

INDIRA GANDHI GOVT COLLEGE PANDARIA, DISTT. KABIRDHAM

ANNUAL TEACHING PLAN (ACADEMIC SESSION 2024-25)

COURSE: UNDER GRADUATION. SUBJECT : PHYSICS CLASS: B.Sc.- I & II sem. B.sc. II & III YEAR

NAME OF TEACHER: Nileshwari chandrakar

EXPECTED MONTH	PAPER AND UNIT	TOPIC DESCRIPTION			Expected class	Tutorial / Remedial classes	Co-curricular activities	Extra curricular activities	Teaching Aids
		B.sc 1st Sem. & 2nd Sem.	B.Sc. II	B.Sc. III					
July	B.sc I sem. B.sc. II P1, P2 unit 1, B.sc. III P1, P2 unit 1,	Historical Background : contribution of Aryabhatta & Varahmihir to science and society , brief biography of vikram Vector: scalar and vector quantities & fields.	Thelaws of thermodynamics , carnot cycles , carnot theorem , claussius thorem inequality , wave in media , reflection	Referance system , inertial frames , galilean invariance propagation of light , massd energy equivalnce , amorphous and crystalline solids , laus equation for X-ray diffraction , dulong petits law , brillouin zone , classical theory	22+40+34	12			White Bord & Markar Pen
August	B.sc I sem. unit 1, B.sc. II P1, P2 unit 2, B.sc. III P1, P2 unit 2,	work and energy work energy theorem for conservation force, force as a gradient of potential energy .	thermodynamics Potentials: internal energy, enthalpy, Helmholtz free energy and Gids function . Maxwell & applications claussius - clapeyron equatins .	Origina of the quantum theory: Failure of classical physics to explain the phenomena such as black -body spectrum , photoelectric effect , compton effect , wave -partics duality , uncertainty principle , de broglie hypothesis for matter waves	22+56+44	12	Independa ce Day		White Bord & Markar Pen
September	B.sc I st sem. unit 2 B.sc2 p1 p2 unit 1,1 B.sc 3rd year	Rotational Dynamic : angular momentum , torque, conservation of angular momentum , moment of inertia of parallel and continuous objects Elasticity: strees&strain, hooke's law , elastic constans , poission ratio, relationship between variou selastic moduli.	thelaws of thermodynamics , carnot cycles , carnot theorem , claussius thorem inequality , wave in media , reflection	referance system , inertial frames , galilean invariance propagation of light , massd energy equivalnce , amorphous and crystalline solids , laus equation for X-ray diffraction , dulong petits law , brillouin zone , classical theory	56+59+22		Ozone day, nation hindi divas	Cleaniness program	Chalk, Board & Dustar
October	B.sc Ist sem. unit 2 B.sc2 p1 p2 unit 2,2 B.sc 3rd year	Dynamic: Flow of fluids , coefficient of viscosity , Derivation of poiseulli's formula , motion of a shperical body falling in a viscous fluid , Stoke's law , expression for terminal velocity.	Thermodynamic potentials. Internal energy, enthalpy, helmholtz free energy gibb's functions , maxwell's relation & applications , clusius-clapeyron. Interference Division of amplitude and divison of wavefront, Young's double slit experiment Frensnel's biprism. interference in thin films Newton's rings. Michels ons interferometer formations offrings	free electron model ofa matal , kronig penny model without mathematical detail , curies weiss law , B-H curve, origin of the quantum theory , compton effect , wav partical, photoelectric effect , bohrs principle , gamma ray microscope , diffraction at a	55+58+22	12	gandhi jayanti		Chalk, Board & Dustar

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November	B.Sc.1st sem. UNIT - 3 B.Sc.2nd P1 UNIT - 3 P2 UNIT- 3 B.Sc. 3rd B.Sc. P1 UNIT - 3 P2 UNIT - 3	Gravitation: Newton's law of gravitation ,motion of a partical in a central force fieldKepler's law ,satellite in circular orbit and applications ,Geosynchronous orbits. Oscillations: simple haemonics motions ,differetial equtions of SHM and its solution ,kinetic and potential energy,total energy and their time averages ,compound pendulum ,differetial equion of damped oscillations and force oscillations .	maxwellian distribution of speed in an ideals gas ,doppler broadening of spectral lines ,behaviour of real gas ,interfermce of light ,thin films ,newtons law ,michelson interferometer	industrial microbiology, lipid metabolism & protein catabolism ,p-junction ,zener diode ,LED, FET and MOSFET characteristics ,bipolar transistors ,quntum mechanics ,schrodingers equation ,ehrenfeststheorem	22	12	Constitutio n day, Chhatishg arh rajbhasha divas, child erns day		Chalk, Board & Duster
December	B.Sc.1stsem. UNIT 4, B.Sc.2nd P1 UNIT - 4, B.sc.III UNIT - 4	Special Theory of Relativity: Frame of refernce,Galilean Transformations ,inertial and Non inertial frames,outcomes of Michelson-Morley's experiment,Lorentz Transformatio.	diffraction ,types of diffraction ,fresnel diffraction ,half period zone ,nicol prism,biquartz polarimeter ,huygens .	spectra of hydrogen ,deuteron and alkali atoms spectral terms ,doublet fine structure,screening constans for alkali spectra for s,p,d and f states	56+60+22		Aids Day		Chalk, Board & Duster
January	B.Sc.2nd sem. UNIT 1 B.Sc.2nd P1 UNIT - 5 P2 UNIT - 5 B.Sc.- 3rd unit -5	Power Plants in Chhattisgarh.An overview of thermal and hydroelectric power plants in chhattisgarh Vectors Analysis.Divergence& curl of vector fields,Line ,surface and volume integrals of vectors fields Gauss divergence theorem and stock's theorem of vector and its applications in electrostatics and magnetostatics.Electrostatics fields,Electrostatics fields ,electric flux ,Gauss's theorem of electriostatics ,plane charged sheet,charged.	lasersystem ,einstein A and B coefficient ,He-Ne laser , indistinguishability of partical and its consequences,bose deviation from the ideal gas equion ,critical constants ,transport of mass ,multiple beam interference in paralel film ,twtman green interferometer and its	struture of nuclei ,basic properties of nuclei,leptons and mesons quantum number,digital circuits ,AND,OR and NOT gates ,NAND and NOR gates as u	55+60+12	12	Republic day	Human right day	Chalk, Board & Duster
February	B.Sc.2nd sem.unit 2 B.Sc.2nd P1 UNIT - 1, P2 UNIT - 1 B.Sc.- 3rd	Elactorsatics potential: Electric potential as line integral of electric field ,potential due to a point charge ,calculation of electric field from potential ,capactions of parallel plate capacitor, energy per unit volume in electrostatics field .Delectric & electric currents: diecelctic meduim ,polarations ,displacement vector Gauss's theorem in dielectrics field ,parallel plate capacitor completely filled with dielectric.LR,CR,LCR circuits.	entropy change in irreversibleand irreversible process ,entropy of ideal gas telephote lenses ,optical instruents condition for sustained intrface theorem of interfernce ,fabry -perot ,rayleing refractometer ,stafan boltzman law , blackbody spectram	cohesive energy of solid ,madelung constant ,braggs law ,bondingin solids ,einstein and debye theorem length contraction ,time dilation ,lorentz transformatiotunnel diode bipolar transistors ,pnp and npn transistors ,solar cell,operator ,expection value ,reflection at a step potential ,transmission across a potential barrier	60+58+12	12	National science day		Chalk, Board & Duster

March	B.Sc.2nd sem.unit 3	Magnetism Magnetostatics Biot savart's law and its applications - straight conductor , circular coil , ... Amperes circuital law Magnetic propaties of material magnetic intensity ,magnetic induction ,permeability ,magnetics susceptibility,para & ferro magnetic material			22	12			Chalk, Board & Dustar
April	B.Sc.2nd sem. UNIT 4	Electromagnetic induction Faraday law of electromagnetic induction ,Lenz's law ,self and mutual inductance ,L of single coil ,M of two coils ,energy stored in magnetic field			22	12			Chalk, Board & Dustar
May	B.sc.2nd sem.unit 4	Maxwall's equition and Electromagnetics wave propagation equations of continuity of current ,displacement current ,Maxwell's equations ,wave equation in free space			22	12			White Bord & Markar Pen
June	B.sc.2nd sem.unit 1, 2, 3 & 4						Internation al yoga day		

Note: (1) Practical class will be organised according to time table.

(2)Remideal and Tuterial class will be organised according to time table

(3)Presentation/ Seminar/ Group discussion also take according as per plan.

Co-curricular activities and Extra curricular activities are also organised as per plan.

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