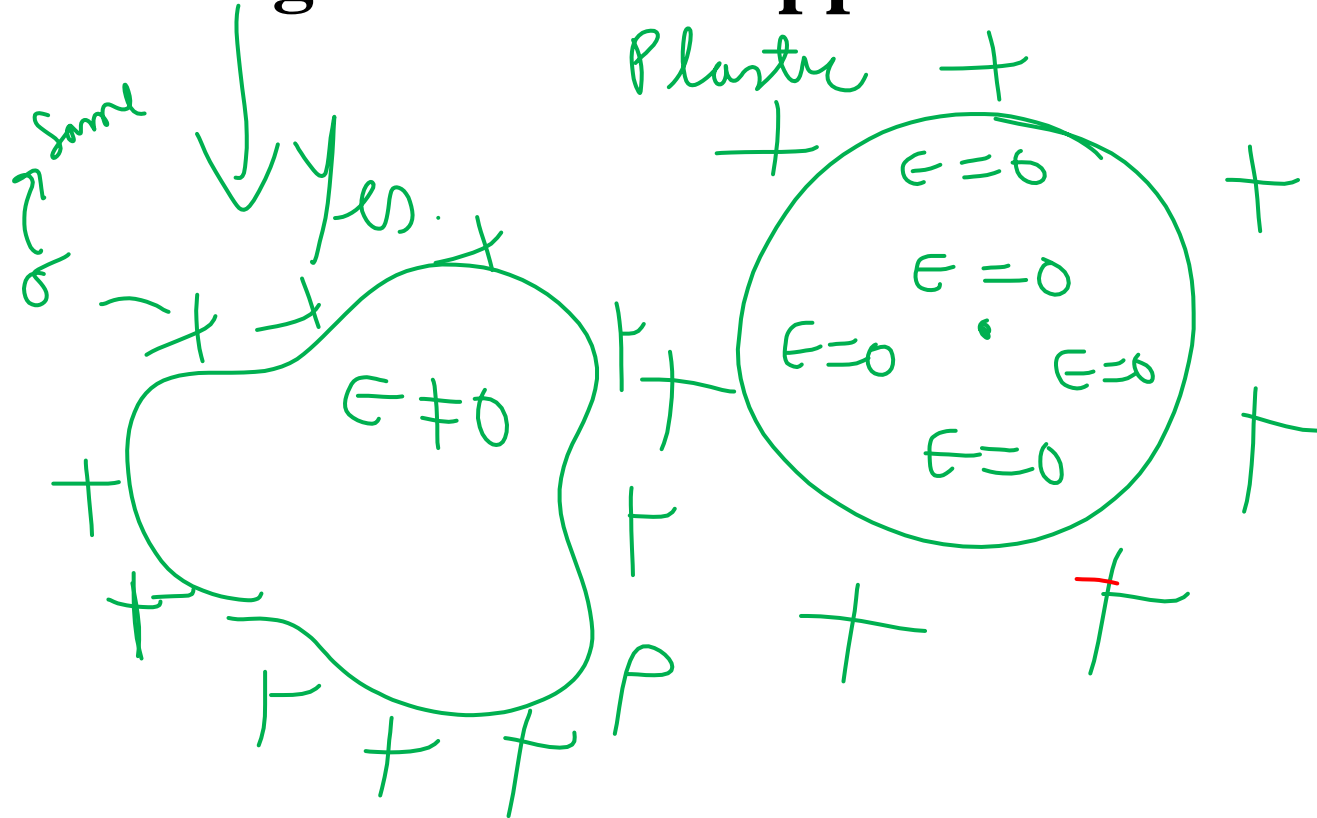


$E = 0$

Q) A charge Q is uniformly distributed on a thin spherical shell. What is the field at the centre of the shell? If a point charge is brought close to the shell, will the field at the centre change? Does your answer depend on whether the shell is conducting or non-conducting?

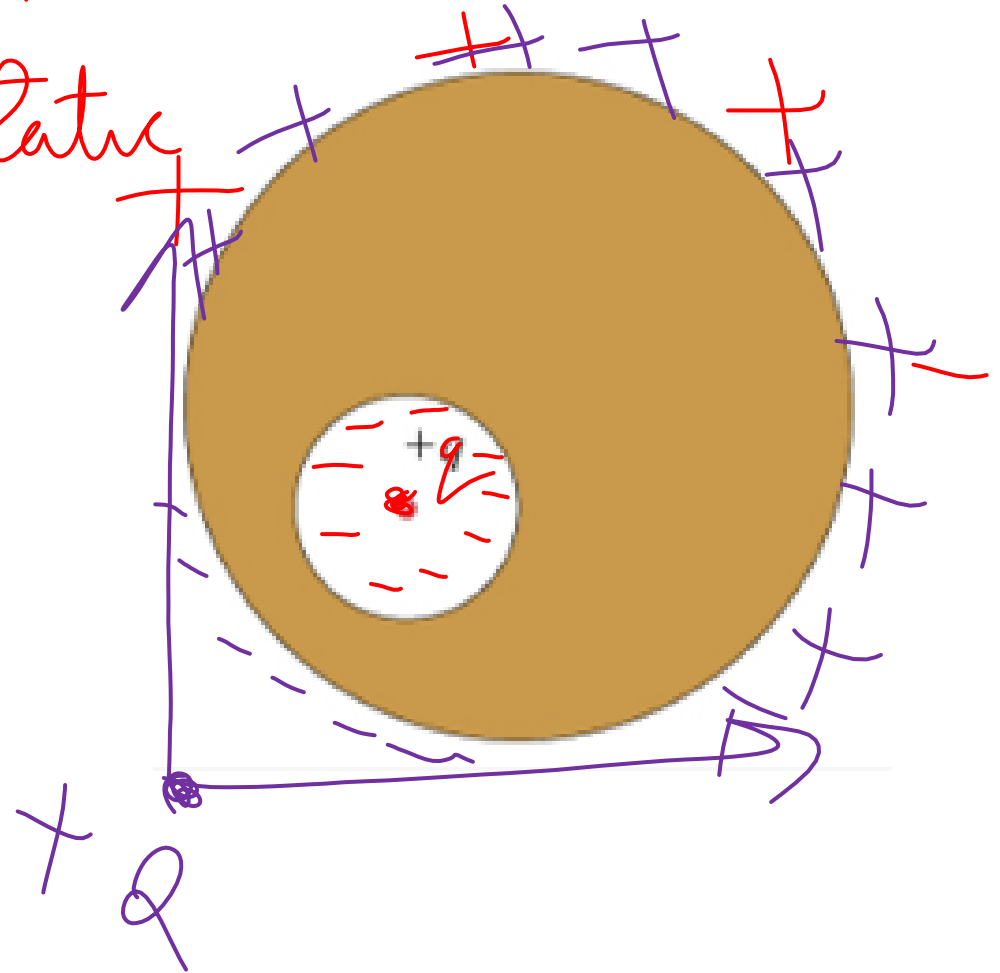


Q) A spherical shell made of plastic, contains a charge Q distributed uniformly over its surface. What is the electric field inside the shell? If the shell is hammered to deshape it without altering the charge, will the field inside be changed? What happens if the shell is made of a metal?



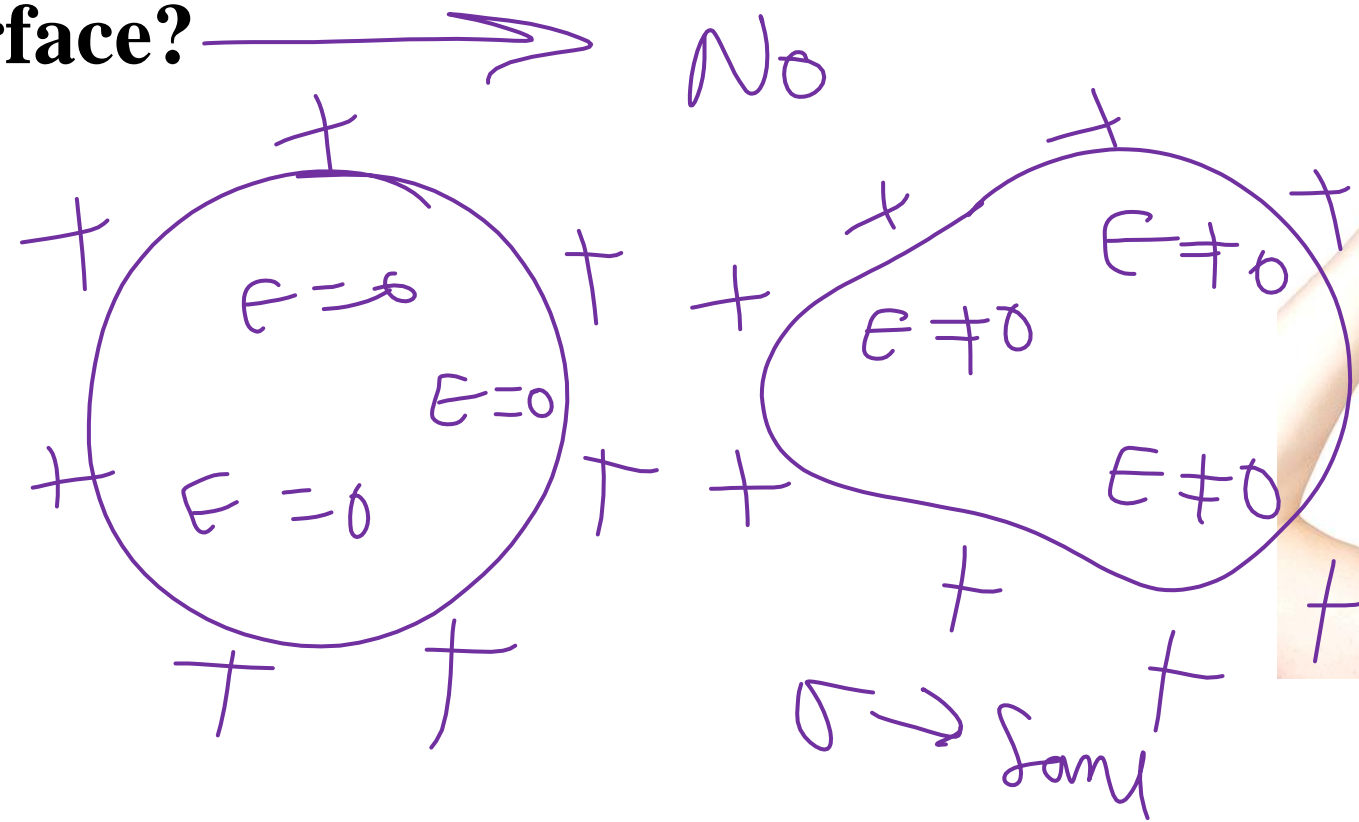
Q) A point charge q is placed in a cavity in a metal block. If a charge Q is brought outside the metal, will the charge q feel an electric force? \rightarrow No

Electrostatic
Shielding

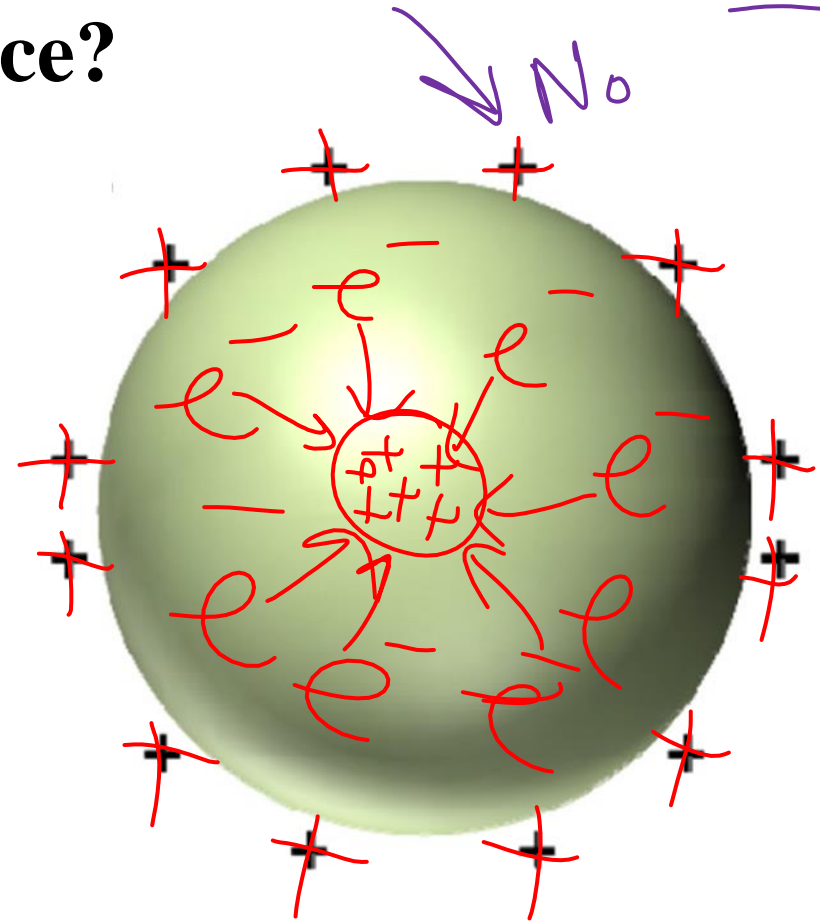
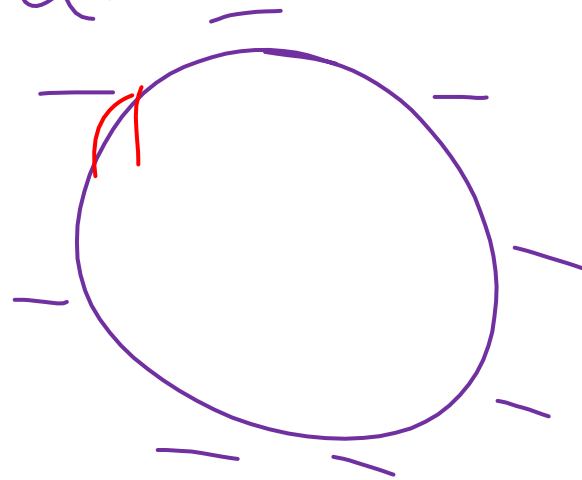
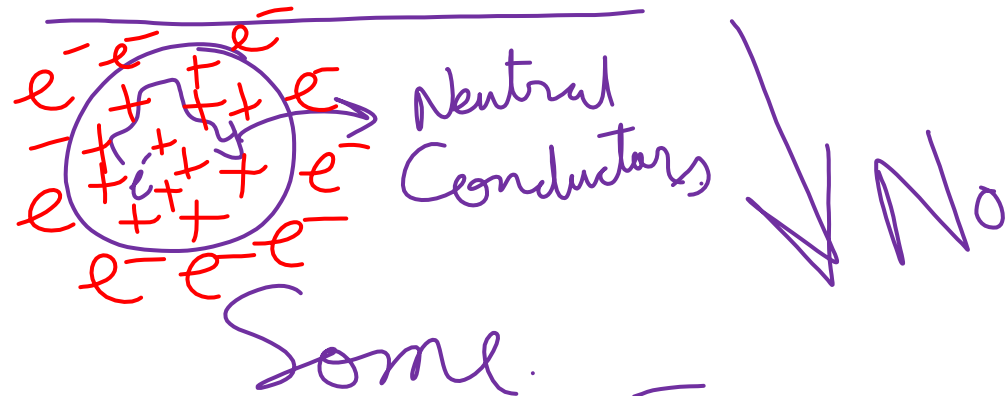


→ Non Conductor

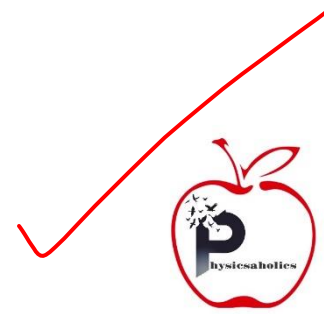
Q) A rubber balloon is given a charge Q distributed uniformly over its surface. Is the field inside the balloon zero everywhere if the balloon does not have a spherical surface?



Q) It is said that any charge given to a conductor comes to its surface. Should all the protons come to the surface? \rightarrow No. Should all the free electrons come to the surface? Should all the free electrons come to the surface?



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Chalo Niklo