



ATUL VIDYALAYA Comprehensive Lesson plan

Subject: Physics

Std: XII

Topic : ELECTROSTATICS

Total No. of periods required to complete the topic : 6

Scope of topic :

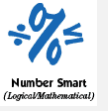






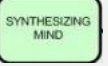

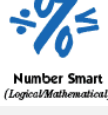





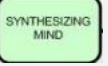







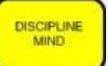






- **Coulomb's law, & S.I. unit of charge**
- **Gauss' theorem and its applications.**




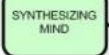








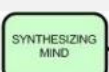






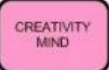

GLOBAL GOALS

- To develop an appreciation of the contribution of physics towards scientific and technological developments
- Using electrostatic tools to bring human happiness.

LEARNING GOALS:

- To enable candidates to acquire knowledge and to develop an understanding of the terms, facts, concepts, definitions, fundamental laws, principles and processes in the field of physics.
- To develop the ability to apply the knowledge and understanding of physics to unfamiliar situations.
- To develop skills in -
(a) the practical aspects of handling apparatus, recording observations and (b) drawing diagrams, graphs, etc.

PERIOD	CONTENT	OBJECTIVE	OUTCOME	LEARNING ENGAGEMENTS	TOOLS STRATEGIES RESOURCES	LEARNING PERSPECTIVE				
			THE STUDENT WILL:			MI	HAT S	BLOOM S	MINDS	CONNECTIO N
1	Introduction of electrostatics	To understand the concept of Coulomb's law, charges, permittivity and quantization.	list the types of charges. Write the statements of coulomb's law in words and mathematical form	Reviewing previous knowledge by cross word Discussing types of charges. Deriving equations of Coulomb's law. Explaining the significance of permittivity of free space and medium. Students will see PPT	Collaborative Strategy 3 stay 1 stray Graphic design Cross word (SA 1) LA 1 - PPT	 Number Smart (Logical/Mathematical)  Word Smart (Linguistic)	 Black Hat Cautions  Facts  Process	 Understanding  Remembering		TEXT – TEXT HISTORY TEXT – TEXT MATHS: Formulae and numerical. TEXT – TEXT CHEMISTRY: Chemical bonding
2	electric field	To understand the interaction of the charges and different fields.	differentiate between the types of fields	Explaining different types of field in the universe with examples. Students will see PPT and VIDEO	Collaborative Strategy: Think pair share LA 2-PPT LA 6-VIDEO	 People Smart (Interpersonal)  Number Smart (Logical/Mathematical)	 Creativity  Facts	 Understanding  Analyzing	 CREATIVITY MIND  SYNTHESIZING MIND	TEXT - SELF
3	Superposition of Electric fields	To understand superposition of fields,	solve numerical on electric field.	Explaining and deriving superposition principal and solving numerical based on electric field.	LA 3 - PPT	 Number Smart (Logical/Mathematical)  Picture Smart (Spatial/Visual)	 Process  Facts	 Analyzing  Applying  Evaluating	 DISCIPLINE MIND  SYNTHESIZING MIND	TEXT – TEXT MATHS: Formulae and numerical.
4	Gauss Theorem	To understand the concept of electric flux	write the statements of Gauss's theorem in words and mathematical form	Drawing the diagram of electric flux, proving Gauss's theorem. Reasoning by the activity 3-2-1	Graphic design 3 -2 1 LA 4	 Number Smart (Logical/Mathematical)	 Process	 Analyzing  Applying	 DISCIPLINE MIND	TEXT – TEXT MATHS: Formulae and numerical.

		and Gauss theorem				 Picture Smart (Spatial/Visual)	 Black Hat Cautions			ART: Drawing
5	Line, space and volume charge density	To understand uniform and non-uniform charge distribution	formulate the relationship for ρ , σ , λ	Explaining with diagram the various charge distribution Students will do work sheet and VIDEO	SA 2-WORK SHEET LA 7- VIDEO	 Picture Smart (Spatial/Visual)  Number Smart (Logical/Mathematical)	 Creativity  Process	  	 	TEXT – TEXT MATHS: Formulae and numerical.
6	Application of static electricity in day to day life	To apply static electricity to design various tools used in daily life	List down the tools using the concepts of static electricity	Discussing, debating and conducting open forum of the advantages and disadvantages of static electricity Students will see PPT and review the lesson using the burger activity.	LA 5 -PPT Collaborative Strategy: Burger	 Nature Smart (Naturalist)  Self Smart (Intrapersonal)	 Feelings  Black Hat Cautions	 	 	TEXT-WORLD

BIBLIOGRAPHY:

- I. **CORE BOOK: A TEXT BOOK OF PHYSICS**
AUTHOR : VIVEKANANDAN & BANERJEE
PUBLICATIONS: S. CHAND
- II. **REFERENCE BOOK/S: ISC PHYSICS**
AUTHOR: KUMAR & MITTAL
PUBLICATIONS: NAGEEN PRAKASHN
- III. **WEBSITES:**
 - i. www.tutorvista.com
 - ii. www.worldofteaching.com
 - iii. www.webphysics.com