



DELHI PUBLIC SCHOOL (JOKA) SOUTH KOLKATA
SYLLABUS - 2020-2021
CLASS XII
PHYSICS

EXAMINATION	TOPICS	DELETED PORTION
<u>PERIODIC TEST - I</u>	1.ELECTRIC CHARGES AND FIELDS	Electric charges and fields: uniformly charged thin spherical shell (field inside and outside).
	2.ELECTROSTATIC POTENTIAL AND CAPACITANCE	NIL
	3. CURRENT ELECTRICITY	Carbon resistors, colour code for carbon resistors; series and parallel combinations of resistors
	4. MOVING CHARGES AND MAGNETISM	Cyclotron
<u>MIDTERM EXAMINATION</u>	5. MAGNETISM AND MATTER	Magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis, torque on a magnetic dipole (bar magnet) in a uniform magnetic field; Para-, dia- and ferro - magnetic substances, with examples. Electromagnets and factors affecting their strengths, permanent magnets.
	6. ELECTROMAGNETIC INDUCTION	NIL
	7. ALTERNATING CURRENT	Power factor, wattless current.
	8. ELECTROMAGNETIC WAVES	Basic idea of displacement current,
	9. ATOMS	NIL
	& WEEKLY TEST -1 CHAPTERS
<u>PERIODIC TEST - II</u>	10.RAY OPTICS AND OPTICAL INSTRUMENTS	Reflection of light, spherical mirrors,(recapitulation) mirror formula , Scattering of light - blue colour of sky and reddish appearance of the sun at sunrise and sunset. resolving power of microscope and astronomical telescope,
	11. WAVE OPTICS	Polarisation, plane polarised light, Brewster's law, uses of plane polarised light and Polaroids.

**** IN CBSE CLASS - XII EXAMINATION THE ENTIRE YEAR'S SYLLABUS WILL BE ASSESSED.**

<u>PRACTICALS</u>	The record to be submitted by the students at the time of their annual examination has to include: Record of at least 8 Experiments [with 4 from each section], to be performed by the students. · Record of at least 6 Activities [with 3 each from section A and section B]
	<u>SECTION A</u>
<u>EXPERIMENTS</u>	<p>1. To determine resistivity of two / three wires by plotting a graph for potential difference versus current.</p> <p>2. To find resistance of a given wire / standard resistor using metre bridge.</p> <p style="text-align: center;">OR</p> <p>To verify the laws of combination (series) of resistances using a metre bridge.</p> <p style="text-align: center;">OR</p> <p>To verify the laws of combination (parallel) of resistances using a metre bridge.</p> <p>3. To compare the EMF of two given primary cells using potentiometer.</p> <p style="text-align: center;">OR</p> <p>To determine the internal resistance of given primary cell using potentiometer.</p> <p>4. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.</p> <p>5. To convert the given galvanometer (of known resistance and figure of merit) into a voltmeter of desired range and to verify the same.</p> <p style="text-align: center;">OR</p> <p>To convert the given galvanometer (of known resistance and figure of merit) into an ammeter of desired range and to verify the same.</p> <p>6. To find the frequency of AC mains with a sonometer.</p>
<u>ACTIVITIES</u>	<p>1. To measure the resistance and impedance of an inductor with or without iron core.</p> <p>2. To measure resistance, voltage (AC/DC), current (AC) and check continuity of a given circuit using multimeter.</p> <p>3. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.</p> <p>4. To assemble the components of a given electrical circuit.</p> <p>5. To study the variation in potential drop with length of a wire for a steady current</p> <p>6. To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key, ammeter and voltmeter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram.</p>

	SECTION B
<u>EXPERIMENTS</u>	1. To find the focal length of a convex lens by plotting graphs between u and v or between 1/u and 1/v
	2. To find the focal length of a convex mirror, using a convex lens.
	OR
	To find the focal length of a concave lens, using a convex lens.
	3. To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation.
	4. To determine refractive index of a glass slab using a travelling microscope.
	5. To find refractive index of a liquid by using convex lens and plane mirror.
6. To draw the I-V characteristic curve for a p-n junction diode in forward bias and reverse bias.	
<u>ACTIVITIES</u>	1. To identify a diode, an LED, a resistor and a capacitor from a mixed collection of such items.
	2. Use of multimeter to see the unidirectional flow of current in case of a diode and an LED and check whether a given electronic component (e.g., diode) is in working order.
	3. To study effect of intensity of light (by varying distance of the source) on an LDR.
	4. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.
	5. To observe polarization of light using two Polaroids.
	6. To observe diffraction of light due to a thin slit.
	7. To study the nature and size of the image formed by a (i) convex lens, (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror).
	8. To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses.