Delhi Public School Srinagar

LESSON PLAN

Session 2015-2016

Class **:** XII

Subject **:** Physics

For the Month(s) of : August (last two weeks)

Units *: Wave optics and Dual nature of matter and radiation*

Periods *: Wave optics(8) And Dual nature of matter and radiation(4)*

***OBJECTIVES* (CONCEPTS & *SKILLS*:)** :

- *Concept of wave and wave front*
- *Hygen's Principle, reflection and refraction of a plane wave using Hygen's Principle*
- *Superposition principle ,Interference and Experimental evidence for light as a wave(Young's double slit experiment) and its explination using Hygen Principle*
- *Condition for constructive and destructive interference and conditions for sustained interference.*
- *Fringe width*
- *Diffraction due to single slit and resolving power of microscope and telescope.*
- *Polarization, plane polarized light and Brewster's law*
- *Dual nature of radiation and photo-electric effect(Hertz and Lenard's observation).*
- *Experimental study of photoelectric effect, photoelectric effect and wave theory of light.*
- *Einstien's photoelectric equation.*
- *Matter waves-Wave nature of matter and de Broglie relation, Davisson and Germer experiment(conclusion of the expt. will be discussed)*

The teacher will keep the following skills in view:

- *Scientific Aptitude*
- *Thinking skills*
- *Reasoning Skills*
- *Attentiveness*
- *Listening Skills*

LEARNING OUTCOMES :

- Make it sure that the student learns the concepts given below.
- Propagation of light as a wave
- Laws of reflection and refraction on the basis of wave theory.
- Distinguish between constructive and destructive interference , and coherent sources of light.
- Experimental evidence to support wave theory of light.
- Factors on which the fringe width depends.
- Experimental evidence to support wave theory of light and limit of resolution.
- Transverse nature of light.
- Nature of light depends on experiment.
- Photoelectric emission and its variation with certain parameters like frequency& intensity.
- Particle nature of light.
- de Broglie wave length and wave nature of matter.

INSTRUCTIONAL TOOLS & REFERENCES :

Black board ,chalk and duster.

The References used :

1. *PHYSICS (TEXT BOOK FOR CLASS XII), 2.CONCEPTS OF PHYSICS BY H. C. VERMA*

PEDAGOGY: :

i. Activating Prior Knowledge by Random Questioning
ii. Introducing the topic to be taught after getting the expected response from the students.
iii. Developing hypothesis by (a) Lecture , (b) Discussion and (c) In Text Questions

ACTIVITY/ASSIGNMENT/PROJECTS : *The teacher will give Home Assignments and the areas of assessment will be:*

Content of Knowledge, Presentation, Correctness, Time Management and Thinking skills

ASSESSMENT :

1. *Checking the note making on given topic, 2.Asking questions related to topic , 3.Home work , 4.In text questions*

FA_2 & SA_2 SYLLABUS :

FA Syllabus: EMI and alternating current , Optics

SA Syllabus: All units