



Dr. N.G.P. ARTS AND SCIENCE COLLEGE

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)
Approved by Government of Tamil Nadu and Accredited by NAAC A++ Grade (3rd Cycle- 3.64 CGPA)
Dr. N.G.P.-Kalapatti Road, Coimbatore-641048, Tamil Nadu, India
Web: www.drngpasc.ac.in | Email: info@drngpasc.ac.in | Phone: +91-422-2369100

BoS

16th

Board of Studies Meeting

Department of Physics

The minutes of the 16th meeting of Board of Studies held on 18.10.2023 at 10.00 am at the B Block Room No. 1513.

Members Present:

S.No	Name	Category
1	Dr. K. Girija	Chairman
2	Dr. J. Shanthi	Subject Expert
3	Dr. K. S. Rajini	Subject Expert
4	Mr. G. Maheswaran	Industrial Expert
5	Ms. A. Suvathini	Meritorious Alumni
6	Dr. N. Kuppusamy	Co-opted Member
7	Dr. R. Vidya Prabha	Co-opted Member
8	Dr. R. Sowrirajan	Co-opted Member
9	Dr. M. Suganthi	Co-opted Member
10	Dr. V.Gopala Krishnan	Member
11	Dr M.R Ananthan	Member
12	Mrs. R.Revathi	Member
13	Dr.R. Karunathan	Member
14	Dr R Dilip	Member
15	Dr M.R Venkatraman	Member
16	Dr S Gunasekaran	Member
17	Dr Martin Sam Ganaraj	Member
18	Ms S Punitha	Member
19	Mr Gowtham	Student Representative – PG
20	Ms Gayathri	Student Representative – UG





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The HoD and Chairman of the Department of Physics welcomed and introduced all the members and appreciated them for their continuous support, contribution for the development of academic standard and enrichment of the syllabus.

Further Chairman informed the inability of the following member/s to attend the meeting and requested to grant leave of absence.

1. Dr. R. Kalaiselvan – VC Nominee

The items of the agenda were taken one by one for discussion and the following resolutions were passed.

Item 16.1

To review and approve the minutes of the previous meeting held on **12.6.2023**

The chairman of the Board presented the minutes of the previous meeting held on **12.6.2023** and requested the members to approve. After brief discussion the following resolution was passed

Resolution:

Resolved to approve the minutes of the previous meeting held on 12.6.2023

Item 16.1(a): To consider and approve the syllabi for **II semester for the students** admitted during the academic year 2023-2024.

The chairman presented the detailed scheme and syllabus for the II semester for the students admitted from the academic year 2023-2024 onwards. The details of changes made also presented as follows.

Changes Made:

B.Sc. Physics		
Course	Code	Reason
Core: Heat and Thermodynamics	232PY1A2CA	In Unit 4 advanced topics like Determination of C_v by Joly's method – Determination of C_p by Regnault's method was added as per the suggestion of subject experts and Basic topics like Types of thermometers were removed.



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M.Sc. Physics		
Course	Code	Reason
Core: Solid State Physics	232PY2A2CB	As per Subject experts' suggestion, topics required for competitive exams were added in Unit 2, 4 and 5. Unit 2 - Interpretation of Braggs equation - Ewald construction Unit 4 - Dynamics of the chain of identical atoms - Dynamics of a diatomic linear chain- Density of states. Unit 5 - Nearly free electron model- Characteristics of Fermi surfaces- Anomalous Skin Effect-Cyclotron resonance
Core: Quantum Mechanics I	232PY2A2CC	Certain basic topics like Current Density, Symmetry and Antisymmetric wave functions were removed in Unit 1 and Unit 2 as per the suggestion of BoS experts.
Core Practical: Solid State and Spectroscopy	232PY2A2CP	New Experiments related to theory course were added as per Industrial experts' suggestion.

New Courses Introduced:

Course	Code	Reason
Nil		

Courses Removed

Course	Code	Reason
Nil		

IDC Offered

Course	Code	Department
Physics -II	232PY1A2EP	Mathematics and Chemistry
Biophysics	222PY1A4IA	Biotechnology
Physics	232PY1A2IB	Biochemistry

After discussion the following resolution was passed with the above changes and modifications.





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Resolution:

Resolved to approve the syllabus for the II semester for the UG students admitted from the academic year 2023-24 onwards.

Item 16.1(b) :To consider and approve the changes, if any, in the syllabi for IV semester for the students admitted during the academic year 2022-2023.

The Chairman presented the detailed syllabus for the IV semester for the students admitted from the academic year 2022-2023 onwards. The details of changes made also presented as follows.

Changes Made:

B.Sc. Physics		
Course	Code	Reason
Core: Optics and Spectroscopy	222PY1A4CA	Subject experts recommended to remove certain non-relevant to UG and basic topics in Unit 1, 2, 3, 4 and 5. The deleted topics are, Unit 1- Combination of prisms to produce dispersion without deviation, deviation without dispersion Unit 2- Jamin's Refractometer – Rayleigh's Refractometer. Unit 3- Cornu's spiral Unit 4-Optical Instruments: Huygens and Ramsden eyepieces, Electron microscope, SEM and TEM Unit 5- Quartz Spectrograph for near UV region - Nuclear magnetic resonance
M.Sc. Physics		
Course	Code	Reason
Core Lab: General Physics	222PY2A4CP	As per subject experts, the Course name was changed to Core Lab: Microprocessor.



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		16 th

New Courses Introduced:

B.Sc. Physics		
Course	Code	Reason
Core: Principles of Electronics and Communication	222PY1A4CB	Students shall gain theoretical knowledge in electronics before having hands on experience in Electronics Lab to be included in next semester.
M.Sc. Physics		
Course	Code	Reason
DSE: Solar Cells	222PY2A4DA	As per subject expert's suggestions, insights on first, second, third generation solar cells and its applications to be covered in Unit 1 to 5
DSE: Band Gap Engineering in Semiconductors	222PY2A4DB	As per subject expert's suggestions, contents in all the units to cover in accordance with Solid State Physics Course and Condensed Matter Physics course.

Courses Removed

Course	Code	Reason
Nil		

IDC Offered

Course	Code	Department
Nil	-	-

After discussion the following resolution was passed with the above changes and modifications.

Resolution:

Resolved to approve the syllabus for the IV semester for the UG students admitted from the academic year 2022-23 onwards,

Item 16.2: To approve the panel of examiners for question paper setting and evaluation of answer scripts for the even semester of the academic year 2023-2024.

The Chairman presented the panel of examiners for question paper setting and evaluation of answer scripts for the even semester of the academic year 2023-2024.





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Resolution:

Resolved to approve the panel of examiners for question paper setting and evaluation of answer scripts for the even semester of the academic year 2023-2024.

Item 16.3: To consider and approve any other item brought forward by the Chairman and the members of the board.

The chairman presented the Value added certificate course (VACC) – Internet of Things (IoT) based on Industrial Application to be offered for Physics students during the even semester of the academic year 2023-2024.

Resolution:

Resolved to approve the Value added certificate course (VACC) – Internet of Things (IoT) based on Industrial Application to be offered for Physics students during the even semester of the academic year 2023-2024.

Finally, the Chairman thanked all the members for their cooperation and contribution in enriching the syllabus with active participation in the meeting and sought the same spirit in the future also. The meeting was closed with formal vote of thanks proposed by the Chairman.

Date:18.10.2023


18/10/2023
(Dr. K. Girija)

BoS Chairman/HoD
Department of Physics
Dr. N. G. P. Arts and Science College
Coimbatore – 641 048





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Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: II

Course Code / Name: 232PY1A2CA / Heat and Thermodynamics

Unit	Existing	Changes
I	Kinetic Theory of Gases Concept of Ideal gas – Expression for pressure exerted on a Gas- Derivation of gas laws – Degrees of freedom - Maxwell's Law of Equipartition of energy – Relation between Molar Specific Heats and Degrees of Freedom - Van der waals equation of state: Correction for Pressure and Correction for Volume – Joule Kelvin effect: Temperature of Inversion.	No Change
II	Thermodynamics Zeroth Law of thermodynamics – Concept of heat - Internal Energy (U) - First law of thermodynamics – Specific heats of a gas – Adiabatic process - Isothermal process – Second law of thermodynamics – Carnot's Cycle- Concept of Entropy- Change in Entropy - Entropy of a perfect gas - Third law of thermodynamics.	No Change
III	Transmission of Heat Conduction - Coefficient of thermal conductivity – Rectilinear flow of heat along a bar - Forbes Method to find K – Cylindrical flow of heat - Thermal conductivity of rubber – Thermal conductivity of glass - Wiedemann-Franz law - Thermopile – Properties of thermal radiation.	No Change
IV	Thermometry Concept of heat and temperature – Types of thermometers – Relation between Celsius, Kelvin, Fahrenheit Scale of Temperatures - Platinum resistance thermometer – Callender and Griffith's bridge - Peltier effect – Low temperature measurement – High temperature measurement.	Determination of C_p by Joly's method – Determination of C_p by Regnault's method
V	Calorimetry Newton's law of cooling – Specific heat of a liquid: Joule's Electrical method - Calendar and Barnes' continuous flow method – Experimental determination of heat capacities - Two specific heats of a gas – Specific heat of a gas by Joly's differential steam calorimeter.	No Change

PERCENTAGE OF SYLLABUS REVISED : 2 %
COURSE FOCUS ON:

- | | | | |
|-------------------------------------|-------------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Skill Development | <input checked="" type="checkbox"/> | Entrepreneurial Development |
| <input checked="" type="checkbox"/> | Employability | <input checked="" type="checkbox"/> | Innovations |
| <input type="checkbox"/> | Intellectual Property Rights | <input type="checkbox"/> | Gender Sensitization |
| <input type="checkbox"/> | Social Awareness/ Environment | <input type="checkbox"/> | Constitutional Rights/ Human Values/ Ethics |





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Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: II

Course Code / Name: 232PY1A2CB / ATOMIC PHYSICS

Unit	Existing	Changes
I	Discovery – Properties of Positive Rays - Thomson's Parabola Method – Aston's Mass Spectrograph – Bainbridge's Mass Spectrograph- Dempster Mass Spectrograph-Mass Defect and Packing Fraction – Binding Energy.	NIL
II	Basic Concept of Thomson's Atom Model- Bohr Atom Model- Bohr interpretation on hydrogen spectrum-Ritz Combination Principle - Correspondence Principle- Sommerfeld's Relativistic Atom Model -Vector Atom Model - Quantum Numbers associated with Vector Atom Model- Coupling Schemes: L-S Coupling- J-J Coupling- The Pauli Exclusion Principle	NIL
III	Critical Potential - Atomic Excitation - Experimental Determination of Critical Potential: Franck and Hertz's Method - Davis and Goucher's Method. Optical Spectra: Spectral Terms - Spectral Notation - Selection Rules - Intensity Rules - Interval Rule - Normal Zeeman Effect: Theory and Experiment- Larmor's Theorem- Anomalous Zeeman Effect - Paschen-Back Effect - Stark Effect.	NIL
IV	Production of X-Rays – Properties - Absorption of X-Rays – Laue Experiment - Bragg's Law – Bragg's X-Ray Spectrometer – X-Ray Spectra, Characteristic X-Ray Spectra - Moseley's Law and Its Importance – Compton Scattering: Theory and Experiment.	NIL
V	Experimental Investigation on The Photoelectric Effect - Einstein's Photoelectric Equation – Millikan's Experiment -Photoelectric Cell-Photo Emissive Cell -Photo Voltaic Cell – Photoconductive Cell -Application of Photoelectric Cell.	NIL

PERCENTAGE OF SYLLABUS REVISED : NIL

COURSE FOCUS ON:

- Skill Development Entrepreneurial Development
- Employability Innovation
- Intellectual Property Rights (IPR)





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Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: II

Course Code / Name: 232PY1A2CP /Core Practical- Heat and Thermodynamics

Unit	Existing	Changes
1	Determination of thermal conductivity of a bad conductor using Lee's disc method.	No Change
2	Calculation of the temperature coefficient of resistance of the given coil using Carey-Foster's bridge	
3	Determination of specific heat capacity of the liquid using Joule's calorimeter	
4	Study the V- I characteristics of a thermistor	
5	Determination of band gap and resistivity of semiconductor at different temperatures by Four Probe Method.	
6	Post office box- Determination of Temperature Coefficient of Resistance.	
7	Study of variation of resistance with temperature using a thermistor	
8	Determination of specific resistance of given coil of wire using Carey-Fosters bridge.	
9	Determination of specific resistance of coil using post office box method	
10	Determination of temperature coefficient of resistance for unknown resistors.	
11	Determination of temperature coefficient of resistance for given copper strip.	
12	Band gap energy of a semiconductor –Thermal Method.	


End Semester Practical Examination requires completion of 10 experiments out of 12

PERCENTAGE OF SYLLABUS REVISED : 0%

COURSE FOCUS ON:

- | | | | |
|-------------------------------------|-------------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Skill Development | <input checked="" type="checkbox"/> | Entrepreneurial Development |
| <input checked="" type="checkbox"/> | Employability | <input checked="" type="checkbox"/> | Innovations |
| <input type="checkbox"/> | Intellectual Property Rights | <input type="checkbox"/> | Gender Sensitization |
| <input type="checkbox"/> | Social Awareness/ Environment | <input type="checkbox"/> | Constitutional Rights/ Human Values/ Ethics |



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Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: II

Course Code / Name: 232PY2A2CA / Spectroscopy

Unit	Existing	Changes
I	Microwave Spectroscopy Rotation of molecules – Rigid rotator (diatomic molecules) - Expression for the rotational constant - Intensity of spectral lines - Theory of microwave spectra of linear and symmetric top molecules – Techniques and instrumentation - Chemical analysis by microwave spectroscopy.	No Change
II	Infrared Spectroscopy Vibrational energy of a diatomic molecule- Infrared selection rules - Vibrating diatomic molecule - Normal modes of vibration in crystal - Interpretation of vibrational spectra - Group frequencies - IR spectrophotometer instrumentation - Sample handling techniques - Fourier transform infrared spectroscopy (Principle and Working) - Applications.	
III	Raman Spectroscopy Theory of Raman scattering - Rotational Raman spectra - Vibrational Raman spectra - Mutual exclusion principle - Raman spectrometer - Sample handling techniques - Polarization of Raman scattered light - Structure determination using IR and Raman spectroscopy - Raman investigations of phase transitions - Resonance Raman scattering - Surface selection rules - SERS microprobe – Applications of SERS.	
IV	Nuclear Magnetic Resonance and Electron Spin Resonance Spectroscopy Theory of NMR method – Resonance condition – NMR Instrumentation – Relaxation processes - Bloch equations - Chemical shift – Spin-spin coupling – Interpretation of certain NMR spectra. Principle of ESR - ESR spectrometer – Total Hamiltonian – Hyperfine structure – ESR spectra of free radicals in solution	
V	Nuclear Quadrupole Resonance and Mossbauer Spectroscopy Principle of nuclear quadrupole resonance – Transitions for axially and non-axially symmetric systems – NQR instrumentation – Crystallographic inequivalence - Chemical bonding – Hydrogen bonding. The Mossbauer effect - Recoilless emission and absorption - Experimental techniques - Isomer shift – Quadrupole Interaction - Magnetic hyperfine interaction – Applications.	

PERCENTAGE OF SYLLABUS REVISED : 0%

COURSE FOCUS ON:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Skill Development
<input checked="" type="checkbox"/> Employability
<input type="checkbox"/> Intellectual Property Rights
<input type="checkbox"/> Social Awareness/ Environment | <input type="checkbox"/> Entrepreneurial Development
<input type="checkbox"/> Innovations
<input type="checkbox"/> Gender Sensitization
<input type="checkbox"/> Constitutional Rights/ Human Values/ Ethics |
|---|---|



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Syllabus Revision

Faculty : Basic and Applied Sciences
Semester: II

Board : Physics

Course Code / Name: 232PY2A2CB/SOLID STATE PHYSICS

Unit	Existing	Changes
I	Fundamentals of Crystallography and Bonding in solids Crystalline state – Bravais lattices and crystal systems – Elements of symmetry – Crystal directions – Miller indices - Simple Crystal structures (NaCl, CsCl, Hexagonal close packed structure, Diamond structure, Cubic ZnS structure). Forces between atoms – Ionic bonding – The Born-Haber Cycle – Covalent bonding – Metallic bonding – Hydrogen bonding – Van Der Waals bonding	Interplanar spacing
II	Crystal Structure and Binding Diffraction of X-Rays by simple lattice array of atom - Bragg's law - Correction for Bragg's equation - Laue method - Rotating crystal method - Powder photograph method - Diffraction of electrons - Diffraction of neutrons - Laue derivation of amplitude of scattered wave - Reciprocal lattice - Properties of reciprocal lattice - Reciprocal lattice to bcc & fcc lattice	Interpretation of Bragg's equation - Ewald construction
III	Crystal Imperfections and Atomic Diffusion Point imperfections – Concentrations of Vacancy, Frenkel and Schottky imperfections – Line Imperfections – Burgers Vector – Presence of dislocation – surface imperfections - Polarons - Excitons - Ficks first and second law - solutions to Ficks second law – Applications of diffusion – Diffusion mechanism – Random walk treatment of diffusion – Kirkendall effect - diffusion in alkali halides - ionic conductivity in alkali halides.	
IV	Lattice Vibration and Thermal Properties Elastic vibrations of continuous media - Theory of Wave motion of one dimensional atomic lattice - Group and phase velocity - Phonons – Phonon momentum - Inelastic scattering of neutron by phonons. Thermal properties: Einsteins theory of specific heat – Anharmonic crystal interactions - Lattice thermal conductivity of solids	Dynamics of the chain of identical atoms - Dynamics of a diatomic linear chain- Density of states.
V	Free Electron and Band Theory Failure of classical free electron theory - Fermi Dirac distribution - Matthiessen's rule - magnetoresistance. Bloch theorem - Kronig – Penney model - Extended, Reduced and periodic zone schemes – Tight binding approximation – Brillouin Zone - Construction of Fermi surfaces - De Haas–van Alphen effect.	Nearly free electron model- Characteristics of Fermi surfaces- Anomalous Skin Effect- Cyclotron resonance

PERCENTAGE OF SYLLABUS REVISED : 28.2%
COURSE FOCUS ON:

Skill Development

Entrepreneurial Development

Employability

Innovations

Intellectual Property Rights

Gender Sensitization

Social Awareness/ Environment

Constitutional Rights/ Human Values/ Ethics





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Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: II

Course Code / Name: 232PY2A2CB / QUANTUM MECHANICS-I

Unit	Existing	Changes
I	Foundations Of Quantum Mechanics Postulates of quantum mechanics - Wave packet, Eigen values and functions – Hermitian Operator - Free particle – Operator for momentum and energy – Interpretation of the wave function – Probability of interpretation, current density, expectation value. Schrödinger Equation, Ehrenfest's theorem.	-
II	Eigen Spectrum, Identical Particles Equation of motion – Schrödinger, Heisenberg and Interaction representation. Square well potential with rigid walls - Square well potential with finite walls - Square well potential barrier - Alpha emission. Identical Particles – Exchange operator - Symmetry and anti-symmetric wave functions.	-
III	Three-Dimensional Problems And Angular Momentum Particle in a spherical well - Hydrogen atom – Rigid Rotator - Angular momentum operator – Eigen value and Eigen function of L ² and L _z – Eigen value of J ² and J _z – addition of angular momenta – Clebsch Gordan coefficients.	No Change
IV	Matrix Formulation, Spin Of Quantum Theory Eigen Values and Eigen Vector of Matrices - Hilbert space - Dirac's Bra-Ket notation - 1D harmonic oscillator in matrix mechanics. Pauli's exclusion principle- Inclusion of spin – Spins functions for 2 electrons.	No Change
V	Scattering Theory Scattering by a perfectly rigid sphere - Scattering by a coulomb field - Green's functions – Born approximation and its validity – Scattering by a square well potential – Scattering from an exponential potential.	No Change

PERCENTAGE OF SYLLABUS REVISED : 4%
COURSE FOCUS ON:

- | | | | |
|-------------------------------------|-------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | Skill Development | <input type="checkbox"/> | Entrepreneurial Development |
| <input checked="" type="checkbox"/> | Employability | <input type="checkbox"/> | Innovations |
| <input type="checkbox"/> | Intellectual Property Rights | <input type="checkbox"/> | Gender Sensitization |
| <input type="checkbox"/> | Social Awareness/ Environment | <input type="checkbox"/> | Constitutional Rights/ Human Values/ Ethics |



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Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: II Course Code / Name: 232PY2A2CP / Solid State and Spectroscopy

Unit	Existing	Changes
1	Determination of optical activity of specific rotation using Polarimeter.	
2	Determination of refractive index of liquid using He-Ne laser	Determination of viscosity using liquid by liquid- Mayers method
3	Determination of e/m by Thomson method	
4	Determination of Rydberg's constant using Solar spectrum	Determination of susceptibility by Quinke's method
5	Determination of e/m by Magnetron method.	
6	Study of Band gap energy using Thermistor	
7	Determination of Hall coefficient using Hall Effect.	
8	Determination of Refractive index of liquid by Newton's ring.	
9	Determination of the bandgap of the material using four probe method.	
10	Estimate the band gap and particle size of a material from a given UV-Visible spectrograph-	Find Young's modulus of the material by Hyperbolic fringes.
11	Determination of Planck 's constant.	
12	XRD spectrum analysis of the given sample-	Characteristics of Solar cells

PERCENTAGE OF SYLLABUS REVISED :35.33%

COURSE FOCUS ON:

- | | | | |
|-------------------------------------|-------------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Skill Development | <input checked="" type="checkbox"/> | Entrepreneurial Development |
| <input checked="" type="checkbox"/> | Employability | <input checked="" type="checkbox"/> | Innovations |
| <input type="checkbox"/> | Intellectual Property Rights | <input type="checkbox"/> | Gender Sensitization |
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Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: II

Course Code / Name: 232PY2A2CQ / Electronics II

Unit	Existing	Changes
1	Construction of Colpitt's oscillator using Op-Amp.	Nil
2	Study the schmitt trigger using OP-Amp.	
3	Study the characteristics of UJT.	
4	Construct Analog to Digital conversion using IC 741.	
5	Construct inverting, non-inverting and voltage follower using Op-Amp.	
6	Study the characteristics of tunnel diode.	
7	Construction of bistable multivibrator using Op-Amp.	
8	Construct current to voltage and voltage to current converter using Op-Amp.	
9	Find the Parameters of Op-Amp using 741.	
10	Construction of low pass and high pass filter using Op-Amp.-	
11	Construction astable multivibrator using IC 741.	
12	Construct second order filters using IC741.-	

PERCENTAGE OF SYLLABUS REVISED : Nil

COURSE FOCUS ON:

Skill Development

Entrepreneurial Development

Employability

Innovations

Intellectual Property Rights

Gender Sensitization

Social Awareness/ Environment

Constitutional Rights/ Human Values/ Ethics





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16th

Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: II

Course Code / Name: 232PY2A2DA/ Physics of Nanomaterials

Unit	Existing	Changes
I	Classification of Nanomaterials Definition of Zero, one, two and three dimension nanomaterials – Surface energy – Chemical potential as a function of surface curvature – Electrostatic stabilization: Surface charge density - DLVO theory - Steric stabilization: solvent and polymer.	No Change
II	Special Nanomaterials Carbon Fullerenes and Nanotubes: Carbon fullerenes, Fullerene derived crystals, Carbon nanotubes - Micro and Mesoporous Materials: Ordered mesoporous structures - Random mesoporous structures - Crystalline microporous materials: zeolites - Organic-inorganic hybrids: Class 1 hybrids - Class 2 hybrids.	
III	Properties Physical properties of nanomaterials: Melting points and lattice constants – Mechanical properties – Optical properties: Surface Plasmon Resonance – Quantum size effects – Electrical property: Surface scattering - Change of electronic structure - Quantum transport - Effect of microstructure.	
IV	Synthesis Physical vapour deposition: Evaporation - Molecular beam epitaxy - Sputtering - Chemical vapour deposition: Typical chemical reaction - Reaction kinetics - CVD methods - Atomic layer deposition - Superlattices - Sol-Gel Films.	
V	Characterization Structural Characterization: X-Ray diffraction – Scanning electron Microscopy – Transmission Electron Microscopy - Scanning probe microscopy – Chemical Characterization: Optical spectroscopy - Electron spectroscopy - Ion spectroscopy.	

PERCENTAGE OF SYLLABUS REVISED : 0%

COURSE FOCUS ON:

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|--------------------------|-------------------------------|--------------------------|---|
| <input type="checkbox"/> | Skill Development | <input type="checkbox"/> | Entrepreneurial Development |
| <input type="checkbox"/> | Employability | <input type="checkbox"/> | Innovations |
| <input type="checkbox"/> | Intellectual Property Rights | <input type="checkbox"/> | Gender Sensitization |
| <input type="checkbox"/> | Social Awareness/ Environment | <input type="checkbox"/> | Constitutional Rights/ Human Values/ Ethics |





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16th

Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: II

Course Code / Name: 232PY2A2DB/ Experimental Design

Unit	Existing	Changes
I	Concepts of Measurements and Error Measurement - Instrumentation - Classification of instruments - Factors relating to selection of instruments - Functions of instruments - Accuracy, errors and correction - Application of measurement system - Limiting errors - Types of errors - Sources of errors.	No Change
II	Electronic and Digital Instruments Essentials of an electronic instrument - Advantages - Electronic voltmeter - Types of electronic voltmeters - Vacuum tube voltmeters - Differential voltmeter (D.C.) - Analog and Digital system - Basic concepts of digital instruments - Digital voltmeter - Advantages - Characteristic - Application.	
III	Transducers Classification of transducers - Resistive, Inductive & Capacitive pressure transducer - Linear variable differential transformer (LVDT) - Piezoelectric Transducer - Photoelectric Transducers - Carbon microphone - Ribbon microphone - Moving coil microphone - crystal microphone.	
IV	Fibre optics Structure of optical fibres - Classification of optical fibre - Propagation of light - Total Internal reflection - Fibre characteristics- Splicing and connector - fusion splices - fibre optic communications - Advantage and disadvantage - Application of fibre optic communication.	
V	Optoelectronic devices Spectral response of human eye - Light emitting diode - Photoemissive devices - Photomultiplier tube - Photovoltaic devices - Type photoconductive cells - photodiodes - PN junction - PIN - Avalanche photodiode.	

PERCENTAGE OF SYLLABUS REVISED : 0%

COURSE FOCUS ON:

Skill Development

Entrepreneurial Development

Employability

Innovations

Intellectual Property Rights

Gender Sensitization

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16th

Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: II

Course Code / Name: 232PY2A2DC / Medical Physics

Unit	Existing	Changes
I	Electromagnetic spectrum - Production of x-rays - X-ray spectra - Brehmsstrahlung - Characteristic x-ray - X-ray tubes - Coolidge tube - X-ray tube design - Tube cooling- Stationary Mode-Rotating anode x-ray tubes - Quality and intensity of x-ray. X-ray generator circuits - Half wave and full wave rectification - Filament circuit - Kilo voltage circuit.	No Change
II	Radiation units - Exposure - Absorbed dose - Rad gray - Kera relative biological effectiveness - Effective dose - Inverse square law - Interaction of radiation with matter - Radiation Detectors - Thimble chamber- Condenser chambers - Geiger counter - Ionization chamber - Dosimeters - Survey methods - TLD and semiconductor detectors	
III	Radiological imaging - Radiography - Filters - Grids - Cassette - X-ray film - Film processing - Fluoroscopy - Computed tomography scanner - Generations - mammography. Ultrasound imaging - Magnetic resonance imaging - Thyroid uptake system - Gamma camera (Only Principle, function, and display)	
IV	Radiotherapy - Kilo voltage machines - Deep therapy machines - Tele-cobalt machines - Basics of Teletherapy units - Medical linear accelerator - Radiation protection - External beam characteristics - Phantom - Dose maximum and build up - Bolus - Percentage depth dose - Tissue - Air ratio - Back scatter factor.	
V	Principles of radiation protection - protective materials - radiation effects - somatic, genetic stochastic and deterministic effect, Personal monitoring devices - TLD film badge - pocket dosimeter.	

PERCENTAGE OF SYLLABUS REVISED : 0%
COURSE FOCUS ON:

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|-------------------------------------|-------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | Skill Development | <input type="checkbox"/> | Entrepreneurial Development |
| <input checked="" type="checkbox"/> | Employability | <input type="checkbox"/> | Innovations |
| <input type="checkbox"/> | Intellectual Property Rights | <input type="checkbox"/> | Gender Sensitization |
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16th

Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: IV

Course Code / Name: 222PY1A4CA / Optics and Spectroscopy

Unit	Existing	Changes
I	Aberrations - Spherical aberrations in lens - Methods of minimizing spherical aberration - Coma - Astigmatism - Chromatic aberration - Expression for an object at infinity - Achromatic lens - Condition for achromatism of two thin lenses separated by a finite distance - Dispersion by a prism - Angular dispersion and dispersive power - Combination of prisms to produce dispersion without deviation, deviation without dispersion	-
II	Interference in thin films due to reflected and transmitted light - Fringes produced by a wedge shaped thin film - Refractive index of the liquid in Newton's ring - Michelson interferometer - Measurement of wavelength, difference in the wavelength of two waves of Michelson interferometer - Fabry-Perot interferometer - Application of interference - Fresnel biprism - Jamin's Refractometer - Rayleigh's Refractometer.	-
III	Fresnel's assumptions - Rectilinear propagation of light - Half period zone - Zone Plates - Cornu's spiral - Fresnel and Fraunhofer diffraction - Fraunhofer diffraction at double slit - Theory of plane diffraction grating - Paschen mounting - Resolving power - Rayleigh's criterion - Resolving power of telescope, prism and grating.	-
IV	Brewster's law - Huygen's explanation of double refraction - Production and detection of linear, circular, and elliptical polarized light - Quarter wave plate and half wave plate - Application of polarized light - Optical activity - Optical rotation - Fresnel's explanation - Specific rotation - Laurent's half shade polarimeter. Optical Instruments: Huygens and Ramsden eyepieces, Electron microscope, SEM and TEM	-
V	Origin of pure rotational spectrum of a molecule - Theory of the origin of vibration, rotation spectrum of a molecule - Electronic spectra of molecules - Experimental study of Raman effect - Quantum theory of Raman effect - Application of Raman spectra - Quartz Spectrograph for near UV region - Double beam Infrared spectrometer - Nuclear magnetic resonance.	-

PERCENTAGE OF SYLLABUS REVISED : 17.36%

COURSE FOCUS ON:

Skill Development

Entrepreneurial Development

Employability

Innovations

Intellectual Property Rights

Gender Sensitization

Social Awareness/ Environment

Constitutional Rights/ Human Values/ Ethics



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Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: IV

Course Code / Name: 222PY1A4CB/ Principles of Electronics &

Communication (New Course)

Unit	Contents
I	Diodes and Transistors PN junction diode- Zener diode - Tunnel diode - Light emitting diode - Photo diode - Shockley diode. Transistor: symbols, terminals, facts and actions - Characteristics of CB, CE and CE - Transistor testing.
II	Types of Transistors, Op-Amp and IC's Principle, symbol and working of JFET - Output characteristics of JFET - MOSFET types and symbols - Circuit operations of D MOSFET, E MOSFET - Characteristics of UJT. IC's symbols, packing's, classifications - Making monolithic IC- Advantage and disadvantage of IC's.
III	Modulations & Demodulations Modulation- Necessity for modulation - Types of modulation - Modulation factor - Frequency spectra - Representation of AM - Representation of FM - Demodulation- Essentials in demodulation.
IV	AM Transmitter and Receiver Fundamentals AM detector- AM receiver- Types of AM receiver - TRF receiver - Superheterodyne receiver - Image frequency rejection - S/N ratio - Sensitivity - Selectivity - RF amplifier - Mixer - Detection and AGC.
V	Communication Types Communication - Components of a communication system - Satellite communication fundamentals - Up Link - Down Link - RADAR- principle - transmitting and reception systems - Applications - Fiber Optics: Principle, Structure, Acceptance Angle, Numerical Aperture.

PERCENTAGE OF SYLLABUS REVISED : 100%

COURSE FOCUS ON:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Skill Development
<input checked="" type="checkbox"/> Employability
<input type="checkbox"/> Intellectual Property Rights
<input type="checkbox"/> Social Awareness/ Environment | <input type="checkbox"/> Entrepreneurial Development
<input type="checkbox"/> Innovations
<input type="checkbox"/> Gender Sensitization
<input type="checkbox"/> Constitutional Rights/ Human Values/ Ethics |
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Syllabus Revision

Faculty: Basic and Applied Sciences

Board: Physics

Semester: IV Course Code / Name: 222PY1A4CP / Core Practical - Optics and Spectroscopy

Unit	Existing	Changes
1.	Determination of the wavelength of sodium light and the number of line per centimeter using diffraction grating	Determination of the wavelength of sodium light using Newton's Rings
2.	Determination of dispersive power and resolving power using plane diffraction grating	
3.	Find the thickness of a thin paper by measuring the width of Interference fringes produced by a wedge-shaped Film	
4.	Determination of the refractive index of a prism using (i-i') curve	
5.	Determination of the Radius of curvature of lens using Newton's Rings	
6.	Determine the wavelength of a source using Michealson's interferometer	
7.	Determination of the resolving power of the material of a prism using mercury source	
8.	Find the values of the Cauchy constants of the material of a prism using mercury source	
9.	Comparison of the Refractive Indices of two different liquids using hollow prism	
10.	Determination of the Refractive Index of water using hollow prism	
11.	Find the focal length of a convex lens by plotting graphs between u and v or between 1/u and 1/v	
12.	Determine the dispersive power of the material of a prism using mercury Source	

End Semester Practical Examination requires completion of 10 experiments out of 12

PERCENTAGE OF SYLLABUS REVISED : 0 %

COURSE FOCUS ON:

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| <input type="checkbox"/> Skill Development | <input type="checkbox"/> Entrepreneurial Development |
| <input type="checkbox"/> Employability | <input type="checkbox"/> Innovations |
| <input type="checkbox"/> Intellectual Property Rights | <input type="checkbox"/> Gender Sensitization |
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16th

Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: IV Course Code / Name: 222PY1A4SA / Principles of Programming Concepts and C Programming

Unit	Existing	Changes
I	Character sets – Constants – Keywords and Identifiers – Variables – Data types – Declaration of Variables – Assigning values to Variables – Defining symbolic constants.	No Change
II	Arithmetic operators – Relational operators – Logical operators – Assignment operators – Increment and Decrement operators – Conditional operators – Special operators – Arithmetic expression – Evaluation of expression – Precedence of arithmetic operators – Some computer problems – Type conversion in expression – Operator precedence and associativity – Mathematical functions.	No Change
III	Reading and writing character – Formatted input and output – Decision making: IF statement: Simple IF – IF ELSE – Nesting of IF..ELSE..ELSE - IF Ladder – Switch Statement – Operator – go to statement – while - Do..While – for loop – Jumps in loops – Simple programs	No Change
IV	One dimensional array – Declaration of array – Initiating on two and multidimensional arrays – Declaring and initializing string variables – Reading strings from terminal – Writing strings on the screen – Arithmetic operations on characters – Simple programs - Sorting, searching program using one dimensional array, matrix manipulation.	No Change
V	Conversion of Temperature from C to F and F to C – Determination of Velocity of Light by Foucault's Rotating Mirror method – Determination of G by Boy's Method – Young's Modulus – Uniform and Non Uniform method – Determination of Frequency: Sonometer – Spectrometer: Refractive index and Dispersive power of Prism – Newton's rings: Radius of Curvature.	No Change

PERCENTAGE OF SYLLABUS REVISED : 0%

COURSE FOCUS ON:

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|-------------------------------------|-------------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Skill Development | <input checked="" type="checkbox"/> | Entrepreneurial Development |
| <input checked="" type="checkbox"/> | Employability | <input checked="" type="checkbox"/> | Innovations |
| <input checked="" type="checkbox"/> | Intellectual Property Rights | <input type="checkbox"/> | Gender Sensitization |
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16th

Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: II

Course Code / Name: 222PY2A4CA / MOLECULAR PHYSICS

Unit	Existing	Changes
I	Molecular Structure and Bonding Born–Oppenheimer Approximation-Valence bond theory – The hydrogen molecule - Homonuclear diatomic molecules - Polyatomic molecules - Molecular orbital theory – Bond properties - Polyatomic molecules - Molecular shape in terms of molecular orbitals - Molecular structure and bond properties.	Chemical bonding - The
II	Molecular Symmetry The symmetry classification of molecules – Applications to molecular orbital theory – Character tables and symmetry labels – Vanishing integrals and orbital overlap - Vanishing integrals and selection rule.	Symmetry elements and operations –
III	Molecular Interactions and Mechanics Electric dipole moments - Polarizabilities - Relative permittivity's - Interactions between dipoles - Repulsive and total interactions - Molecular interactions in gases - Potential energy (force field) in molecular mechanics.	Electric properties of molecules -
IV	Molecular Reaction Dynamics Transition state theory – The Eyring equation – Thermodynamic aspects– Potential energy surfaces - Microscopic – Macroscopic connection - Zero-point vibrational energy - Molecular electronic, rotational, vibrational and translational partition functions.	
V	Electron Transfer, Electronic Structure and Spectra The rates of electron transfer processes – Theory of electron transfer processes – Crystal-field theory - Ligand-field theory - Electronic spectra of atoms - Electronic spectra of complexes - Charge-transfer bands.	

No Change

PERCENTAGE OF SYLLABUS REVISED : 0%
COURSE FOCUS ON:

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| <input type="checkbox"/> | Skill Development | <input type="checkbox"/> | Entrepreneurial Development |
| <input type="checkbox"/> | Employability | <input type="checkbox"/> | Innovations |
| <input type="checkbox"/> | Intellectual Property Rights | <input type="checkbox"/> | Gender Sensitization |
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16th

Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: IV Course Code / Name: 222PY2A4CB/ Nuclear and Elementary Particle Physics

Unit	Existing	Changes
I	Properties of Atomic Nucleus Nuclear size and its determination - Mass spectroscopy - Theories of nuclear composition - Binding energy – Semi empirical mass formula - Quantum numbers for individual nucleons - Independence of atomic and nuclear properties - Quantum properties of nuclear states - Nuclear magnetic dipole moment - Electric multipole moment	No Change
II	Radioactivity Properties of radioactive rays - The law of radioactive decay - Radioactive growth and decay - Ideal equilibrium - Transient equilibrium and secular equilibrium - Radioactive series - Radioactive isotopes of lighter elements- Artificial radioactivity - Determination of the age of earth - Carbon dating.	
III	Nuclear Force and Nuclear Reactions Nuclear force: The ground state of the deuteron - Ground state of deuteron - Central and non-central forces. Nuclear Reactions: Types of nuclear reactions - The balance of mass and energy in nuclear reactions - The Q equation - Reaction cross section - Breit – Wigner formula.	
IV	Radioactivity Decay Range of alpha particles - Disintegration energy of spontaneous alpha decay- Alpha decay paradox - Barrier penetration - Gamow's theory of alpha decay - Fermi's theory of beta decay - The detection of neutrino - Parity non conservation in beta decay - Gamma ray emission - Selection rules - Internal conversion - Nuclear isomerism.	
V	Elementary Particles Antiparticles and antimatters - Feynman diagrams - Estimation of a pion mass - The four fundamental forces of nature - W Bosons and gluons - Conservation laws - The nucleon isospin - The Gell-Mann–Nishijima relation: Isospin of particles – The Quark model - The QCD - Colour quantum number - Colors for quarks and Gluon.	

PERCENTAGE OF SYLLABUS REVISED : 0%

COURSE FOCUS ON:

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|-------------------------------------|-------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | Skill Development | <input type="checkbox"/> | Entrepreneurial Development |
| <input checked="" type="checkbox"/> | Employability | <input type="checkbox"/> | Innovations |
| <input type="checkbox"/> | Intellectual Property Rights | <input type="checkbox"/> | Gender Sensitization |
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16th

Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: IV

Course Code / Name: 222PY2A4DA / SOLAR CELLS

Unit	Existing	Changes
I	Photovoltaics Properties of irradiance - Photons - Solar irradiance - Reflection, refraction and transmission - Properties of Semiconductors: Crystal structure - Energy band structure - Conduction and valence band density of states - Equilibrium carrier concentrations - Light absorption - Recombination - Carrier transport - Semiconductor equations - Minority carrier diffusion equation - PN Junction diode electrostatics.	Plasma Concepts Semiconductor as solar cell material Formation of energy bands - Charge carriers in semiconductors - Carrier concentration and distribution Carrier motion in semiconductors - Drift-Motion due to Electric field - Generation of carriers - Recombination of carriers.
II	Physics of Solar Cells - Solar cell boundary condition - Generation rate - Solution of the minority carrier diffusion - Terminal characteristics - Solar cell I to V characteristics - Properties of efficient solar cell - Life time and surface recombination effects.	Solar cell parameters - open circuit voltage - short circuit current - Fill Factor - Efficiency of solar cells - Effect of series and shunt resistance on efficiency - Effect of solar radiation on efficiency - Requirements for high short circuit current - minimization of optical losses and recombination- requirement for high open circuit voltage Design for high FF - Solar simulator: I-V Measurement Quantum efficiency measurement
III	Amorphous Silicon Solar Cell - Amorphous silicon: The first bipolar amorphous semiconductor - Designs for amorphous silicon solar cells - Staebler - Wronski effect - Atomic and electronic structure of hydrogenated amorphous silicon: Deposition techniques - RF glow discharge deposition - Glow discharge deposition at different frequencies - Hot wire chemical vapor deposition.	First Generation solar cells
IV	Cadmium Telluride Solar Cell - CdTe Properties and Thin film - Fabrication methods - Condensation/Reaction of Cd and Te₂ Vapors on a surface - Galvanic reduction of Cd and Te ions at a Surface - Precursor reaction at a surface - window Layers - CdTe Absorber Layer and Cadmium chloride treatment - CdS/CdTe intermixing - Back contact- Solar cell characterization - Cd Te modules	Second Generation solar cells
V	Dye Sensitized Solar Cells - Operating mechanism of dye-sensitized solar cell - Materials - Performance of highly efficient DSSCs - Electron transfer processes: Electron injection from dye to metal oxide - Electron transport in nanoporous electrode - Kinetic competition of the reduction of dye cation - Charge recombination between electron and I-3 ion.	Third Generation solar cells charge recombination in DSSC- Organic Inorganic Perovskites for Photovoltaics Deposition Methods -Electronic Properties - Device Operation - Ongoing Challenges - Lead free Alternatives

PERCENTAGE OF SYLLABUS REVISED : 57%

COURSE FOCUS ON:

Skill Development

Entrepreneurial Development

Employability

Innovations

Intellectual Property Rights

Gender Sensitization

Social Awareness/ Environment

Constitutional Rights/ Human Values/ Ethics



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16th

Syllabus Revision

Faculty: Basic and Applied Sciences

Board: Physics

Semester: IV

Course Code / Name: 222PY2A4CP / Microprocessor

Unit	Existing	Changes
1.	Write 8085 ALP for 8 bit addition and subtraction	No Change
2.	To perform 8 Bit multiplication and division using 8085 instruction.	
3.	To find the biggest and smallest number element in the array using 8085	
4.	Write 8085 ALP for LED interfacing	
5.	To perform for sorting the element in an array in ascending and descending order using 8085	
6.	To generate triangular and square wave by using 8085 ALP	
7.	Masking off most significant four bits and setting bits using two different instructions using 8085	
8.	Write 8085 ALP for Stepper motor controller	
9.	Write 8085 ALP for Elevator controller	
10.	Write Microprocessor 8085 ALP for interface IV (Waveform generation)	
11.	Write Microprocessor 8085 ALP for Traffic control system	
12.	Write Microprocessor 8085 ALP for subroutines (display results)	

End Semester Practical Examination requires completion of 10 experiments out of 12

PERCENTAGE OF SYLLABUS REVISED : 0 %
COURSE FOCUS ON:

- | | |
|--|--|
| <input type="checkbox"/> Skill Development | <input type="checkbox"/> Entrepreneurial Development |
| <input type="checkbox"/> Employability | <input type="checkbox"/> Innovations |
| <input type="checkbox"/> Intellectual Property Rights | <input type="checkbox"/> Gender Sensitization |
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16th

Syllabus Revision

Faculty: Basic and Applied Sciences

Board: Physics

Semester: IV

Course Code / Name: 222PY2A4DB / BAND GAP ENGINEERING IN SEMICONDUCTORS (New Course)

Unit	Contents
I	Conduction in metals Electron volt - Unit of energy - Current density - Motion in a magnetic field - Nature of the atom - Energy band theory of crystals - Insulators - Semiconductors - Conductors - Conduction in metals - Potential energy field in a metal - Bound and free electrons - Energy density - Fermi level - Density of states.
II	Theory of semiconductors Electrons and holes in an intrinsic semiconductor - Conductivity of a semiconductor - Carrier concentrations in an intrinsic semiconductor - Donor and acceptor impurities - Fermi level in a semiconductor having impurities - Diffusion - Carrier lifetime - The continuity equation
III	Semiconductor Diode Characteristics Qualitative theory of the p-n Junction - The p-n Junction as a diode - Band Structure of an open-circuited p-n Junction - The current components in a p-n diode - Ohmic contacts - Open circuited p-n junction - Theory of p-n diode forward and reverse currents - The Schottky barrier diode - The Schottky effect
IV	Excess Carriers in Semiconductors Optical absorption - Luminescence - Photoluminescence - Electroluminescence - Carrier lifetime and photoconductivity - Direct recombination of electrons and holes - Indirect recombination of electrons and holes - Steady state carrier generation - Photoconductive devices - Diffusion of carriers - Diffusion processes - The Haynes-Shockley experiment
V	Optoelectronic Devices Photo diodes - Current and voltage in an illuminated junction - Solar cells - Photodetectors - Gain, bandwidth and Signal-to-Noise ratio of photodetectors - Light-emitting diodes - Light-emitting materials - Lasers - The basic semiconductor laser - Heterojunction lasers.

PERCENTAGE OF SYLLABUS REVISED : 100%

COURSE FOCUS ON:

Skill Development

Entrepreneurial Development

Employability

Innovations

Intellectual Property Rights

Gender Sensitization

Social Awareness/ Environment

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16th

Syllabus Revision

Faculty : Basic and Applied Sciences

Board : Physics

Semester: II

Course Code / Name: 232PY2A4DC/ Plasma Physics

Unit	Existing	Changes
I	Plasma Concepts and Terminology Plasma as state of matter - Concept of temperature - Debye shielding - Plasma parameter - Criteria for plasma - Magnetic pressure - Particle drifts - Plasma frequency - Landau damping - Collisions - Bohm diffusion - Plasma radiation.	Plasma Concepts
II	Characteristics of Different Plasma Production of plasma: Low pressure cold cathode discharge - Thermionic arc discharge - Plasma guns - Q machines - RF produced plasma - Current and voltage measurement in plasmas - Plasma probes: Electrostatic probe - Magnetic probe - Measurement types - Photography and atomic spectroscopy - Radiation measurements - Single particle measurements - Neutrons measurement - Light scattering measurement.	No Change
III	Plasma Confinement Motion in a magnetic field - Motion in finite electric and magnetic field - Motion in inhomogeneous and curved magnetic fields - Magnetic mirrors - Motion in non- uniform electric field - Motion in time varying electric and magnetic field.	No Change
IV	Waves in Plasma Wave representation - Group velocity - Phase velocity - Plasma oscillations - Electromagnetic waves in the absence of magnetic field - Electromagnetic waves perpendicular to magnetic field - Electromagnetic waves parallel to magnetic field - Electron plasma wave in cold and warm plasma - Ion acoustic wave.	No Change
V	Applications of Plasma Gas Discharges- Thermonuclear fusion - Laser driven fusion - Magnetic fusion - Magnetohydrodynamic generator (MHD) - Basic theory of MHD - Principle of working - Plasma diode.	No Change

PERCENTAGE OF SYLLABUS REVISED : 4%

COURSE FOCUS ON:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Skill Development | <input type="checkbox"/> Entrepreneurial Development |
| <input checked="" type="checkbox"/> Employability | <input type="checkbox"/> Innovations |
| <input type="checkbox"/> Intellectual Property Rights | <input type="checkbox"/> Gender Sensitization |
| <input type="checkbox"/> Social Awareness/ Environment | <input type="checkbox"/> Constitutional Rights/ Human Values/ Ethics |





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BoS

16th

ATTENDANCE OF THE SIXTEENTH BOARD OF STUDIES MEETING

Faculty: Basic and Applied Sciences

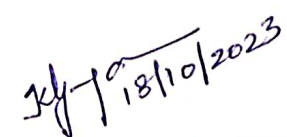
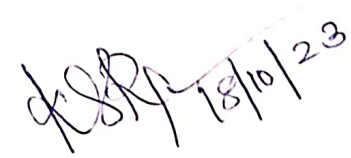
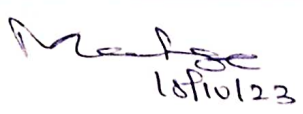
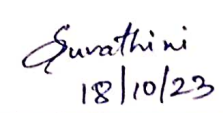
Board: Physics

Venue : Room No. 1513 - B Block

Date : 18/10/2023

Time : 10:00 AM

The following members were present for the board of studies meeting.

S. No.	Name	Designation	Signature
1	Dr. K.Girija Assistant Professor and Head i/c Department of Physics Dr.N.G.P. ASC	Chairman	 18/10/2023
2	Dr. R. Kalaiselvan Assistant Professor Department of Physics Bharathiar University Coimbatore-46	VC Nominee	— AB —
3	Dr. J. Shanthi Professor and Head Department of Physics Avinashilingam Institute of Home Science Coimbatore -43.	Subject Expert	Online
4	Dr K S Rajjhi, Associate Professor Department of sciences School of Engineering Home Science Coimbatore-43	Subject Expert	 18/10/23
5	Mr. G. Maheswaran Chief Executive Officer Silicon Technologies Coimbatore - 14.	Industrial Expert	 18/10/23.
6	Ms. A. Suvathini Junior Assistant Commercial Tax Office Tiruppur - 02.	Alumni	 18/10/23



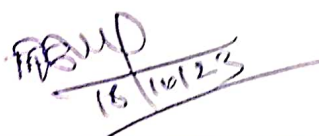
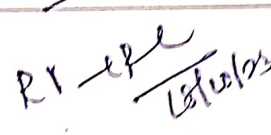

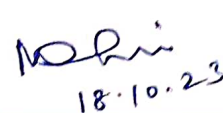
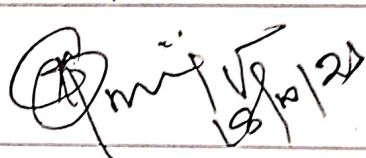
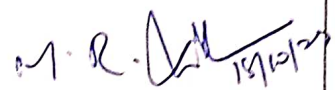

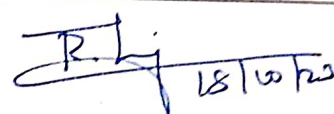
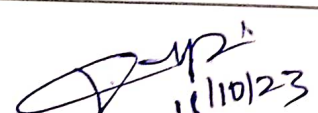
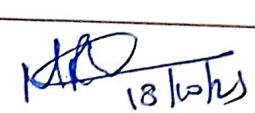


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7	Dr. N. Kuppusamy Professor and Head Department of Tamil Dr. N.G.P. ASC	Co-opted Member	 18/10/23
8	Dr. R. Vidya Prabha Professor and Head Department of English Dr. N.G.P. ASC	Co-opted Member	 18/10/23
9	Dr. R.Sowrirajan Assistant Professor and Head Department of Mathematics Dr. N.G.P. ASC	Co-opted Member	
10	Dr M Suganthi Assistant Professor and Head Department of Chemistry Dr. N.G.P. ASC	Co-opted Member	 18.10.23
11	Dr .V.Gopala Krishnan Professor Department of Physics Dr.N.G.P. ASC	Member	 18/10/23
12	Dr M.R Ananthan Associate Professor Department of Physics Dr. N.G.P. ASC	Member	 19/10/23
13	Mrs. R.Revathi Assistant Professor Department of Physics Dr.N.G.P. ASC	Member	 18/10/23
14	Dr .R. Karunathan Assistant Professor Department of Physics Dr.N.G.P. ASC	Member	 18/10/23
15	Dr R Dilip Assistant Professor Department of Physics Dr. N.G.P. ASC	Member	 18/10/23
16	Dr M.R Venkatraman Assistant Professor Department of Physics Dr. N.G.P. ASC	Member	 18/10/23



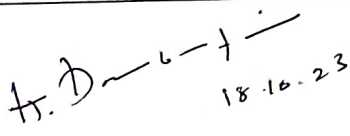
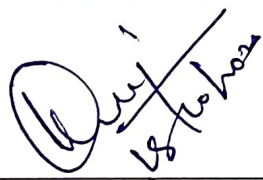
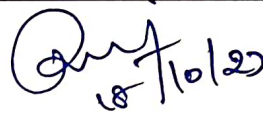
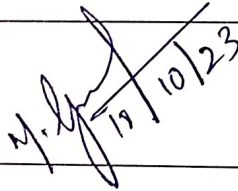



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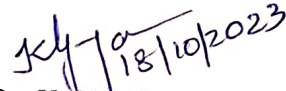
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17	Dr S Gunasekaran Assistant Professor Department of Physics Dr. N.G.P. ASC	Member	 18.10.23
18	Dr J Martin Sam Gnanaraj Assistant Professor Department of Physics Dr. N.G.P. ASC	Member	
19	Mrs.S.Punitha Assistant Professor Department of Physics Dr. N.G.P. ASC	Member	 18/10/23
20	UG:Ms. G. Gayathri III B.Sc. Physics Department of Physics Dr. N.G.P. ASC	Student Representative	 19/10/23
21	PG: Mr.B. Gowtham II M.Sc. Physics Department of Physics Dr. N.G.P. ASC	Student Representative	 Gowtham.B.

Date: 18/10/2023


(Dr. K. Girija)

BoS Chairman/HoD
Department of Physics
Dr. N. G. P. Arts and Science College
Coimbatore - 641 048

