FACULTY OF SCIENCE & TECHNOLOGY

KAVAYITRI BAHINABAI CHAUDHARI NORTH MAHARASHTRA UNIVERSITY, JALGAON

'A' Grade
NAAC Re-Accredited
(3rd Cycle)

SYLLABUS
FOR
F. Y. B. Sc. (PHYSICS)

(AS PER CHOICE BASED CREDIT SYSTEM PATTERN OF UGC)

(With effect from June - 2022)

Preamble

The University Grants Commission (UGC) has initiated several measures to bring equity, efficiency and excellence in the Higher Education System of country. The important measures taken to enhance academic standards and quality in higher education include innovation and improvements in curriculum, teaching-learning process and examination and evaluation systems.

In that context in the last decade, North Maharashtra University, Jalgaon has taken several initiatives to upgrade and enhance the academic excellence, examination reforms and developing the skilled minds and skilled hands. As per the directions of UGC, from last year our KBC North Maharashtra University, Jalgaon has implemented the Choice Based Credit (CBCS) pattern to undergraduate programs run by various colleges affiliated to NMU, Jalgaon. As per the directions given by the Honorable Vice Chancellor, Pro-Vice Chancellor and Dean of the Faculty of Science and Technology of our university, one day workshop was organized for syllabus framing. The teachers of the affiliated colleges and university department were participated in the workshop of re-structuring the syllabi of F. Y. B.Sc. (Physics) as per the CBCS pattern and it has been finalized during the workshop and the same will be effectively implemented from the academic year 2022-23.

The main objective of the re-structuring the syllabus of F. Y. B. Sc. (Physics) is to create skilled minds and therefore expectation is to equip the students with the knowledge and understanding of concepts of physics rather than the ability to remember facts so that they may have a reasonable comprehensive and complete grasp of principles of physics. It is expected that the students should study physics with keen interest, develop their experimental skill and problem solving ability. The students should communicate their knowledge of Physics to the Society, to make them to understand physics around us. The students should use their knowledge of Physics for betterment of our Society, our nation and the World.

Board of Studies (Physics),
North Maharashtra University, Jalgaon

OBJECTIVES

1. To provide education in physics of the highest quality at the undergraduate level and generate graduates of the caliber sought by industries and public service as well as academic teachers and researchers of the future.
2. To acquire deep knowledge in fundamental aspects of Physics and basic knowledge in the specialized thrust areas like Mechanics, Dynamics and Properties of Matter , Electricity, Electrostatics, Dielectrics, Magnetism, Electromagnetism and Mathematical physics.
3. To develop ability among the students to identify, remember and grasp the meaning of basic facts, concepts and principles of Physics.
4. To develop observational skills, confidence in using scientific equipment and relate the knowledge of scientific concepts to quantitative and physical measurement.
5. Acquire knowledge, skills, working methods and ways of expression which will reflect on all round development of the students' attitudes towards scientific thinking and its applications.
6. To develop attitudes such as concern for accuracy and precision, objectivity, and Enquiry.
7. The overall aim is to provide comprehensive knowledge and understanding in the relevant fields and enable students to pursue the physics subject at an advanced level later and to attract outstanding students from all back grounds.

BOS (PHYSICS)-Faculty of Science & Technology

Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon

Class: **F. Y. B. Sc.** Subject: **Physics**

Choice Base Credit System (With effect from June 2022)

The Board of Studies in Physics has unanimously accepted the revised syllabus prepared by different committees, discussed and finalized in the **Workshop on Syllabus restructuring at F. Y. B. Sc. Physics (CBCS Pattern)** held on 11th April 2022.

The titles of the papers for F.Y.B.Sc. (Physics) are as given below:

Semester	Credits	Course code	Course Title	No. of Credits	Hours/ semester	Marks	
						Internal	External
I	Theory-04 Practicals-02	PHY 101	Basic Mechanics	02	30	40	60
		PHY 102	Dynamics and Properties of Matter	02	30	40	60
		PHY 103	LAB -I	02	60	40	60
II	Theory-04 Practicals-02	PHY 201	Electricity and Electrostatics	02	30	40	60
		PHY 202	Dielectrics, Magnetism and Electromagnetism	02	30	40	60
		PHY 203	LAB -II	02	60	40	60

Note: The industrial/study tour is compulsory for students of F. Y. B. Sc. (Physics).

Semester I
PHY 101: Basic Mechanics
(Credits: 02): (30 Lectures 60 Marks)

……

Course description:

This course is aimed at introducing the concepts of Basic Mechanics to Under Graduate students.

Course objectives:

1. To impart knowledge of basic concepts in Basic Mechanics.
2. To provide the knowledge and methodology necessary for solving problems in Physics.
3. The course also involves the related experiments based on the theory.

Course outcome:

Learner will be able to ….

1. Apply the concept and knowledge of Basic Mechanics to understand and solve real life problems.
2. Understanding of the course will create scientific temperament.

……

Unit 1. Vectors

Vector algebra, Scalar and vector products (Dot, Cross, Scalar Triple Product, Vector Triple Product, Derivatives of a vector with respect to a parameter. **(04 Lectures, 12 Marks)**

Unit 2. Ordinary Differential Equations

Types of differential equations, degree and order of differential equation (definitions only), linear and non-linear differential equations (definitions only), homogeneous and non-homogeneous differential equations (definitions only), 1^{st} order homogeneous differential equations, 2^{nd} order homogeneous differential equations with constant coefficients (definitions with examples). **(08 Lectures, 16 Marks)**

Unit 3. Laws of Motion

Frames of reference, Newton's Laws of motion, Dynamics of a system of particles, Centre of Mass, Centre of mass of two particle system, Centre of mass of n-particle system, Centre of mass of a rigid body, Centre of mass of a circular ring. **(10 Lectures, 16 Marks)**

Unit 4. Momentum and Energy

Conservation of momentum, Work and energy, Conservation of energy, Motion of rockets.

(04 Lectures, 08 Marks)

Unit 5. Rotational Motion

Angular velocity and angular momentum, Torque, Conservation of angular momentum.

(04 Lectures, 08 Marks)

Reference Books:

1. University Physics. FW Sears, MW Zemansky and HD Young13/e, 1986. Addison-Wesley
2. Mechanics Berkeley Physics course, V-1: Charles Kittel, et. al. 2007, Tata McGraw-Hill.
3. Physics: Resnick, Halliday & Walker 9/e, 2010, Wiley
4. Engineering Mechanics, Basudeb Bhattacharya, 2nd edn., 2015, Oxford UniversityPress
5. University Physics, Ronald Lane Reese, 2003, Thomson Brooks/Cole.
6. New Simplified Physics : S. L. Arora, Dhanpat Rai and CO. (A reference book for class XI, Volume I)
7. Concept of Physics, H. C. Verma, Volume I.

Semester I
PHY 102: Dynamics and Properties of Matter
(Credits: 02): (30 Lectures 60 Marks)

……

Course description:

This course is aimed at introducing the concepts of Dynamics and Properties of Matter to Under Graduate students.

Course objectives:

1. To impart knowledge of basic concepts in Dynamics and Properties of Matter.
2. To provide the knowledge and methodology necessary for solving problems in Physics.
3. The course also involves the related experiments based on the theory.

Course outcome:

Learner will be able to ….

1. Apply the concept and knowledge of Dynamics and Properties of Matter to understand and solve real life problems.
2. Understanding of the course will create scientific temperament.

……

Unit 1. Gravitation

Newton's Law of Gravitation, Central force, Motion of a particle in the central force field Kepler's Laws (Statement only), Conservation of angular momentum, Areal velocity is constant, Satellite in circular orbit, Geosynchronous orbit, Applications of satellites, Weightlessness, Basic idea of global positioning system(GPS). **(08 Lectures, 16 Marks)**

Unit 2. Surface Tension

Concept of surface tension, Examples of surface tension, surface tension, surface energy, Angle of contact, Wettability, Relation between surface tension, Excess pressure and Curvature, Factors affecting surface tension, surface tension of water by Jaeger's method, Applications of surface tension. **(07 Lectures, 14 Marks)**

Unit 3. Elasticity

Hooke's law, Stress-strain diagram, Elastic moduli, Relation between elastic constants (Y, k and η), Poisson's Ratio, Expression for Poisson's ratio in terms of elastic constants, Work done in stretching and work done in twisting a wire, Torsional pendulum, To determine Y, k,η and σ by Searle's method. **(07 Lectures, 14 Marks)**

Unit 4. Fluid Dynamics and Viscosity:

Introduction, General concept of fluid flow, Streamline and turbulent flow, Critical velocity, Different forms of energy possessed by liquids, Bernoulli's theorem, Applications of Bernoulli's theorem- Venturimeter and Pitot tube to find the rate of flow. Concept of viscosity, Definition,

Newton's law of viscosity, Velocity gradient, Rate of flow of liquid in a capillary tube-determination of coefficient of viscosity of a liquid by Poiseuille's formula, Viscosity of water by Poiseuille's method, Dependence of viscosity of a liquid on temperature.

(08 Lectures, 16 Marks)

Reference Books:

1. University Physics. FW Sears, MW Zemansky and HD Young13/e, 1986. Addison-Wesley
2. Mechanics Berkeley Physics course, V-1: Charles Kittel, et. al. 2007, Tata McGraw-Hill.
3. Physics: Resnick, Halliday & Walker 9/e, 2010, Wiley
4. Engineering Mechanics, Basudeb Bhattacharya, 2nd edn., 2015, Oxford UniversityPress
5. University Physics, Ronald Lane Reese, 2003, Thomson Brooks/Cole.
6. Elements of properties of matter- D. S. Mathur, Shamlal Charitable Trust, New Delhi
7. General Properties of Matter- J. C. Upadhyaya, Ramprasad and Sons, Agra
8. Mechanics- J. C. Upadhyaya, Ramprasad and Sons, Agra.
9. New Simplified Physics: S. L. Arora, Dhanpat Rai and CO. (A reference book for class XI, Volume II)
10. Concept of Physics, H. C. Verma, Volume I.

Semester I
PHY 103: LAB II
(Credits: 02): (60 Lectures 60 Marks)

……

On successful completion of this course students will be able to:

1. To demonstrate their practical skills.
2. To understand and practice the skills while doing Physics practical.
3. To understand the use of apparatus and their use without fear.
4. To correlate Physics theory concepts through practical.
5. Understand the concepts of errors and their estimation.

……

(Students should perform at least ten experiments from the following list)

1. Calculation of errors from given data.
2. Measurements of length (or diameter) using vernier caliper, screw gauge and travelling microscope.
3. Determine the acceleration due to gravity 'g' of an object falling freely using Kinematic equation
4. To determine 'g' by Bar Pendulum.
5. To determine 'g' by Kater's Pendulum.
6. To determine 'g' and velocity for a freely falling body using Digital Timing Technique
7. To determine the restoring force per unit extension of a spiral spring by statistical and dynamical methods and also determines the mass of the spring.
8. To study the Motion of a Spring and calculate (a) Spring Constant (b)Value of 'g'
9. To determine the Moment of Inertia of a Disc.
10. To determine Y by using flat spiral spring.
11. To determine Y of a rectangular beam by bending.
12. To determine η by using flat spiral spring.
13. To determine η by torsional oscillations.
14. To find the torsional rigidity (C) and torsion constant ($\alpha = C/$) of the given string using torsional pendulum.
15. To determine 'Y' by vibrational cantilever.

16. To determine the Young's Modulus of a Wire by Optical Lever Method.
17. To determine the Modulus of Rigidity of a Wire by Maxwell's needle.
18. To determine the Elastic Constants of a Wire by Searle's method.
19. To determine Poisson's Ratio of rubber by using rubber cord/tube.
20. To determine the Moment of Inertia of a Flywheel.
21. Determination of coefficient of viscosity of water by Poiseuille's method.
22. Verification of Bernoulli's theorem.
23. To determine surface tension by Jaeger's method.
24. To determine the angle of prism (A) using spectrometer.

Reference Books:

1. Advanced Practical Physics for students, B.L. Flint and H.T.Worsnop,1971,Asia Publishing House.
2. Advanced level Physics Practicals, Michael Nelson and Jon M. Ogborn, 4th Edition, reprinted 1985, Heinemann Educational Publishers.
3. Engineering Practical Physics, S. Panigrahi & B. Mallick,2015,Cengage Learning India Pvt. Ltd.
4. A Text Book of Practical Physics, Indu Prakash and Ramakrishna, 11th Edition, 2011,KitabMahal, New Delhi.
5. A text Book of Experimental Physics-Dr. V.Y. Rajopadhye, V. L. Purohit and A .S. Deshpande (Continental Prakashan, Poona-30)
6. Practical Physics by R. K. Shukla, Anchal Srivastava (NewAge International).
7. Advance Practical Physics by S. P. Singh (Pragati).
8. Practical Physics: Gupta and Kumar (Pragati Prakashan Meerut)
9. University Practical Physics by D. C. Tayal, Himalaya Publishing House.

Semester II
PHY 201: Electricity and Electrostatics
(Credits: 02): (30 Lectures 60 Marks)

……

Course description:

This course is aimed at introducing the concepts of Electricity and Electrostatics to Under Graduate students.

Course objectives:

1. To impart knowledge of basic concepts in Electricity and Electrostatics.
2. To provide the knowledge and methodology necessary for solving problems in Physics.
3. The course also involves the related experiments based on the theory.

Course outcome:

Learner will be able to ….

1. Apply the concept and knowledge of Electricity and Electrostatics to understand and solve real life problems.
2. Understanding of the course will create scientific temperament.

……

Unit 1. Network theorems in current electricity

Kirchhoff's laws and loop analysis by Kirchhoff's laws, Network theorems: Thevenin's theorem and Norton's theorem with illustrations, Maximum power transfer theorem (D. C. Source only), Electric power, Electricity bill calculation, Joule's law. **(10 Lectures, 20 Marks)**

Unit 2. Vector Analysis

Gradient, divergence, Curl and their significance, Vector Integration, Line, surface and volume, integrals of Vector fields, Gauss-divergence theorem and Stoke's theorem of vectors (statement only). Six vector identities without proof:

(a) $\nabla \times \nabla\phi = 0$ (b) $\nabla \cdot (\nabla \times \mathbf{A}) = 0$ (c) $\nabla \cdot (\phi \mathbf{A}) = \phi (\nabla \cdot \mathbf{A}) + \mathbf{A} \cdot (\nabla \phi)$

(d) $\nabla \times (\phi \mathbf{A}) = \phi (\nabla \times \mathbf{A}) + (\nabla \phi) \times \mathbf{A}$ (e) $\nabla \cdot (\mathbf{A} \times \mathbf{B}) = \mathbf{B} \cdot (\nabla \times \mathbf{A}) - \mathbf{A} \cdot (\nabla \times \mathbf{B})$

(f) $\nabla \times (\nabla \times \mathbf{A}) = \nabla (\nabla \cdot \mathbf{A}) - \nabla^2 A$ **(05 Lectures, 10 Marks)**

Unit 3. Basics of Electrostatics

Coulomb's Law**,** Coulomb's Law in vector form, Principal of superposition: Force calculation for three charges and n-charges, Distribution of charges: discrete and continuous charge distribution, Concept of charge density: Linear, surface and volume, Coulomb's Law for continuous charge distribution. Electrostatic Field, electric flux, Electric field due to system of point charges (use of principal of superposition for three charge system and n-charge system), Electric potential, Electric potential as line integral of electric field, potential due to a point charge. **(08 Lectures, 16 Marks)**

Unit 4. Gauss's theorem and electric dipole

Gauss's theorem of electrostatics, Applications of Gauss theorem- Electric field due to point charge, infinite line of charge, uniformly charged spherical shell and solid sphere, plane charged sheet, charged conductor. electric dipole, uniformly charged spherical shell and solid sphere. Calculation of electric field from potential. **(07 Lectures, 14 Marks)**

Reference Books

1. Mathematical Physics: B.S. Rajput, Pragati Prakashan (19th Edition, 2007).
2. Principles of electronics: V. K. Mehta
3. Basic Electronics: B. L. Thereja
4. Fundamentals of Physics: Robert, Resnick, David Halliday & Jearl Walker, [8th ed]
5. Electricity and Magnetism: D. C. Tayal, 1988, Himalaya Publishing House.
6. Engineering Physics: R.K Gaur and S.L.Gupta,
7. Basic Electrical engineering , B. H. Deshmukh, Nirali Prakashan, Dhanpat Rai and Sons, New Delhi.
8. Electromagnetics: B. B. Laud, New York ; Toronto : Wiley
9. Electricity and Magnetism, Edward M. Purcell, 1986, McGraw-Hill Education.
10. Electricity and Magnetism, J.H. Fewkes& J. Yarwood. Vol. I, 1991, Oxford Univ.Press.
11. University Physics, Ronald Lane Reese, 2003, Thomson Brooks/Cole.11
12. Introduction to Electrodynamics, 3rd Edn,D.J. Griffiths, 1998, Benjamin Cummings.
13. Electrodynamics- D. J. Griffiths.
14. New Simplified Physics : S. L. Arora, Dhanpat Rai and CO. (A reference book for class XII, Volume I)
15. Concept of Physics, H. C. Verma, Volume 2.

Semester II
PHY 202: Dielectrics, Magnetism and Electromagnetism
(Credits: 02): (30 Lectures 60 Marks)

……

Course description:

This course is aimed at introducing the concepts of Dielectrics, Magnetism and Electromagnetism to Under Graduate students.

Course objectives:

1. To impart knowledge of basic concepts in Dielectrics, Magnetism and Electromagnetism.
2. To provide the knowledge and methodology necessary for solving problems in Physics.
3. The course also involves the related experiments based on the theory.

Course outcome:

Learner will be able to ….

1. Apply the concept and knowledge of Dielectrics, Magnetism and Electromagnetism to understand and solve real life problems.
2. Understanding of the course will create scientific temperament.

……

Unit 1. Capacitance and dielectrics

Introduction, Calculation of effective/equivalent capacitance for series and parallel combination, Parallel plate capacitor with and without dielectric, Cylindrical capacitor and Spherical capacitor, Energy per unit volume in electrostatic field, Dielectric constant, Electric polarization, Gauss's law in dielectrics, Three electric vectors $\overline{E}, \overline{D}, \overline{P}$ and the relation between them, Introduction to super capacitors and its applications. **(10 Lectures, 20 Marks)**

Unit 2. Magnetism

Magnetic properties of materials: Magnetic intensity, magnetic induction, permeability, magnetic susceptibility, Brief introduction of diamagnetic, paramagnetic and ferromagnetic materials. Hard and Soft magnetic materials, Introduction to Magnetostatics: Biot-Savart's law and its applications-straight conductor, circular coil, solenoid carrying current, Divergence and curl of magnetic field, Magnetic vector potential, Ampere's circuital law (statement only).

(08 Lectures, 16 Marks)

Unit 3. Electromagnetic induction:

Faraday's laws of electromagnetic induction, Lenz's law, self inductance and mutual inductance, L of single coil, M of two coils, Reciprocity theorem of mutual induction, Energy stored in a magnetic field. **(05 Lectures, 10 Marks)**

Unit 4. Maxwell`s equations and Electromagnetic wave propagation

Equation of continuity of current, Displacement current, Maxwell's equations, Poynting vector for plane wave, electromagnetic wave propagation through vacuum and isotropic dielectric medium, transverse nature of EM waves, polarization. **(07 Lectures, 14 Marks)**

Reference Books:

1. Electromagnetics, 2nd Edition, B.B. Laud, Wiley Eastern Limited
2. Electricity and Magnetism, Edward M. Purcell, 1986, McGraw-Hill Education.
3. Electricity and Magnetism, J.H. Fewkes & J. Yarwood. Vol. I, 1991, Oxford Univ.Press.
4. Electricity and Magnetism, D C Tayal, 1988, Himalaya Publishing House.
5. University Physics, Ronald Lane Reese, 2003, Thomson Brooks/Cole.11
6. Introduction to Electrodynamics, 3rd Edn,D.J. Griffiths, 1998, Benjamin Cummings.
7. Electrodynamics- D. J. Griffiths.
8. Electrodynamics, Kumar, Gupta and Singh
9. New simplified Physics, S. L. Arora, Dhanpat Rai and Co., (A reference book for class XII, Volume I)
10. Concept of Physics, H. C. Verma, Volume 2.

Semester II
PHY 203: LAB II
(Credits: 02): (60 Lectures 60 Marks)

……

On successful completion of this course students will be able to:

6. To demonstrate their practical skills.
7. To understand and practice the skills while doing Physics practical.
8. To understand the use of apparatus and their use without fear.
9. To correlate Physics theory concepts through practical.
10. Understand the concepts of errors and their estimation.

……

(Students should perform at least ten experiments from the following list)

1. Study of Analog /Digital Voltmeter, Ammeter (AC, DC, ranges and least count)
2. To use a Multimeter for measuring:
    i) Resistances,
    ii) A.C. and D .C. Voltages,
    iii) D.C. Current (in a simple circuit)
    iv) Checking electrical fuses.
3. Verification of Kirchhoff's laws.
4. To verify Thevenin's theorem
5. To verify Norton's theorem
6. To verify Maximum Power Transfer Theorem. (Note : Use personal computer/laptop for graph plotting is necessary.)
7. To verify Joule's law.
8. To find electrical energy consumed in a circuit using Joule's law.
9. To determine time constant of R-C circuit using charging and discharging of condenser through resistor.
10. To compare capacitances using De'Sauty's bridge.
11. Determination of time constant of L-R circuit.
12. Ballistic Galvanometer:
    i) Measurement of charge and current sensitivity

ii) Measurement of CDR

13. Determine a high resistance by Leakage Method.
14. To determine Self-Inductance of a Coil by Rayleigh's Method.
15. Measurement of field strength Band its variation in a Solenoid (Determine dB/dx).
16. To study the Characteristics of a Series RC Circuit.
17. Verification of laws of capacitances.
18. To determine a Low Resistance by Carey Foster's Bridge.
19. Electric billing with energy meter.
20. Frequency of a. c. using vibrating wire and magnet.
21. Study of transformer.
22. To determine efficiency and turns ratio of transformer.
23. To determine unknown wavelength using spectrometer.

Reference Books

1. Advanced Practical Physics for students, B. L. Flint & H.T.Worsnop,1971, Asia Publishing House.
2. A Text Book of Practical Physics, Indu Prakash and Ramakrishna, 11th Edition, 2011, Kitab Mahal, New Delhi.
3. Engineering Practical Physics, S. Panigrahi and B. Mallick, 2015,Cengage Learning India Pvt. Ltd.
4. Advanced level Physics Practicals, Michael Nelson and Jon M.O gborn,4 th Edition, reprinted 1985, Heinemann Educational Publishers.
5. Practical Course in Electronics by Prof. J. R. Patil and other (Jaydeep Prakashan).
6. Advance Practical Physics by S. P. Singh (Pragati).
7. Practical Physics: Gupta and Kumar (Pragati Prakashan Meerut).
8. University Practical Physics by D. C. Tayal (Himalaya Publishing House).

CAREER OPPORTUNITIES FOR B. Sc. PHYSICS STUDENTS

B.Sc. Physics students can find jobs in public as well as in private sectors. There are many opportunities available for B. Sc Physics students in technical as well as scientific fields. They can work as Science and Mathematics Teachers, Quality Control Manager, Laboratory assistant, Laboratory Technician, School Science Technician in any government or private organization.

Private Sector:

There are many opportunities available in IT field for B. Sc (Physics) graduates. Many IT companies such as Infosys, Wipro and TCS are recruiting B. Sc. Physics graduates for software jobs. They can also get jobs in Energy Plants. Another jobs available for these graduates is Technician in Electronic Industry. They can apply for jobs in many companies in automobile industry. Some of those companies are Maruti Udyog, TATA Motors and Tech Mahindra. The B. Sc. (Physics) graduates can apply and secure their job in Solar devices production industries, electrical or electronic industries with their skills developed while studying. B.Sc. Physics graduates can get opportunities in Fibers Optics industries, Glass or Lens making industries etc.

Government Sector:

There are vast opportunities available for B. Sc graduates in Government sector. They can apply for jobs in Scientific Research and Development Organizations such as The Defense Research and Development Organization (DRDO), CSIR, Physical Research Laboratory (PRL) Ahmedabad, Saha Institute of Nuclear Physics Kolkata and Nuclear Science Centre New Delhi. They can also apply for various jobs in popular government organizations such as Bhabha Atomic Research Centre (BARC), Atomic Energy Regulatory Board (AERB), Oil and Natural Gas Corporation (ONGC), Bharat Heavy Electricals Limited (BHEL), National Thermal Power Corporation (NTPC).

They can also apply for the various competitive exams conducted by Union Public Service Commission such as IFS, IPS and IAS. Several other government exams conducted for recruiting B. Sc Physics graduates are Tax Assistant Exam, Statistical Investigator Exam, Combined Graduate Level Exam.

Another option available for B. Sc Physics graduate is to apply for jobs in public sector banking. Several banks are conducting exam every year for recruiting graduates to the post of Probationary Officers. They can also find many jobs in Railway sector. They should qualify the exams conducted by Railway Recruitment Board to get a job in Railway sector. These graduates can also apply for Combined Defense Services Exams conducted for recruiting candidates to various posts in Defense Department.

Equivalence Courses

Semester	Course code	Course Title	No. of Credits	Hours/ semester	Marks		OLD Syllabus code
					Internal	External	
I	PHY 101	Basic Mechanics	02	30	40	60	PHY 101
	PHY 102	Dynamics and Properties of Matter	02	30	40	60	PHY 102
	PHY 103	LAB -I	02	30	40	60	PHY 103
II	PHY 201	Electricity and Electrostatics	02	30	40	60	PHY 201
	PHY 202	Dielectrics Magnetism and Electromagnetism	02	30	40	60	PHY 202
	PHY 203	LAB -II	02	30	40	60	PHY 203