साप्ताहिक विच्छेदित पाठ्यक्रम

मई 2024-मार्च 2025

कक्षा-12

विज्ञान संकाय

एकीकृत शैक्षणिक कैलेंडर 2024 के साथ समन्वित

सम्बंधित दस्तावेज एवं शैक्षणिक सामग्री के लिए QR कोड को SCAN करें।

झारखण्ड शैक्षिक अनुसंधान एवं प्रशिक्षण परिषद्, राँची
Jharkhand Council of Educational Research and Training, Ranchi

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झारखण्ड शैक्षिक अनुसंधान एवं प्रशिक्षण परिषद्, राँची
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PHYSICS

Month	Week	Name of Chapter	TOPICS
August (24 days)	1st (3 days)	4. Magnetic effect of current	Torque experienced by a current loop in a magnetic field;moving coil galvanometer – its current sensitivity and conversion to ammeter and voltmeter. PRACTICE SESSION /Q A SESSION/ NUMERICALS OF ABOVE TAUGHT TOPICS
	2nd (6 days)	4. Magnetic effect of current	PRACTICE SESSION /Q A SESSION/ NUMERICALS OF ABOVE TAUGHT TOPICS
	3rd (5 days)	5. Magnetism and matter	Current loop as a magnetic dipole and its magnetic dipole moment. Magnetic dipole moment 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; bar magnet as an equivalent solenoid, magnetic field lines; and magnetic elements. Para-, dia- and ferro - magnetic substances, with examples. PRACTICE SESSION /Q A SESSION/ NUMERICALS OF ABOVE TAUGHT TOPICS
	4th (5 days)	6. Electromagnetic induction	Electromagnetic induction; Faraday's law, induced emf and current; Lenz's Law,
	5th (5 days)	6. Electromagnetic induction	. Self and mutual inductance. PRACTICE SESSION /Q A SESSION/ NUMERICALS OF ABOVE TAUGHT TOPICS
September (20 days)	1st (0 days) 2nd (5 days)	7. Alternating currents	Alternating currents, peak and rms value of alternating current /voltage; reactance and impedance;
	3rd (5 days)	7. Alternating currents	LCR series circuit, resonance; power in AC circuits, wattless current. AC generator and transformer. PRACTICE SESSION /Q A SESSION/ NUMERICALS OF ABOVE TAUGHT TOPICS
September (20 days)	4th (3 days)	8 .Electromagnetic waves	Basic idea of displacement current,Electromagnetic waves and their characteristics (qualitative ideas only). Transverse nature of electromagnetic waves. Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, x-rays,gamma rays) including elementary facts about their uses. PRACTICE SESSION /Q A SESSION/ NUMERICALS OF ABOVE TAUGHT TOPICS
	5th (6 days)	9. Ray optics and Optical instruments	Reflection of light, spherical mirrors, mirror formula. Refraction of light, total internal reflection and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula , Lens Makers Formulae Magnification, power of a lens, combination of thin lenses in contact.
	6th (1 days)	9. Ray optics and Optical instruments	Refraction of light through a prism. PRACTICE SESSION /Q A SESSION/ NUMERICALS OF ABOVE TAUGHT TOPICS
October (21 days)	1st (3 days)	9. Ray optics and Optical instruments	Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers. PRACTICE SESSION /Q A SESSION/ NUMERICALS OF ABOVE TAUGHT TOPICS
	2nd (3 days)	10. Wave optics	Wavefront and Huygens' principle, reflection and refraction of plane wave at a planesurface using wavefronts. Proof of laws of reflection and refraction using Huygens' principle. Interference,
	3rd (6 days)	10. Wave optics	Young's double slit experiment and expression for fringe width, coherent sources and sustained interference of light. PRACTICE SESSION /Q A SESSION/ NUMERICALS OF ABOVE TAUGHT TOPICS
	4th (6 days)	10. Wave optics	Diffraction due to a single slit, width of central maximum. PRACTICE SESSION /Q A SESSION/ NUMERICALS OF ABOVE TAUGHT TOPICS
	5th(3 days)	11. Dual Nature of Matter and Radiation	Dual nature of radiation,Photoelectric effect, Hertz and Lenard's observations

PHYSICS

Month	Week	Name of Chapter	TOPICS
November (21 days)	1st (1 Days) 2nd (4 days)	11. Dual Nature of Matter and Radiation	Einstein's photoelectric equation – particle nature of light.Matter waves – wave nature of particles, de Broglie relation. PRACTICE SESSION /Q A SESSION/ NUMERICALS OF ABOVE TAUGHT TOPICS
	3rd (5 days)	12. Atoms	.Alpha - particle scattering experiment; Rutherford's model of atom Bohr model of hydrogen atom, expression for radius , velocity & energy of electron in nth orbit, energy levels,hydrogen line spectra.
	4th (6 days)		Composition and size of nucleus, Mass-energy relation, mass defect;
	5th (5 days)	13. Nuclei	binding energy per nucleon and its variation with mass number; nuclear fission and fusion. PRACTICE SESSION /Q A SESSION/ NUMERICALS OF ABOVE TAUGHT TOPICS
December (19 days)	1st (0 days) 2nd (6 days)	14. semiconductor	Energy bands in conductors, semiconductors and insulators (qualitativeideas only)
	3rd (6 days)	14. semiconductor	intrinsic and extrinsic Semiconductors p and n type,p-n junction ; semiconductor diode – I-V characteristics in forward and reverse bias, diode as a rectifier; PRACTICE SESSION /Q A SESSION/ NUMERICALS OF ABOVE TAUGHT TOPICS
	4th (5 days) 5th (2 days) 6th (0 days)	Revision & Test	
January (20 days) February (20 days) March (21 days) till board examination		Revision & Test	
Total Working Days - 224 Days (Tentative)			