

Anjuman Islam Janjira Degree College of Science, Murud Janjira
Academic Calender 2023-24

F.Y.B.Sc. Physics Paper - I Sem I

Date	Topic
UNIT I	
07-03-2023	Chapter 1. Newton's Laws of Motion: Syllabus Discussion, Newton's first, second and third laws of motion
07-04-2023	interpretation and applications, pseudo forces
07-05-2023	inertial and non-inertial frames of reference
07-10-2023	Worked out examples (with friction present)
07-11-2023	Revision of chapter 1
07-12-2023	Chapter 2. Friction: Advantages & disadvantages of friction in daily life, Friction as the component of Contact force
17/7/2023	Kinetic Friction, Static friction+C30C11:C48
18/7/2023	laws of friction
19/7/2023	Understanding friction at Atomic level
24/7/2023	Numericals and revision of chapter 2
25/7/2023	Chapter 3. Work and Energy: Kinetic Energy, Work
26/7/2023	Work-energy theorem, Potential Energy
31/7/2023	Conservative and Non Conservative Forces
08-01-2023	Different forms of Energy: Mass Energy Equivalence
08-02-2023	Worked out Examples and revision.
UNIT II	
08-07-2023	Chapter 1. Elasticity: An introduction to Elasticity
08-08-2023	Stress, Strain
08-09-2023	Hooke's Law and Moduli of Elasticity
14/8/2023	relation between Moduli of Elasticity
21/8/2023	Worked out Examples and revision.
21/8/2023	Chapter 2. Viscosity: An introduction to Viscosity, Flow through a Narrow Tube
22/8/2023	Poiseuille's Equation, Stokes' Law, Terminal velocity
23/8/2023	Measuring Coefficient of Viscosity by Stokes' method
28/8/2023	Critical velocity and Reynolds number
29/8/2023	Worked out Examples and revision.
30/8/2023	Chapter 3. Fluid Mechanics: Streamline and Turbulent flow
09-04-2023	Equation of Continuity
09-05-2023	Bernoulli's equation
09-06-2023	Applications of Bernoulli's equation
09-11-2023	Worked out Examples and revision.
UNIT III	
09-12-2023	Chapter 1. Behavior of real gases: An introduction
13/9/2023	Vander Waals equation of state
18/9/2023	Chapter 2. Laws of Thermodynamics: Thermodynamic Systems, Zeroth law of thermodynamics
25/9/2023	Concept of heat
25/9/2023	Thermodynamic Equilibrium, Work: A Path dependent function
26/9/2023	Internal energy, First law of Thermodynamics

27/9/2023	Internal Energy as a state function, Specific heat of gases
10-03-2023	Applications of First Law of thermodynamics
10-04-2023	The indicator diagram, Work done during Isothermal process
10-09-2023	Work done during Adiabatic process
10-10-2023	Worked out Examples and revision.
10-11-2023	Chapter 3. Heat engine: Definition of Efficiency of heat engine
16/10/2023	Carnot's Ideal heat engine
17/10/2023	Numerical examples
18/10/2023	Revision.

F.Y.B.Sc. Physics Paper - II Sem I

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16/10/2023	Carnot's Ideal heat engine
17/10/2023	Numerical examples
18/10/2023	Revision.

S.Y.B.Sc. Physics Paper - I Sem III

Date	Topic
UNIT – I	
14/6/2023	Chapter 1. Compound pendulum : Expression for period, maximum and minimum time period
15/06/2023	centres of suspension and oscillations , reversible compound pendulum
17/06/2023	Kater's reversible pendulum
21/06/2023	compound pendulum and simple pendulum- a relative study, revision.
22/06/2023	Chapter 2.Center of Mass : Motion of the Center of Mass , Linear momentum of a Particle Linear momentum of a System of Particles
24/06/2023	Linear momentum wrt CM coordinate (i.e shift of origin from Lab to CM), Conservation of Linear Momentum
28/06/2023	Some Applications of the Momentum Principle , System of Variable Mass
07-05-2023	Torque Acting on a Particle , Angular Momentum of a Particle
07-06-2023	Angular Momentum of System of Particles , Total angular momentum wrt CM coordinate
07-08-2023	Conservation of Angular Momentum
07-12-2023	Worked out Examples and revision.
13/7/2023	Chapter 3.Oscillations: The Simple Harmonic Oscillator
15/7/2023	Relation between Simple Harmonic Motion and Uniform Circular Motion
19/7/2023	Two Body Oscillations, Damped Harmonic Motion
19/7/2023	Forced Oscillations and Resonance, Worked out Examples and revision.
UNIT-II	
20/7/2023	Chapter 1. (Review of zeroth and first law of thermodynamics) Conversion of heat into work
22/7/2023	heat engine, Carnot's cycle: its efficiency
26/7/2023	heat engine, Carnot's cycle: its efficiency
26/7/2023	Chapter 2: Second law of thermodynamics, Statements
27/7/2023	Equivalence of Kelvin and Plank statement
08-02-2023	Carnot's theorem
08-03-2023	Reversible and irreversible process
08-05-2023	Absolute scale of temperature.
08-09-2023	Chapter 3: Clausius theorem, Entropy, Entropy of a cyclic process

08-10-2023	Reversible process, Entropy change
08-12-2023	Reversible heat transfer, Principle of increase in entropy
17/8/2023	generalized form of first and second law, entropy change of an ideal gas, entropy of steam
19/8/2023	entropy and unavailable energy
23/8/2023	entropy and disorder, absolute entropy
24/8/2023	Worked out Examples and revision.
UNIT –III	
26/8/2023	Chapter 1. Third law of thermodynamics
30/8/2023	Nernst heat theorem, Consequences of the third law
31/8/2023	Maxwell's thermodynamic relations
09-02-2023	Clausius – Clapeyron equation
09-06-2023	Thermal Expansion
09-07-2023	Chapter 2. Steam engine, Rankine cycle
09-09-2023	Otto engine, Efficiency of Otto cycle
13/9/2023	Diesel cycle, Efficiency of Diesel cycle
14/9/2023	Otto and diesel comparison
16/9/2023	Problem
27/9/2023	Chapter 3. Low temp Physics: Different methods of liquefaction of gases
30/9/2023	methods of freezing, Cooling by evaporation, cooling by adiabatic expansion Joule - Thompson effect
10-04-2023	JT effect of Van der Waal's gas, Liquefaction of helium
10-05-2023	properties and uses of liquid Helium
10-07-2023	Problem

S.Y.B.Sc. Physics Paper - II Sem III

Date	Topic
Unit I: Vector Calculus:	
06-12-2023	Line Integrals
13/06/2023	Surface Integrals
14/06/2023	Volume Integrals
19/06/2023	problems on Line, Surface and Volume Integrals
20/06/2023	The Fundamental Theorem of Calculus
21/06/2023	The Fundamental Theorem of Gradient
26/06/2023	The Fundamental Theorem of Gradient
27/06/2023	The Fundamental Theorem of Divergence
28/06/2023	The Fundamental Theorem of Divergence
07-03-2023	The Fundamental Theorem of Curl (Statement and Geometrical interpretation is included, Proof of these theorems are omitted)
07-04-2023	Problems based on these theorems
07-05-2023	Curvilinear Coordinates: Cylindrical Coordinates
07-10-2023	Curvilinear Coordinates: Cylindrical Coordinates
07-11-2023	Curvilinear Coordinates: Spherical Coordinates
07-12-2023	Curvilinear Coordinates: Spherical Coordinates
17/7/2023	problems

Unit II: Analog Electronics	
18/7/2023	Chapter 1: Transistor Biasing, Inherent Variations of Transistor Parameters, Stabilisation
19/7/2023	Essentials of a Transistor Biasing Circuit, Stability Factor, Methods of Transistor Biasing
24/7/2023	Base Resistor Method, Emitter Bias Circuit, Circuit analysis of Emitter Bias
25/7/2023	Biasing with Collector Feedback Resistor
26/7/2023	Voltage Divider Bias Method, Stability factor for Potential Divider Bias
31/7/2023	Chapter 2: General amplifier characteristics: Concept of amplification, amplifier notations
08-01-2023	current gain, Voltage gain, power gain
08-02-2023	input resistance, output resistance
08-07-2024	general theory of feedback, reasons for negative feedback
08-08-2025	loop gain
08-09-2026	Chapter 3: Practical circuit of transistor amplifier
14/8/2027	phase reversal
21/8/2028	frequency response
22/8/2029	Decibel gain and Band width
23/8/2030	Numericals and revision.
Unit III: Analog Electronics	
28/8/2023	Chapter 1. Oscillators: Introduction, effect of positive feedback.
29/8/2024	Requirements for oscillations, phase shift oscillator
30/8/2025	Wien Bridge Oscillator
09-04-2023	Colpitt's oscillator
09-05-2024	Hartley oscillator
09-06-2025	Chapter 2. Operational Amplifiers: Introduction, Schematic symbol of OPAMP
09-11-2026	Output voltage from OPAMP
09-12-2027	AC analysis
13/9/2028	Bandwidth of an OPAMP, Slew rate
18/9/2029	Frequency Response of an OPAMP, OPAMP with Negative feedback
25/9/2023	Inverting Amplifier, Non-Inverting Amplifier
26/9/2023	Voltage Follower, Summing Amplifier
27/9/2023	Applications of Summing amplifier, OPAMP Integrator and Differentiator
10-03-2023	Critical frequency of Integrator, Comparator
10-04-2023	problems and revision

S.Y.B.Sc. Physics Paper - III Sem III

Date	Topic
UNIT I	
06-12-2023	Chapter 1. Acoustics of Buildings: Reverberation, Explanation of Sabine's formula
13/6/2023	Importance of Sabine's Formula, Absorption coefficient
17/6/2023	Acoustics of Buildings, factors affecting Acoustics of Buildings
19/6/2023	Sound distribution in an auditorium
20/6/2023	Numericals and revision
24/6/2023	Chapter 2. Laser : Introduction, transition between Atomic energy states
26/6/2023	Principle of Laser, Properties of Laser
27/6/2023	Coherence Properties of LASER, Spatial Coherence Length, Directionality, Intensity
07-01-2023	Helium-Neon Laser
07-03-2023	Application of Laser, Holography
07-04-2023	problems based on chapters
07-08-2023	Chapter 3. Fibre Optics : Light propagation through Fibres
07-10-2023	Fibre Geometry, Internal reflection
07-11-2023	Numerical Aperture, Step-Index and Graded-Index Fibres
15/7/2023	Applications of Fibres, workout examples and revision
Unit II	
17/7/2023	Chapter 1. Lattice points and space lattice
18/7/2023	The basis and crystal structure
22/7/2023	Unit Cells and lattice parameters
24/7/2023	Primitive Cells
25/7/2023	Crystal Systems
31/7/2023	Crystal Symmetry
08-01-2023	Bravais space lattices
08-05-2023	Chapter 2. Metallic crystal structures
08-07-2023	relation between the density of crystal material
08-08-2023	lattice constant in a cubic lattice
08-12-2023	Directions, Planes
14/8/2023	Miller Indices
19/8/2023	Important planes in simple cubic structure
21/8/2023	separation between lattice planes in a cubic crystal.
22/8/2023	Revision
Unit III	
26/8/2023	Chapter 1. Electrical properties: Review of energy band diagram for materials – conductors, semiconductors and insulators
28/8/2023	Electrical conductivity in metals, semiconductors and insulators (dielectrics)
29/8/2023	effect of temperature on conductivity.
09-02-2023	Chapter 2. Optical properties: Introduction, Reflection of electromagnetic radiation in solids.
09-04-2023	refraction, absorption of electromagnetic radiation in solids.
09-05-2023	transmission of electromagnetic radiation in solids, revision
09-09-2023	Chapter 3. Magnetic properties: Origin of magnetism in solids (basic idea)
09-11-2023	Types of magnetic order (paramagnetism, diamagnetism, antiferromagnetism, ferromagnetism, ferrimagnetism)
09-12-2023	Types of magnetic order (paramagnetism, diamagnetism, antiferromagnetism, ferromagnetism, ferrimagnetism)
16/9/2023	magnetic hysteresis.
18/9/2023	Chapter 4. Applications: Dielectric materials
25/9/2023	Piezoelectric materials
26/9/2023	Ferroelectric materials
30/9/2023	pyroelectric materials.
10-03-2023	Revision