PROGRAM NAME
B.Sc. (Physics)

KONGU ARTS AND SCIENCE COLLEGE

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)

ERODE – 638 107

2022-2021

KONGU ARTS AND SCIENCE COLLEGE

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)

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SYLLABUS

Sem.	Course Code	Electricity and Magnetism	Total Marks: 100		Hours Per Week	Credits
III	19UAOCT301*		CIA: 25	ESE: 75	4	4

OBJECTIVE:

➢ To impart basic ideas of electric charge and current

➢ To develop fundamental knowledge in electricity and magnetism

➢ To understand the motion of charges in electric and magnetic fields

COURSE OUTCOMES:

At the end of the course, Students will be able to

CO1: Describe the behavior of charges at rest and recollect the types of capacitors

CO2: Understand the magnetic analogue of electrostatics

CO3: Apply the principles of thermoelectricity in real time situations

CO4: Gain knowledge in the field of current electricity and able to solve problems

CO5: Acquire ideas about motion of charges in various fields

UNIT I

Electrostatics: Coulomb's law – Electric field – Electric field due to a point charge – Electric potential – Electric potential due to a point charge – Relation between them – Potential at a point due to a uniformly charged conducting sphere - Gauss's law and its application (Electric field due to uniformly charged sphere) – Poisson's and Laplace equation

Capacitors: Introduction – Spherical capacitor - Cylindrical capacitor – Parallel plate capacitor - Effect of a dielectric – Force of attraction between plates of a charged parallel plate capacitor

UNIT II

Magnetostatics: Magnetic induction (B) – Magnetisation (M) – Magnetic field intensity (H) – Relation between B, H and M – Magnetic susceptibility (χ) and magnetic permeability (μ) – Properties of dia, para and ferro magnetic materials - Antiferromagnetism and ferrimagnetism – Electron Theory of Magnetism - Experiment to draw M-H curve (Horizontal method) – Energy loss due to hysteresis – Determination of susceptibility: Curie Balance method.

Maxwell's Equations and EM waves: Maxwell's equations – Displacement current – Maxwell's equations in material media – Plane Electromagnetic waves in free space.

UNIT III

Thermo-electricity: Seeback effect – Laws of thermo e.m.f – Measurement of thermo e.m.f using potentiometer – Peltier effect – Thermodynamical consideration of Peltier effect and Thomson effect
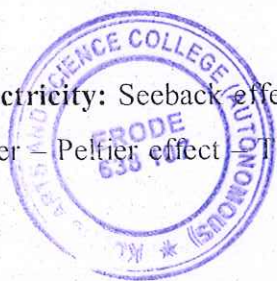
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– Thomson coefficient – Thermodynamics of thermocouple – Thermoelectric diagrams and their uses – Boys Radio-micrometer – Thermo-electric Pyrometer - Thermopile.

UNIT IV

Current Electricity: Growth and decay of current in a circuit containing resistance & inductance – Charging and discharging of a capacitor through a resistor – A.C circuit containing resistance, inductance & capacitance in series – Parallel resonant circuit – Comparison between series and parallel Resonant circuit – Wattless current - Moving Coil Ballistic Galvanometer – Current and Voltage sensitivities – Measurement of absolute capacitance of a capacitor.

UNIT V

Motion of charged particle: Motion of charged particle in uniform electric field (longitudinal & transverse electric field) – Motion of charged particle in alternating electric field – Motion of charged particle in uniform constant magnetic field – Motion of charged particle in crossed electric and magnetic field.

Electromagnetic Induction: A conducting rod moving through a uniform magnetic field – Inductances in series – Inductances in parallel – Self- inductance of co-axial cylinders - Grassot Fluxmeter.

Text Book:

R. Murugesan – Electricity and Magnetism – Edition 2008 – S Chand & Co. Ltd., New Delhi.

Reference Books:

1. Electricity and Magnetism - Brijlal and N. Subramaniam –- Edition 2000 - S Chand & Co. Ltd., New Delhi.

2. Electricity and Magnetism – Satya Prakash, Edition 2014 – Pragati Prakashan

QUESTION PAPER PATTERN		
SECTION - A	**SECTION - B**	**SECTION - C**
10 x 1 = 10 Marks (Multiple Choice, Four options) Two questions from each unit	5 x 7 = 35 Marks (Either or choice) Two questions from each unit	3 x 10 = 30 Marks (Answer any three Questions) One Question from each unit

Sem.	Course Code	SKILL BASED COURSE Scientific Facts I	Total Marks: 75		Hours Per Week	Credits
III	19UAOST303*		CIA: 20	ESE: 55	3	3

OBJECTIVES:

➢ To impart Scientific cognizance

➢ To develop curiosity in Science

➢ To embark on pursuing scientific enquiries as a hobby

COURSE OUTCOMES:

At the end of the course, Students will be able to

CO1: Explore current environmental problems

CO2: Comprehend natural phenomena, everyday experiences and consequences

CO3: Relate science principles to hydrology

CO4: Describe the behaviour of stellar bodies

CO5: Acquire scientific temperament in exploring things

UNIT I

Atmosphere: Cosmic rays – Aurora Polarisis - Holes in the Ozone layer – Chlorofluorocarbons (CFC) damage – Euro norms – Solar wind – Acid rain – Nuclear winter

UNIT II

Geology: Elliptical orbit of Planets – Two high tides in each day – Sea shore – Depth of Ocean – Lava flowing out of a Volcano – Colour of clothing in hot weather – Lighting arrestor – Black rain clouds – Cooling of fingers in winter season – East coast more often affected than west coast – Rainbows – Determination of latitude and longitude of a given place on earth

UNIT III

Hydrology: Water stored in mud pot – Colour of waterfall – Quantity of water in dams & reservoirs – Transparency of water - Difference between ultra-filtration and R.O in water purification – Dance of water droplets on a hot plate – Purity of mineral water – Spherical shape of water drops – Energy from tidal waves

UNIT IV

Astronomy: Speed of earth in space – Solar eclipse & naked eye – Eclipse of the moon in day light – Atmosphere of stellar bodies – Blue moon – Earthquake on the moon – Moon and sun appear larger at the horizon – Rotation of sun
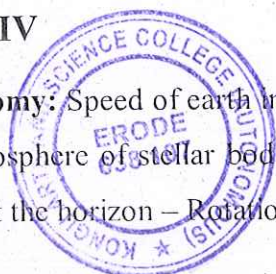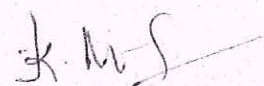
UNIT V

Applied Science: Refrigerator – Air Conditioner & Air Cooler – Spark generation from a gas stove lighter – Necessity of switching off mobiles in airplane - Black box in planes – Speech Synthesizer – Lie detector – Unleaded petroleum two wheeler – Mixing of oil with petrol for four wheelers – Technology behind mono rail

Text Books:

1. The Hindu Speaks on Scientific Facts – Volume I & II - Edition 2006.
2. The Hindu Speaks on Scientific Facts – Volume III – Edition 2015.

QUESTION PAPER PATTERN		
SECTION - A	**SECTION - B**	**SECTION - C**
10 x 1 = 10 Marks (Multiple Choice, Four options) Two questions from each unit	**5 x 3 = 15 Marks** (Either or choice) Two questions from each unit	**3 x 10 = 30 Marks** (Answer any three Questions) One Question from each unit

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Sem.	Course Code	NON - MAJOR ELECTIVE - I	Total Marks: 75		Hours Per Week	Credits
III	19UAONT304*	Introduction to Electricity and Electronics	CIA: -	ESE: 75	2	2

OBJECTIVES:

➢ To provide electronic fundamentals

➢ To develop curiosity in electronic circuits

➢ To introduce printed circuit boards and provide the basic ideas of soldering

COURSE OUTCOMES:

At the end of the course, Students will be able to

CO1: Gain the knowledge of basics of electricity

CO2: Understand and able to distinguish resistors based on colour code

CO3: Come to recognize protective and control circuits

CO4: Gain basic knowledge in the area of semiconductors

CO5: Construct simple electronic circuits

UNIT I

Electricity and Ohm's Law: Electric Field - Potential and Potential difference – Electric current – Unit of Electric Current - Difference between Electric Charge and Current – Electron Current and Conventional Current Flow – Electrical Resistance – Units of Electrical Resistance – Factors affecting Electrical Resistance – Effect of Temperature on Electrical Resistance – Temperature Coefficient of Electrical Resistance - Direct current and Alternating current- Comparison of D.C. Voltage and A.C. Voltage - Ohm's law.

UNIT II: Passive Circuit Elements:

Resistors – Classification of Resistors: Carbon Composition Resistors – Thin Film Resistors – Color Code Resistance Designation.

Inductors - Inductance - Types of Inductors – Inductance of a Coil – Mutually Coupled Coils - Coil and Core Losses – Q-factor of an Inductor.

Capacitors: Capacitance – Factors Affecting Capacitance – Electrostatic and Electrolytic Capacitors
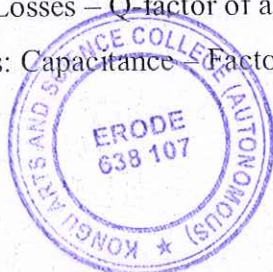
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UNIT III

Circuit Control and Protective Devices: Switch – Switching Actions – Types of Switches - Fuses – Fuse Ratings - Circuit Breaker – Printed circuit Board - Types of PCBs – Board Construction – Steps involved in the development of a PCB – Advantages of PCBs.

UNIT IV

Semiconductors: Classification of materials: Conductors, Insulators and Semiconductors – Types of Semiconductors – N type and P type Semiconductors (Basics only) – V-I Characteristics of p-n Junction Diode and p-n Junction Transistor – Zener diode (V-I Characteristics) - UJT.

UNIT V

Integrated Devices and Circuits: Introduction – Integrated Circuit – Advantages and Limitations of ICs - Scale of Integration – Classification of ICs Function - Linear Integrated Circuits – Digital Integrated Circuits – IC Terminology – Semiconductors used in Fabrication of ICs and Devices – comparison of ICs based on MOS and Bipolar transistor technology – Popular Applications of ICs

Text Book:

1. R.S.Sedha – A Text book of Applied Electronics – Revised Edition 2006 – S.Chand & Company Ltd., NewDelhi

Reference Books:

1. Principles of Electronics - V. K. Mehta & Rohit Mehta - Revised Edition 2013 – S. Chand Publications, New Delhi.

2. Basic Electronics – B. L. Theraja – Recent Edition 2014 (Reprint 2015) – S. Chand Publications, New Delhi.

QUESTION PAPER PATTERN
SECTION - A
(5 X 15 = 75 Marks)   (Either or Type)   Two questions from each unit

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Sem.	Course Code	Optics	Total Marks: 100		Hours Per Week	Credits
IV	19UAOCT401*		CIA: 25	ESE: 75	4	4

OBJECTIVES:

➢ To provide fundamentals of optics

➢ To understand the concepts of Dispersion, Interference, Diffraction and Polarization of Light

COURSE OUTCOMES:

At the end of the course, Students will be able to

CO1: Get an introduction to lens system and its role in modern era

CO2: Understand the types of aberrations

CO3: Get a thorough knowledge in the area of interference

CO4: Analyse the techniques of diffraction and its requirement

CO5: Evaluate the process of polarization

UNIT I

Lens : Properties of light: Laws of Reflection and Laws of Refraction – Fermat's Principle of least time - Lens Equation (Thin Lens) – Deviation by a thin lens - Equivalent focal length of two thin lenses – Cardinal Points – Principal points and Principal planes – Focal points and Focal planes – Nodal points and Nodal planes – Construction of the image using Cardinal points – Newton's Formula – Relationship between f_1 and f_2 – Relationship between f_1, f_2 and μ_1, μ_2 – Gaussian Formula.

UNIT II

Geometrical Optics: Dispersion by a prism – Refraction through a prism – Angular dispersion – Dispersive power – Achromatic combination of prisms: Deviation without dispersion – Dispersion without deviation – Lens aberrations – Spherical aberration – Coma – Astigmatism – Chromatic aberration - Chromatic aberration in a lens – Objective & Eyepiece – Huygens Eyepiece.

UNIT III

Interference: Light waves – Constructive & Destructive interference – Young's double slit experiment – Conditions for Interference - Fresnel Biprism: Determination of wavelength of light - Interference in thin films due to reflected light - Fringes due to wedge-shaped thin film – Colours in
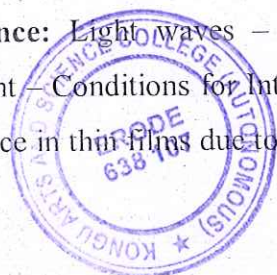
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thin films - Newton's rings: Determination of wavelength of monochromatic light – Refractive index of a liquid

UNIT IV

Diffraction: Rectilinear Propagation of light - Zone plate – Action & Construction – Comparison with a convex lens – Distinction between Interference and Diffraction - Fresnel & Fraunhofer diffraction at a circular aperture - Plane diffraction grating – Dispersive power of grating - Resolving power of a plane transmission grating

UNIT V

Polarization: Introduction - Types of Polarization: Plane polarized light – Circularly polarized light – Elliptically polarized light – Partially polarized light – Polarizer and Analyzer - Production & detection of plane polarized light – Production & detection of circularly polarized light - Production & detection of elliptically polarized light – Calcite crystal – Optic axis – Principal section – Principal plane – Nicol prism – Optical activity – Optical rotation – Specific rotation – Laurent's half shade polarimeter
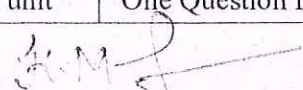
Text Book:

1. Brijlal and N. Subramaniam – A Text book of Optics – Revised Edition 2012 - S Chand & Co. Ltd.

Reference Books:

1. Optics & Spectroscopy – R. Murugesan - S Chand & Co. Ltd. - Edition 2010

2. Fundamentals of Molecular Spectroscopy – C. N. Banwell – Tata McGraw-Hill Co. – Edition 1972.

QUESTION PAPER PATTERN		
SECTION - A	**SECTION - B**	**SECTION - C**
10 x 1 = 10 Marks (Multiple Choice, Four options) Two questions from each unit	**5 x 7 = 35 Marks** (Either or choice) Two questions from each unit	**3 x 10 = 30 Marks** (Answer any three Questions) One Question from each unit

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Sem.	Course Code		Total Marks: 100		Hours Per Week	Credits
		Core Practical – II	CIA: 40	ESE: 60		
IV	19UAOCP402*		CIA: 40	ESE: 60	2	4

OBJECTIVES:

> To train the students on measurements and instruments
> To strengthen the understanding of theoretical knowledge

COURSE OUTCOMES:

At the end of the course, Students will be able to

CO1: Explore the principle of electromagnetic induction

CO2: Recognize the relation between theory and experiment

CO3: Apply the knowledge of electricity in the calibration of meters

CO4: Correlate the principles of interference to experimental situations

CO5: Evaluate diffraction principles by spectrometer

(EXAMINATION AT THE END OF FOURTH SEMESTER)

Any 12 Experiments Only

1. Field along the axis of a coil – Deflection Magnetometer

2. Moment of a magnet – Tan C position

3. Moment of the bar magnet – Circular coil apparatus

4. Ballistic Galvanometer – Figure of Merit

5. Ballistic Galvanometer – Absolute Capacitance of a Capacitor

6. Potentiometer – Calibration of Low range Voltmeter

7. Potentiometer – Calibration of Low range Ammeter

8. Potentiometer – Specific Resistance of a wire

9. Potentiometer – Comparison of EMF

10. Galvanometer – Conversion of Ammeter

11. Galvanometer – Conversion of Ammeter

12. Post Office Box – Temperature Co-efficient of Resistance of a Thermister
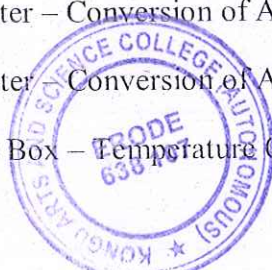
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13. Metre Bridge – Specific Resistance

14. Carey Foster's Bridge – Specific Resistance

15. Air Wedge – Thickness of a wire

16. Spectrometer – Hollow Prism – Refractive index of a liquid

17. Spectrometer – Solar Spectrum

18. Newton's Ring – Refractive Index of a Lens

Demonstration

1. Hall effect – Determination of Hall coefficients

2. Multimeter – i) Ammeter, Voltmeter and Ohm meter

             ii) Verification of Electronic components

Parameters	Maximum Marks
Record Note book	05
Formula Used and Circuit diagram (if applicable)	15
Tabulation	15
Observation	15
Calculation	05
Result	05
Total	**60**

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Sem.	Course Code	SKILL BASED COURSE	Total Marks: 75		Hours Per Week	Credits
		Scientific Facts II				
IV	19UAOST404*		CIA: 20	ESE: 55	3	3

OBJECTIVES:

➤ To impart Scientific cognizance

➤ To develop curiosity in Science

➤ To embark on pursuing scientific enquiries as a hobby

COURSE OUTCOMES:

At the end of the course, Students will be able to

CO1: Understand the science principles involved in everyday appliances

CO2: Exposed to the working principles of home appliances

CO3: Apply physics knowledge to understand the phenomenon of light

CO4: Recognize the physics behind modern appliances

CO5: Gain exposure in the area of data transmitting devices and automobile

UNIT I

Automatic Wrist watches – Microwave Oven – Induction stove - Pressure Cooker – Richter scale – Thermo Flasks – Acids in batteries - Leak proof battery

Passage of electric current through wire – Copper for electromagnets – Tarnishing of Silver – Plexiglas

UNIT II

Electronic Weighing machine - Three pin electrical plugs – Functioning of thermostat - Humming sound in tension wires – Electric line tester – Production of electricity from nuclear materials - Electric train – Hot air balloons

UNIT III

Curved fan wings – Table fan – Street lights & Head lights – Fluorescent lamps – Sodium vapour lamps in streets – Low pressure and high pressure sodium vapour lamp
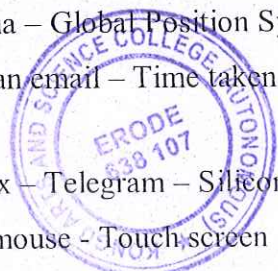
UNIT IV

Photograph of a Television Picture – Colour TV screen – Remote control – Photocopier – TV antenna – Global Position System – Difference of dial up and broadband internet connections – Origin of an email – Time taken for copying and deleting a file in the computer

UNIT V

Fax – Telegram – Silicon in electronics - Sim card function in a cellphone – Optical mouse - Wireless mouse - Touch screen

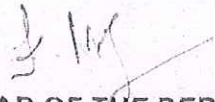Exhaust silencer – Speedometer - Helicopters – RADAR – SONAR – Magnetic Levitation

Text Books:

1. The Hindu Speaks on Scientific Facts – Volume I & II - Edition 2006.

2. The Hindu Speaks on Scientific Facts – Volume III – Edition 2015.

QUESTION PAPER PATTERN		
SECTION - A	SECTION - B	SECTION - C
10 x 1 = 10 Marks (Multiple Choice, Four options) Two questions from each unit	5 x 3 = 15 Marks (Either or choice) Two questions from each unit	3 x 10 = 30 Marks (Answer any three Questions) One Question from each unit

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Sem.	Course Code	NON - MAJOR ELECTIVE II	Total Marks: 75		Hours Per Week	Credits
IV	19UAONT405*	Electrical and Electronic Appliances	CIA: -	ESE: 75	2	2

OBJECTIVES:

➢ To provide the knowledge of electric power generation

➢ To introduce the principles underlying the electrical and electronic gadgets

COURSE OUTCOMES:

At the end of the course, Students will be able to

CO1: Recollect the conventional sources of electric power generation

CO2: Comprehend the working principles of lighting and heating

CO3: Analyze the working of everyday home appliances

CO4: Broaden their knowledge in the field of electronics

CO5: Acquire scientific outlook in exploring things

UNIT I

Introduction to Electrical Energy Generation: Preference for Electricity - Sources for Generation of Electricity - Brief Aspects of Electrical Energy Systems - Conventional Sources of Electrical Energy: Steam Power Stations (Coal-fired), Nuclear Power Stations and Hydroelectric Generation

UNIT II

Lighting & Heating Appliances: Incandescent Lamps – Fluorescent Lamps - CFL – LED Lamps – Vehicle head lights - Electric Iron - Microwave Oven – Induction Stove - Electric water heater.

UNIT III

Modern Home Appliances: Refrigerator – Air Conditioner – Washing Machine – Colour Television – UPS - Inverter

UNIT IV

Commercial Electronics: FAX – Xerography - Calculator - Automated Teller Machines (ATM) - Bar Codes

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UNIT V

Mobile Electronics: Silicon in electronics - Optical mouse – Wireless mouse - Touch Screen Mobile – Bluetooth – Difference between Dial up and broadband internet connections – Functioning of Sim card in mobile phones – GPS
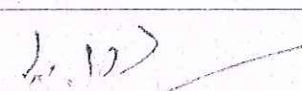
Text Books:

1. B.L.Theraja & A.K.Theraja - A Text Book Of Electrical Technology Volume I - Edition 2005 – S.Chand Publications (UNIT I)

2. Study Material by Department of Physics (UNIT II)

3. S. P. Bali - Consumer Electronics – Edition 2008 - Pearson Education Pvt Ltd – (UNIT III, IV)

4. Hindu speaks on Scientific Facts – Volume I & II – Edition 2006 (UNIT V)

5. Hindu speaks on Scientific Facts – Volume III - Edition 2015 (UNIT V)

Reference Books:

1. Principles of Electronics - V. K. Mehta & Rohit Mehta - Revised Edition 2013 - S. Chand Publications, New Delhi.

2. Basics Electronics (Solid State) – B. L. Theraja - S. Chand Publications, NewDelhi.

3. Consumer Electronics – Dr.B.R.Gupta & V.Singhal , 6th Edition 2013 - S.K.Kataria & Sons publishers

QUESTION PAPER PATTERN
SECTION - A
(5 X 15 = 75 Marks) (Any five out of ten) Two questions from each unit

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Sem.	Course Code	Mathematical Physics	Total Marks: 100		Hours Per Week	Credits
V	20UAOCT501		CIA: 25	ESE: 75	5	4

OBJECTIVES

> To impart mathematical knowledge for the description of Physical Phenomenon
> To develop the problem solving ability

COURSE OUTCOMES:

At the end of the course, Students will be able to

> CO1: Correlate the principles of curl and divergence in practical applications
> CO2: Understand the concept of different coordinate systems
> CO3: Gain insight over the requirement of matrices
> CO4: Develop their views in Newtonian mechanics
> CO5: Evaluate the applications of Hamiltonian formalism

UNIT I:

Vector Calculus: Gradient of a Scalar Field – Line, Surface and Volume Integrals – Divergence of a Vector Function – Curl of a Vector Function – Important Vector Identities – Gauss's Divergence theorem – Stoke's theorem

UNIT II:

Curvilinear Co-ordinates: Orthogonal Curvilinear Co-ordinates – Differential Operators in terms of Orthogonal Curvilinear Co-ordinates – Spherical Polar Co-ordinates (r, θ, φ) and Differential Operators – Cylindrical Co-ordinates and Differential Operators

UNIT III:

Matrices: Introduction – Special types of Matrices – Transpose of a Matrix – The Conjugate of a Matrix – The Conjugate Transpose of a Matrix – Symmetric and Asymmetric Matrices – Hermitian and Skew Hermitian Matrices – Orthogonal, Unitary Matrices and their Properties (Theorem 2.5 & 2.6) – Eigen Values and Eigen Vectors – Cayley Hamilton Theorem

UNIT IV:

Lagrangian Formulation of Mechanics: Constraints – Generalised co-ordinates – Transformation equations – configuration space – Generalised displacement, Velocity, Acceleration, Momentum, Force – Principle of virtual work – D'Alembert's Principle – Lagrange's equations from D'Alembert's Principle – Applications of Lagrange's equations: simple pendulum, Atwood's machine and compound pendulum – Cyclic coordinates.
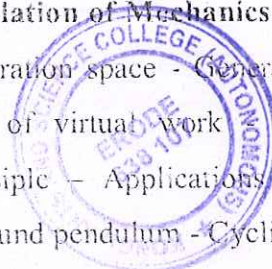
UNIT V:

Hamiltonian Formulation of Mechanics: Phase space – Hamiltonian function – Hamilton's equations – Physical Significance of Hamiltonian function – Applications of Hamilton's equations: Simple Pendulum, compound pendulum and Linear Harmonic Oscillator – Principle of Least Action.
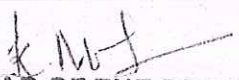
Text Books:

1. Sathya Prakash – Mathematical Physics with Classical Mechanics – Fifth Revised Edition 2006 – Sultan Chand & Sons Educating Publishers, New Delhi.(UNIT I to IV)

2. Gupta, Kumar and Sharma – Classical Mechanics – Twenty sixth Edition 2013 Reprint 2014 - Pragati Prakashan Publications, Meerut. (UNIT V)

Reference Books:

1. Mathematical Physics – Dr. B. S. Rajput – 27th Edition 2014 – Pragati Prakashan Publications

2. Mathematical Physics – H. K. Dass & Dr. Rama Verma – 7th Revised Edition 2014 – S. Chand Publications

3. Mathematical Physics – P. K. Chattopadhyay – 2nd Edition 2013 Reprint 2018 – New Age International Publishers

4. Mathematical Physics – B. D. Gupta — 4th Edition 2010 First Reprint 2016 – Vikas Publishing House Pvt. Ltd.,

QUESTION PAPER PATTERN		
SECTION - A	**SECTION - B**	**SECTION - C**
10 x 1 = 10 Marks (Multiple Choice, Four options) Two questions from each unit	5 x 7 = 35 Marks (Either or choice) Two questions from each unit	3 x 10 = 30 Marks (Answer any three Questions) One Question from each unit

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Sem.	Course Code	Quantum Mechanics and Relativity	Total Marks: 100		Hours Per Week	Credits
V	20UAOCT502		CIA: 25	ESE: 75	5	4

OBJECTIVES

> To provide an introduction to Quantum Mechanics
> To apply the principles of Quantum concepts to calculate observables on known Wave Functions.

COURSE OUTCOMES:

At the end of the course, Students will be able to

> CO1: Recollect the basic principles of wave mechanics
> CO2: Understand the validation of Schrodinger's equation
> CO3: Exposed to commutation algebra
> CO4: Analyse the differences between special and general theory of relativity
> CO5: Evaluate the underlying principles of general theory of relativity

UNIT I:

Wave Mechanics: The de-Broglie wavelength – Phase Velocity of de-Broglie waves – Group Velocity of de-Broglie waves – Relation between Group Velocity and Phase Velocity – Davisson and Germer's Experiment – G. P. Thomson's Experiment – Heisenberg's Uncertainty Principle.

UNIT II:

Schrodinger's Wave Equation: Basic Postulates of Wave Mechanics – Derivation of Time-dependent form of Schrodinger equation – Schrodinger's equation: Steady-state form – Properties of the wave function – Orthogonality of Eigen Functions: Proof of energy Eigen values are real and two eigen functions corresponding to different eigen values are orthogaonal to each other **Applications of Schrodinger's Equation:** Particle in a one dimensional box – Potential step – The Barrier Penetration problem – Linear Harmonic Oscillator.

UNIT III:

Commutation Algebra: Commutation relation between Position and Momentum, H and p, components of L and L^2 – Ladder Operator L_+ and L_- - Commutation relation of orbital angular momentum with position – Hermitian operator – Properties of Hermitian operators.

Total Angular Momentum: Commutation relation between Square of the Total Angular Momentum and its Components – Commutation rule for the Components of Generalised Angular Momentum Operator – Ladder Operators J_+ & J_-.

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UNIT IV:

Special Theory of Relativity: Frame of Reference – Newtonian Relativity – Galilean Transformation equations – The Ether Hypothesis – The Michelson-Morley Experiment and explanation of the negative result – Postulates of Special Theory of Relativity – The Lorentz Transformation equations – Length Contraction – Time Dilation.

UNIT V:

General Theory of Relativity: Variation of Mass with Velocity - Mass Energy Equivalence - Minkowski's Four Dimensional Space-Time Continuum – Postulates of General theory of Relativity.

The Photon: Photons and Gravity - Gravitational Red Shift - Black Hole.

Text Book:

R. Murugesan & Er. Kiruthiga Sivaprasath – Modern Physics – Revised Edition 2015 – S. Chand Publications, New Delhi.

Reference Books:

1. Advanced Quantum Mechanics – Sathyaprakash – Fifth Revised and Enlarged Edition – Reprint 2014 – Kedar Nath, Ram Nath Publications, Meerut.

2. Elements of Quantum Mechanics – Kamal Singh, S.P.Singh – First Edition 2005 – Reprint 2013 – S. Chand Publications, New Delhi.

3. Quantum Mechanics – Leonard I. Schiff – Third Revised Edition 2010 – Tata Mc Graw Hill Publishing Pvt. Ltd.

4. A Text book of Quantum Mechanics – P.M. Mathews & K. Venkatesan – Second Revised Edition 2010 – Mc Graw Hill Publishing Pvt. Ltd

QUESTION PAPER PATTERN		
SECTION - A	SECTION - B	SECTION - C
10 x 1 = 10 Marks (Multiple Choice, Four options) Two questions from each unit	5 x 7 = 35 Marks (Either or choice) Two questions from each unit	3 x 10 = 30 Marks (Answer any three Questions) One Question from each unit

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Sem.	Course Code	Atomic Physics and Spectroscopy	Total Marks: 100		Hours Per Week	Credits
V	20UAOCT503		CIA: 25	ESE: 75	4	4

OBJECTIVES

➢ To impart the knowledge in the Structure of Atom and Atom Models

➢ To understand the concept of Quantum Numbers

COURSE OUTCOMES:

At the end of the course, Students will be able to

➢ CO1: Recognize cathode rays, positive rays and atomic models

➢ CO2: Infer the basic ideas of quantum numbers and spatial quantization

➢ CO3: Implement the application of X-rays in determining the crystal structures

➢ CO4: Comprehend various photoelectric cells

➢ CO5: Evaluate the influence of electric and magnetic field in spectral line splitting

UNIT I:

Cathode Rays: Properties - Charge of Electron by Millikan's Oil Drop method – Dunnington's method for determining e/m.

Positive Rays: Discovery – Properties – Thomson's Parabola method – Bainbridge's Mass Spectrograph.

Structure of the Atom: Bohr Atom Model – Effect of Nuclear motion on Atomic Spectra – Evidences in favour of Bohr's Theory - Critical Potentials – Atomic Excitation – Franck and Hertz's method – Davis and Goucher's method – Sommerfeld's Relativistic Atom Model

UNIT II:

Vector Atom Model: Introduction – Spatial Quantisation and Spinning Electron - Quantum Numbers associated with the Vector Atom Model – Coupling Schemes – The Pauli Exclusion Principle – Magnetic Dipole Moment due to Orbital Motion of the Electron – Magnetic Dipole Moment due to Spin – Stern and Gerlach Experiment

UNIT III:

X-rays: Production of X-rays – Properties of X-rays – Continuous and Characteristic X-ray Spectra – Origin of X-rays and Moseley's law – Absorption of X-rays - Bragg's law – Bragg X-ray Spectrometer – Determination of Crystal Structure by Powder Crystal method, Laue method and Rotating Crystal method - Compton Scattering.
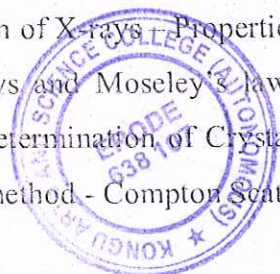
UNIT IV:

Photoelectric Effect: Introduction – Lenard's method to determine e/m for photoelectrons - Richardson and Compton Experiment – Laws of Photoelectric Emission – Einstein's Photoelectric Equation – Experimental Verification by Millikan's Experiment – Photoelectric Cells: Photo-emissive cell – Photo-voltaic cell – Photoconductive cell – Applications of Photoelectric cells.

UNIT V:

Molecular Spectroscopy: Raman effect – Experimental study of Raman effect – Quantum theory of Raman effect - Applications of Raman effect –Zeeman effect – Normal Zeeman effect – Lorentz theory of normal Zeeman effect – Anomalous Zeeman effect –Paschen-Back effect – Stark effect.
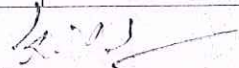
Text Books:

1. J. B. Rajam – Atomic Physics – Edition 2004 Reprint 2007 - Sultan Chand Publications, New Delhi. (UNIT I: Chapter 1)

2. R. Murugesan & Er. Kiruthiga Sivaprasath – Modern Physics – Revised Edition 2015 – S. Chand Publications, New Delhi. (UNIT I to V)

Reference Books:

1. Fundamentals of Modern Physics – Agarwal & Agarwal – 7th Revised Edition 2013 - Pragati Prakashan Publications, Meerut.

2. Atomic and Nuclear Physics – N. Subramaniam and Brijlal – Edition 2007 - Sultan Chand Publications, New Delhi.

3. Modern Physics – G. Aruldhas and P. Rajagopal – Revised Edition 2005 - Prentice-Hall of India

4. Fundamentals of Molecular Spectroscopy – Colin N. Banwell and Elaine M. McCash – 4th Edition 2016 – Mc Graw Hill Education Publishers

QUESTION PAPER PATTERN		
SECTION - A	**SECTION - B**	**SECTION - C**
10 x 1 = 10 Marks (Multiple Choice, Four options) Two questions from each unit	**5 x 7 = 35 Marks** (Either or choice) Two questions from each unit	**3 x 10 = 30 Marks** (Answer any three Questions) One Question from each unit

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Sem.	Course Code	Solid State Physics	Total Marks: 100		Hours Per Week	Credits
VI	20UAOCT601		CIA: 25	ESE: 75	5	4

OBJECTIVES

> To gain the knowledge of Crystallography which is required to understand Mechanical, Optical and Electrical Properties of Solids

> To acquaint with the up-to-date status of phenomena in Solids and to offer a broadening knowledge in Solid State Electronics

COURSE OUTCOMES:

At the end of the course, Students will be able to

> CO1: Evoke the basics of crystal systems

> CO2: Understand the types of defects in crystals

> CO3: Apply the knowledge of magnetic properties in different theories of magnetism

> CO4: Expand the views in the phenomenon of superconductivity

> CO5: Evaluate the principles of optoelectronic devices

UNIT I:

Crystal Structure: Introduction - Lattice points and space lattice – Basis and crystal structure – Unit cells and lattice parameters – Crystal systems – Bravais Lattices - Metallic crystal structures: SC, BCC, FCC – HCP structure – Miller indices – important features of Miller indices

Imperfections in Crystals: Point Defects: Vacancies – Interstitialcies – Impurities – Electronic Defects (Derivation for number of Schottky and Frenkel defects – not necessary) - Line Defects: Edge Dislocation and Screw Dislocation - Surface Defects: External Surface Imperfections – Internal Surface Imperfections.

UNIT II:

Superconductivity: Introduction – Properties of Superconductors – Classification of Superconductors – BCS theory of superconductivity – London Equation – High T_c Superconductors – Josephson Effect : Theory of DC & AC Josephson Effect - Applications – Squid, Cryotron, Magnetic Levitation

UNIT III:

Magnetic Properties of Materials: Introduction – Langevin's theory of Diamagnetism and Para magnetism – Quantum theory of Paramagnetism – Cooling by Adiabatic Demagnetization of a
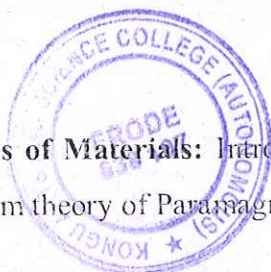
Paramagnetic Salt – Ferromagnetism – Domain theory of Ferro magnetism – Soft and Hard magnetic materials - Weiss theory of Ferromagnetism

UNIT IV:

Dielectrics: Introduction – Different types of electric polarisation: Electronic, Ionic, Orientation and Space-charge Polarization – Frequency dependence of Polarizability - Lorentz method for finding the internal field for a cubic structure - Clausius – Mosotti relation – Dielectric Loss – Determination of dielectric constant of a dielectric material – Dielectric breakdown – Properties and applications of different types of insulating materials

UNIT V:

Optoelectronic Devices: Light Emitting Diode (LED) – Photoconductors - Photo Diode – Photo Transistor - Liquid Crystal Display (LCD) - Solar Cell

New Materials: Metallic Glasses – Fiber reinforced Plastics and Fiber Reinforced Metals – Biomaterials – High Temperature Materials – SMART Materials.

Text Books:

1. S. O. Pillai – Solid State Physics – Eighth Edition 2018 - New Age International Publishers (UNIT I: Chapter 4)

2. R. Murugesan & Er. Kiruthiga Sivaprasath – Modern Physics – Eighteenth Edition 2016 – S Chand Publications, New Delhi. (UNIT II to V)

3. Dr. M. Arumugam – Materials Science – Third Revised Edition 2002 Reprint 2016 – Anuradha Agencies Publishers (UNIT V- Chapter 11 - New Materials)

Reference Books:

1. Solid State Physics - Gupta. Kumar – 9th Revised Edition 2016 – K. Nath & Co., Meerut

2. Introduction to Solid State Physics - Charles Kittel - 8th Edition 2004 Reprint 2013 – Wiley India Pvt. Ltd.

3. Elements of Solid State Physics - J.P. Srivastava – 2nd Edition 2006 – Prentice-Hall of India.

QUESTION PAPER PATTERN		
SECTION - A	**SECTION - B**	**SECTION - C**
10 x 1 = 10 Marks (Multiple Choice, Four options) Two questions from each unit	**5 x 7 = 35 Marks** (Either or choice) Two questions from each unit	**3 x 10 = 30 Marks** (Answer any three Questions) One Question from each unit

K.M

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Sem.	Course Code	Nuclear Physics	Total Marks: 100		Hours Per Week	Credits
VI	20UAOCT602		CIA: 25	ESE: 75	5	4

OBJECTIVES

➢ To impart basic concepts of Nuclear Physics with emphasis on Nuclear Structure and Interactions of Radiation with Matter.

➢ To introduce the fundamental principles that highlight Detectors, Accelerators, Fission and Fusion.

COURSE OUTCOMES:

At the end of the course, Students will be able to

➢ CO1: Recall the basics of nuclei and study the models of nuclear structure

➢ CO2: Understand the mechanism of accelerators

➢ CO3: Aware the meaning of radioactivity and understand its origin

➢ CO4: Expand the views in discriminating fission and fusion

➢ CO5: Assess the origin of elementary particles

UNIT I:

Introduction to Nucleus: Introduction – Classification of Nuclei – General Properties of Nucleus – Binding Energy – Nuclear Stability – Nuclear Forces – Meson theory of Nuclear Forces.

Models of Nuclear Structure: The Liquid Drop Model - The Shell Model – The Collective Model.

UNIT II:

Detectors and Particle Accelerators: Introduction - Ionization Chamber – Solid State Detectors – Proportional Counter – Geiger-Muller Counter – The Wilson Cloud Chamber – Bubble Chamber – Scintillation Counter – The Linear Accelerator – The Cyclotron – The Betatron.

UNIT III:

Radioactivity: Natural Radioactivity – Properties of Alpha, Beta and Gamma rays – Determination of e/m of alpha particles - Experimental measurement of the range of Alpha particles - Theory of Alpha Decay – Neutrino theory of Beta Decay – Detection of Neutrino – K-electron capture – Determination of wavelength of Gamma rays (Du Mond curved crystal spectrometer) - Origin of Gamma Rays - Laws of Radioactivity.
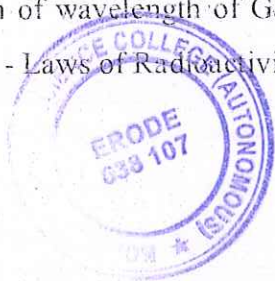
UNIT IV:

Nuclear Fission and Fusion: Nuclear Fission – Energy released in Fission – Bohr and Wheeler's theory of Nuclear Fission – Chain Reaction – Critical Size – Natural Uranium and Chain Reaction – Atom Bomb - Nuclear Reactors – Nuclear Fusion – Source of Stellar Energy – Carbon-Nitrogen Cycle – Proton-Proton Cycle – Hydrogen Bomb - Controlled Thermonuclear Reactions.

UNIT V:

Elementary Particles: Introduction - Baryons – Hyperons – Leptons – Mesons – Particles and Anti-particles: Electron and Positron, Proton and Antiproton, Neutron and Antineutron, Neutrino and Antineutrino – Antimatter – The fundamental Interactions – Elementary Particle Quantum Numbers – Conservation laws and Symmetry – The Quark Model.

Text Book:

R. Murugesan & Er. Kiruthiga Sivaprasath – Modern Physics – Eighteenth Edition 2016 – S Chand Publications, New Delhi.

Reference Books:

1. Elements of Nuclear Physics – M. L. Pandya, RPS Yadav – 4th Edition 2011 - Kedar Nath Ram Nath Publications, New Delhi.

2. Nuclear Physics – D. C. Tayal – 2nd Edition 2011 - Himalaya Publishing House, New Delhi.

3. Nuclear Physics – Dr. S. N. Ghoshal – Revised Edition 2014 – S Chand & Co Ltd., New Delhi

4. Modern Physics – G. Aruldhas and P. Rajagopal – Edition 2005 Reprint 2014 – PHI Learning Private Ltd.,

QUESTION PAPER PATTERN		
SECTION - A	SECTION - B	SECTION - C
10 x 1 = 10 Marks (Multiple Choice, Four options) Two questions from each unit	5 x 7 = 35 Marks (Either or choice) Two questions from each unit	3 x 10 = 30 Marks (Answer any three Questions) One Question from each unit

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Sem.	Course Code	Fundamentals of Digital Electronics	Total Marks: 100		Hours Per Week	Credits
			CIA: 25	ESE: 75	4	3
VI	20UAOCT603					

OBJECTIVES

➢ To introduce Number Systems and Codes

➢ To study the correlation between Boolean expressions

COURSE OUTCOMES:

At the end of the course, Students will be able to

➢ CO1: Recollect number systems and binary codes

➢ CO2: Implement logic gates in arithmetic circuits

➢ CO3: Resolve the usage of flip-flops as counters and registers

➢ CO4: Investigate flip-flops in converters

➢ CO5: Explore semiconductor memories

UNIT I:

Number Systems: Decimal system – Binary system – Octal system - Hexadecimal system - 1's and 2's Complements of Binary Numbers - Binary Coded Decimal (BCD) – Excess-3 Code - Gray Code.

Logic Gates: Inverter – OR Gate - AND Gate – NOR Gate - NAND Gate – De Morgan's Theorems - Exclusive OR and Exclusive NOR Gates

UNIT II:

Arithmetic Circuits: Half Adder – Full Adder – Parallel Binary Adder - Half Subtractor – Full Subtractor – Parallel Binary Subtractor - Parallel Binary Adder and Subtractor (2's Complement)

Flip-Flops: R-S Flip-Flops – Clocked R-S Flip-Flop – D Flip-Flop – Edge-Triggered J-K Flip-Flop T Flip-Flop – Master-Slave J-K Flip-Flop.

UNIT III:

Shift Registers: Shift-Left Register - Shift-Right Register.

Counters: Asynchronous Counter – Mod-10 Counter – Mod-5 Counter – Four-bit Synchronous Counter with Serial Carry - Four-bit Synchronous Counter with Parallel Carry - Synchronous up/down counter

UNIT IV:

Converters: D/A converter – Resistor Divider D/A converter – Binary Ladder Network D/A converter – A/D converter – Voltage to Time A/D converter – Dual slope integrator A/D converter
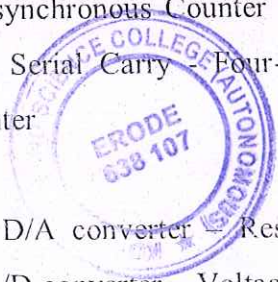
– Counter type A/D converter - Voltage to Frequency A/D converter - Successive Approximation A/D converter.

UNIT V:

Semiconductor Memories: Memory unit – Concept of memory using registers – Read only memories: ROM, PROM, EPROM and EEPROM – RAM: Bipolar RAM, MOS RAM cells, Static MOS RAM cell and Dynamic MOS RAM

Text Books:

V. K. Puri – Digital Electronics – Tata Mc Graw-Hill Publishing Company Limited – 26th Reprint 2016.

Reference Books:

1. Digital Fundamentals – Thomas L. Floyd - Tenth Edition 2017 - Prentice Hall of India
2. Digital Principles and Applications - D. P. Leach and A. P. Malvino – Sixth Revised Edition 2006 - Tata McGraw - Hill, New Delhi
3. Digital Design – Morris Mano – Revised Edition 2002 - Prentice Hall of India

QUESTION PAPER PATTERN

SECTION - A	SECTION - B	SECTION - C
10 x 1 = 10 Marks (Multiple Choice, Four options) Two questions from each unit	**5 x 7 = 35 Marks** (Either or choice) Two questions from each unit	**3 x 10 = 30 Marks** (Answer any three Questions) One Question from each unit

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Sem.	Course Code	CORE PRACTICAL – III	Total Marks: 100		Hours Per Week	Credits
VI	20UAOCP604	General Practical	CIA: 40	ESE: 60	3	4

OBJECTIVES:

  ➢ To train the students on measurements and Instruments

 ➢ To strengthen the understanding of theoretical knowledge

COURSE OUTCOMES:

At the end of the course, Students will be able to

  ➢ CO1: Recognize the principles of diffraction in experimental situations

  ➢ CO2: Explore the relation between theory and experiment

  ➢ CO3: Apply the knowledge of mechanics in real time applications

  ➢ CO4: Analyse the impact of Bandgap in conducting process

  ➢ CO5: Estimate the principle involved in determining the wavelength of laser source

(EXAMINATION AT THE END OF SIXTH SEMESTER)

Any 12 Experiments Only

1. Spectrometer – Cauchy's Constant
2. Spectrometer – (i – i') Curve
3. Impedance and Power Factor of an Inductive Resistive Circuit
4. Study of Series Resonance Circuit
5. Study of Parallel Resonance Circuit
6. Potentiometer – Reduction Factor
7. Potentiometer – EMF of Thermocouple
8. Potentiometer – Comparison of EMF
9. Potentiometer – High Range Voltmeter
10. Field along the axis of a coil – Vibration Magnetometer
11. Ballistic Galvanometer – Comparison of Mutual Inductance
12. Ballistic Galvanometer – High Resistance by Charging
13. Young's Modulus – Koenig's Method - Uniform bending
14. Young's Modulus – Koenig's Method - Non-uniform bending

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15. Semiconductor Diode - Bandgap Determination

16. Study of Solar cell

Demonstration

1. He – Ne Laser – Wavelength of laser source

2. Nano particle preparation

Parameters	Maximum Marks
Record Note book	05
Formula Used and Circuit diagram (if applicable)	15
Tabulation	15
Observation	15
Calculation	05
Result	05
Total	**60**

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Sem.	Course Code	CORE PRACTICAL – IV	Total Marks: 100		Hours Per Week	Credits
VI	20UAOCP605	Electronics Practical	CIA: 40	ESE: 60	2	3

OBJECTIVES:

➤ To train the students on measurements and Instruments

➤ To strengthen the understanding of theoretical knowledge

COURSE OUTCOMES:

At the end of the course, Students will be able to

➤ CO1: Recollect the principles of semiconductors and evaluate its validation in practicals

➤ CO2: Understand the applications of logic gates in logic circuits

➤ CO3: Implicate the ideas of theory in constructing the circuits

➤ CO4: Investigate the basic programming of 8085 microprocessor

➤ CO5: Review the instruments in wide variety of applications

(EXAMINATION AT THE END OF SIXTH SEMESTER)

Any 12 Experiments Only

1. Characteristics of Junction Diode

2. Characteristics of Zener Diode

3. Characteristics of a Transistor – CE configuration

4. Characteristics of UJT

5. Regulated Power Supply using IC

6. Single Stage RC coupled amplifier

7. Verification of Logic gates using IC

8. NAND gate as Universal building block

9. NOR gate as Universal building block

10. Verification of De Morgan's Theorem using IC

11. Half Adder and Half Subtractor using IC

12. Op-amp as Inverting and Non-inverting amplifier

13. Op-amp as Adder and Subtractor

14. Astable multivibrator
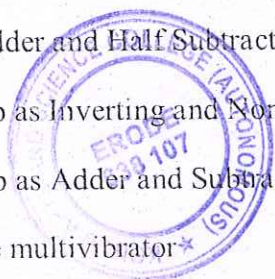
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15. Bistable multivibrator

16. Microprocessor – 8085 – Addition. Subtraction

17. Microprocessor – 8085 – 1's and 2's Complement Subtraction

18. Microprocessor – 8085 – Multiplication and Division

Demonstration (any 2)

1. CRO - Lissajous Pattern Formation

2. Hartley Oscillator

3. BCD to Seven segment display

Parameters	Maximum Marks
Record Note book	05
Formula Used and Circuit diagram (if applicable)	15
Tabulation	15
Observation	15
Calculation	05
Result	05
Total	**60**

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(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)

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ACTIVITIES

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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DEPARTMENT OF PHYSICS

One day National Seminar on "Emerging Technologies in Energy Devices and Functional Biomaterials" - 21.12.2020

One day National Seminar on "Emerging Technologies in Energy Devices and Functional Biomaterials" was organized under DBT Fund on 21.12.2020 with the Resource Persons Dr. P. Elumalai, Professor & Head, Department of Green Energy Technology, Madanjeet School of Green Energy Technologies, Pondicherry University, Puducherry and Dr. Sarath Chandra Veerla, Associate Professor, Godavari Institute of Engineering and Technology (Autonomous), Rajahmundry, Andhra Pradesh. Faculty Members, Research Scholars and PG students from various Institutes (290) acquired understanding of methodologies, tools and evaluation frameworks relevant to Energy Storage Devices. Also, participants were provided with sound knowledge on recent developments of Functional intelligent materials for Biological applications. Participants were further motivated to explore research in the current trending areas

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DEPARTMENT OF PHYSICS

A Two day Workshop on "Smart Phone Servicing" - 09.03.2021 & 10.03.2021

A Two Day Workshop on "Smartphone Servicing" was conducted in association with New Technology, Coimbatore under DBT Star College Scheme for the II B. Sc Physics Students (45), on 09.03.2021 & 10.03.2021. Students were exposed to the basic components in smart phones and also they gained knowledge on troubleshooting.

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One Day Workshop on "Electronic Components and Measurements" -19.03.2021

Kongu Arts and Science College

(An Autonomous Institution Affiliated to Bharathiar University, Coimbatore)

Erode - 638 107

Department of Physics

Cordially invites you for the

DBT Star College Scheme sponsored Workshop

on

Electronic Components & Measurements

(For the First Year Students of Physics)

Thiru. K. Palanisamy

Correspondent

has graciously consented to preside over the function

Dr. N. Raman

Principal

has graciously consented to felicitate the function

Date : 19.03.2021

Time : 10 am

KONGU
Assuring the Best

One day Workshop on "Electronic Components and Measurements" was conducted on 19.03.2021 for the I B.Sc., Physics students (27) under DBT fund with Thilagavathi Electronics, Erode. Students were exposed to various basic electronic components like diode, resistors, capacitors, transistors, etc., Also, the usage of breadboard for electronic circuit construction was demonstrated in the workshop. Students were made to understand the classification of active and passive electronic components and their role in circuits. Students gained practical knowledge on PCB board soldering and learnt the construction of electronic circuits.

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Nanjanapuram
Tamil Nadu
India
2021-03-19(Fri) 09:52(am)
27°C
81°F

Kongu Arts and Science College (Autonomous)
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Tamil Nadu
India
2021-03-19(Fri) 12:26(pm)
31°C
88°F

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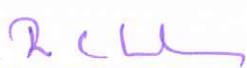
DEPARTMENT OF PHYSICS

Workshop on "Digital Storage Oscilloscope and Applications" - 20.03.2021

Kongu Arts and Science College (Autonomous), Erode
DBT Star College Scheme

Department of Physics

cordially invites you all for the

Workshop
on
Digital Storage Oscilloscope and Applications

Resource Person

S.P. Senthil Subramaniam

Mighty Electronics Equipments Corporation Coimbatore

Date : 20.03.2021
Time: 1.30 pm
Venue : Physics Laboratory

KONGU Assuring the Best

Workshop on "Digital Storage Oscilloscope and Applications" was organized by Service Engineer Mr.S.P. Senthil Subramaniam, Mighty Electronics Equipments Corporation, Coimbatore on 20.03.2021 to the I B.Sc., Physics students (27) under DBT star college scheme fund. Students gained the operating knowledge of Oscilloscope and its utility.

Nanjanapuram, Tamil Nadu, India
Kongu Arts and Science college, Nanjanapuram, Tamil Nadu 638107, India
Lat N 11° 18' 24.1704"
Long E 77° 39' 15.5952"
20/03/21 01:45 PM

Nanjanapuram, Tamil Nadu, India
Kongu Arts and Science college, Nanjanapuram, Tamil Nadu 638107, India
Lat N 11° 18' 24.1848"
Long E 77° 39' 15.5952"
20/03/21 01:36 PM

HEAD OF THE DEPARTMENT
DEPARTMENT OF PHYSICS
KONGU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)
ERODE - 638 107.

Dr. N. RAMAN
PRINCIPAL,
KONGU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)
NANJANAPURAM, ERODE - 638 107.

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

NANJANAPURAM, ERODE - 638 107

DEPARTMENT OF PHYSICS

Virtual Guest lecture on "Fundamentals of Electricity for Physicists" - 22.03.2021

Virtual Guest lecture was organized on "Fundamentals of Electricity for Physicists" on 22.03.2021 to the II & III B.Sc., Physics students (100) under DBT star college scheme and Dr.P.Sathya, Assistant Professor, Salem Sowdeswari College, Salem acted as a Resource person. Students understood the fundamental concept of electricity for practical applications. Students gained the analyzing and working knowledge over the field of current electricity and construct new circuits.
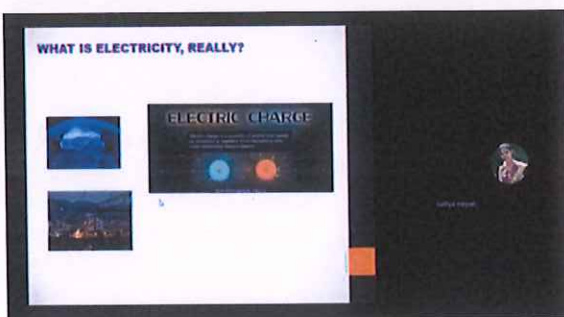
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DEPARTMENT OF PHYSICS

National Virtual Seminar on "Nanotechnology and its Applications" - 29.03.2021

National Virtual Seminar on "Nanotechnology and its Applications" was jointly organized by Physics, Biochemistry and Biotechnology departments on 29.03.2021. Resource persons were Prof.R.Ramaraj, Professor of Eminence & DAE Raja Ramanna Fellow (Prof. & Head (Retd.), Madurai Kamaraj University, Madurai, Dr.V.Subramanian, Chief Scientist & Head, CSIR – Central Leather Research Institute, Chennai and Dr.V.Veena, Assistant Professor, Department of Biotechnology, Rava University, Bangalore. Participants from various Institutions

Researchers were motivated to explore further in the current trending research areas.

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