

LESSON PLAN

Name :Dr Anita Jain (Theory)

Discipline: Applied Sciences & Humanities Department

Semester: 2nd

Subject: Applied Physics-II (AS-102N)

Lesson Plan Duration: 15 weeks (from January, 2018 to April, 2018)

Work Load: Lectures-04

| Week | Theory | |
|-----------------|------------------|--|
| | Lecture Day | Topic |
| 1 st | 1 st | Unit – I: Crystal Structure: Crystalline and Amorphous solids, Crystal Structure: lattice translation vector, symmetry operations, space lattice, |
| | 2 nd | basis; Unit cell and Primitive cell, |
| | 3 rd | Fundamental types of lattices: two-dimensional and three dimensional Bravais lattices |
| | 4 th | Characteristics of Unit cells: Simple Cubic (SC), Body Centred Cubic (BCC), Face Centred Cubic (FCC), |
| 2 nd | 5 th | Hexagonal Close Packed (HCP) structure; Simple crystal structures: Sodium Chloride, |
| | 6 th | Cesium Chloride, Diamond, |
| | 7 th | Cubic Zinc Sulfide; Miller Indices |
| | 8 th | Bonding in Solids |
| 3 rd | 9 th | Point defects in crystals: Schottky and Frenkel defects. |
| | 10 th | Revision |
| | 11 th | Unit – II: Quantum Theory: Need and origin of Quantum concept, |
| | 12 th | Wave-particle duality |
| 4 th | 13 th | Phase velocity |
| | 14 th | group velocity |
| | 15 th | Uncertainty Principle and Applications |
| | 16 th | Schrodinger's wave equation: time-dependent |
| 5 th | 17 th | Schrodinger's wave equation time –independent |
| | 18 th | Physical Significance of wave function ψ . |
| | 19 th | Revision |
| | 20 th | Unit – III: Free Electron Theory: Classical free electron theory: |
| 6 th | 21 st | electrical conductivity in metals |
| | 22 nd | electrical conductivity in metals |
| | 23 rd | thermal conductivity in metals, |
| | 24 th | Wiedemann-Franz law |
| 7 th | 25 th | success and drawbacks of free electron theory; |
| | 26 th | success and drawbacks of free electron theory; |

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| | 27 th | Quantum free electron theory: wave function, |
| | 28 th | eigen values |
| 8 th | 29 th | Fermi-Dirac distribution function, |
| | 30 th | Density of states |
| | 31 st | Fermi energy and its importance |
| | 32 nd | Thermionic Emission (qualitative). |
| 9 th | 33 rd | Thermionic Emission (qualitative). |
| | 34 th | Revision of free electron theory |
| | 35 th | Band theory of Solids: Bloch theorem |
| | 36 th | Kronig-Penney Model (qualitative), |
| 10 th | 37 th | Kronig-Penney Model (qualitative), |
| | 38 th | E versus k diagram, Brillouin Zones, |
| | 39 th | E versus k diagram, Brillouin Zones, |
| | 40 th | Concept of effective mass of electron, |
| 11 th | 41 st | Energy levels and energy bands, |
| | 42 nd | Energy levels and energy bands, |
| | 43 rd | Distinction between metals, insulators and semiconductors |
| | 44 th | Hall effect and its Applications. |
| 12 th | 45 th | Hall effect and its Applications. |
| | 46 th | Revision of band theory of solids |
| | 47 th | Unit –IV: Superconductivity: Introduction, General features of Superconductors |
| | 48 th | Meissner effect, |
| 13 th | 49 th | Types of superconductors |
| | 50 th | Elements of BCS theory, |
| | 51 st | London equations, |
| | 52 nd | Applications of superconductivity. |
| 14 th | 53 rd | Revision of superconductivity |
| | 54 th | Nanomaterials: Introduction |
| | 55 th | Synthesis of nanomaterials: Top-down and Bottom-up approach, |
| | 56 th | Sol-Gel and Ball Milling methods |
| 15 th | 57 th | Properties of Nanomaterials |
| | 58 th | Applications of Nanomaterials. |
| | 59 th | Revision of Nanomaterials |
| | 60 th | Revision & Problems |

Lesson Plan

Name of the Faculty : Dr Anita jain
Discipline : Applied Science & Humanities Department
Semester : 2nd
Subject : Applied Physics Lab-II (AS-106N)
Lesson plan : 15 Weeks (From January,2018 to April,2018)
Lecture per Week (in Hours): Lectures-02

| Week | Practical | |
|------------------|---------------|---|
| | Practical Day | Topic |
| 1 st | 1. | To find the frequency of ultrasonic waves by Piezoelectric methods. |
| 2 nd | 2. | To find the value of e/m for electrons by Helical method. |
| 3 rd | 3. | To find the ionisation potential of Argon/Mercury using a Thyatron tube. |
| 4 th | 4. | To study the variation of magnetic field with distance and to find the radius of coil by Stewart and Gee's apparatus. |
| 5 th | 5. | To study the characteristics of (Cu-Fe, Cu-Constantan) thermocouple. |
| 6 th | 6. | To find the value of Planck's constant by using photoelectric cell. |
| 7 th | 7. | To find the value of coefficient of self inductance by using a Rayleigh bridge. |
| 8 th | 8. | To find the value of Hall Coefficient of semiconductor. |
| 9 th | 9. | To study the V-I characteristics of a p-n diode. |
| 10 th | 10. | To find the band gap of intrinsic semiconductor using four probe method. |
| 11 th | 11. | To calculate the hysteresis loss by tracing a B-H curve. |
| 12 th | 12. | To verify Richerdson thermionic equation. |
| 13 th | 13. | To find the flashing and quenching potential of Argon and to find the capacitance of unknown capacitor. |
| 14 th | 14. | To find the temperature coefficient of resistance by using Pt resistance thermometer by post office box. |

LESSON PLAN

Name : Mr. Simranjeet Singh (Theory)

Discipline: Applied Sciences & Humanities Department

Semester: 2nd

Subject: Manufacturing Tech. & Process (ME-101N)

Lesson Plan Duration: 15 weeks (from January, 2018 to April, 2018)

Work Load: Lectures-04

| Week | Theory | |
|-----------------|------------------|--|
| | Lecture Day | Topic |
| 1 st | 1 st | Unit – I: Introduction to Manufacturing Processes and their Classification |
| | 2 nd | Industrial Safety; Introduction. |
| | 3 rd | Types of Accidents, Causes and Common Sources of Accidents. |
| | 4 th | Methods of Safety, First Aid. |
| 2 nd | 5 th | Engineering Materials; General Properties and Applications of Engineering Materials, |
| | 6 th | Mild Steel, Medium Carbon Steel, |
| | 7 th | High Carbon Steel, High Speed Steel and Cast Iron. |
| | 8 th | Revision of manufacturing process. |
| 3 rd | 9 th | Unit – II: Foundry: Introduction to Casting Processes. |
| | 10 th | Basic Steps in Casting Process, Pattern and use of pattern. |
| | 11 th | Types of Patterns, Pattern Allowances. |
| | 12 th | Risers, Runners, Gates, Moulding Sand and its composition. |
| 4 th | 13 th | Sand Preparation, Molding Methods |
| | 14 th | Core Sands and Core Making, |

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| | 15 th | Core Assembly |
| | 16 th | Mold Assembly. |
| 5 th | 17 th | Melting (Cupola) and Pouring |
| | 18 th | Melting (Cupola) and Pouring; Fettling |
| | 19 th | Casting Defects and Remedies. |
| | 20 th | Revision |
| 6 th | 21 st | Unit – III :Cold Working (Sheet Metal Work) Sheet Metal Operations |
| | 22 nd | Layout Marking, Shearing, Punching, |
| | 23 rd | Blanking, Piercing, Forming, |
| | 24 th | Bending and Joining, Advantages and Limitations |
| 7 th | 25 th | Hot Working Processes: Introduction to Hot Working. |
| | 26 th | Principles of Hot Working Processes, |
| | 27 th | Forging, Rolling, Extrusion, Wire Drawing. |
| | 28 th | Plant Layout: Objectives of Layout |
| 8 th | 29 th | Objectives of Layout |
| | 30 th | Types of Plant Layout |
| | 31 st | Types of Plant Layout |
| | 32 nd | Types of Plant Layout |
| 9 th | 33 rd | Types of Plant Layout |
| | 34 th | Revision of plant layout |
| | 35 th | Revision of sheet metal work |
| | 36 th | Unit –IV: Introduction to Machine Tools |
| 10 th | 37 th | Specifications and Uses of commonly used Machine Tools |

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| | 38 th | Specifications and Uses of commonly used Machine Tools |
| | 39 th | Lathe machine |
| | 40 th | Lathe machine parts |
| 11 th | 41 st | Lathe machine operation, |
| | 42 nd | Milling machine, |
| | 43 rd | Milling machine parts, |
| | 44 th | Milling machine operation, |
| 12 th | 45 th | Drilling machine |
| | 46 th | Drilling machine parts |
| | 47 th | Drilling machine operations. |
| | 48 th | Introduction to Metal Cutting |
| 13 th | 49 th | Nomenclature of a Single Points Cutting Tool |
| | 50 th | Tool Wear. |
| | 51 st | Mechanics of Chips Formations, |
| | 52 nd | Type of Chips , Use of Coolants in machining. |
| 14 th | 53 rd | Welding: Introduction to Welding, Classification of Welding Processes |
| | 54 th | Gas Welding: Oxy-Acetylene Welding |
| | 55 th | Resistance Welding: Spot and Seam Welding |
| | 56 th | Arc Welding: Metal Arc, TIG & MIG Welding, |
| 15 th | 57 th | Welding Defects and Remedies |
| | 58 th | Soldering & Brazing. |
| | 59 th | Revision |
| | 60 th | Revision & Problems |

Lesson Plan

Name of the Faculty : **Mr. Anoop Gorshi**

Discipline : **Electronics and Communication Engineering**

Semester : **2nd**

Subject : **Electrical Technology Fundamentals (EE-101N)**

Lesson plan : **12 Weeks (From January, 2018 to April, 2018)**

Lecture per Week (in Hours): **Lectures-04**

| Week | Theory | |
|-----------------|-------------|--|
| | Lecture Day | Topic(including assignment/test) |
| 1 st | 1. | Unit 1: Introduction to subject and basic definitions. |
| | 2. | Ohm's law and Kirchoff's Current law and Voltage law |
| | 3. | Mesh Analysis and applied to DC Ckts. with examples |
| | 4. | Nodal Analysis and applied to DC ckts with examples |
| 2 nd | 5. | Thevenin theorem with example |
| | 6. | Norton theorem with example |
| | 7. | Superposition theorem with example |
| | 8. | Max. Power transfer theorem |
| 3 rd | 9. | Star Delta Conversion for dc ckt. |
| | 10. | Assignment 1: Numericals on D.C.Theorems |
| | 11. | Test 1: Unit 1 |
| | 12. | Unit 2: Introduction to AC ckt, with basic definitions including Avg. Value & RMS value |
| 4 th | 13. | Phasor representation, phase and phase difference |
| | 14. | Behavior of pure R, L and C in AC ckt |
| | 15. | R-L series ckt |
| | 16. | Power factor and its importance |
| 5 th | 17. | Contd. Power factor and its importance |
| | 18. | Complex power |
| | 19. | R-C series ckt |
| | 20. | R-L-C series resonance ckt |
| 6 th | 21. | Phasor method to solve Parallel ckts |
| | 22. | j-method to solve parallel ckt |
| | 23. | Contd... j-method to solve parallel ckt |
| | 24. | R-L-C parallel resonance. |

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| 7 th | 25. | Assignment 2 : Numericals on AC Series and Parallel ckts |
| | 26. | Test 2: Unit 2 |
| | 27. | Unit 3: Introduction to polyphase ckt and advantages of 3-phase over 1-phase |
| | 28. | Star connection for 3-phase |
| 8 th | 29. | Delta connection for 3-phase and Power in 3-phase ckt |
| | 30. | 3-phase Power measurement by two wattmeter method under balanced load |
| | 31. | Introduction to magnetic ckts, Fleming's left hand and right hand rule. |
| | 32. | Relation b/w magnetic flux, mmf, reluctance, Hyteresis and eddy current losses and their minimization. |
| 9 th | 33. | Basic principle, construction and working of Transformer |
| | 34. | Transformer on DC supply and emf equation for 1-pahse transformer |
| | 35. | Transformer on no load and Transformer on load with phasor dig. |
| | 36. | Voltage regulation, Losses in transformers |
| 10 th | 37. | Efficiency of 1-phase transformer and condition for max. eff. |
| | 38. | 1-phase auto transformer |
| | 39. | Test 3 : Unit 3 |
| | 40. | Unit 4 : Introduction to 3-phase induction motor, working and construction of motor |
| 11 th | 41. | Revolving field theory |
| | 42. | Slip concept and torque speed curve |
| | 43. | 1-phase induction motor |
| | 44. | Construction and working of DC motor and generator |
| 12 th | 45. | Types of dc machines |
| | 46. | Emf equation and torque equation of dc machine |
| | 47. | Characteristics of dc motors, Speed control of dc motors |
| | 48. | Test 4 : Unit 4 |

Text Books:

1. Vijay Kumar Garg, Basic Electrical Engg: A complete Solution, Wiley India Ltd.
2. Rajendra Prasad, Electrical Engg. Fundamentals, PHI Pub.

Reference Books:

1. S.K. Sahdev, Basic Electrical Engg., Pearson Education
2. PV Prasad, Basic Electrical Engg, Sivangaraju, Cengage Learning Pub.
3. Bobrow, Electrical Engg. Fundamentals, Oxford Univ. Press
4. Kulshreshtha, Basic Electrical Engg., McGraw Hill Pub.

LESSON PLAN

Name : Dr. Shelly (Theory)

Discipline: Applied Sciences & Humanities Department

Semester: 2nd

Subject: Applied Chemistry (AS-103N)

Lesson Plan Duration: 15 weeks (from January, 2018 to April, 2018)

Work Load: Lectures-03

| Week | Theory | |
|-----------------|------------------|---|
| | Lecture Day | Topic |
| 1 st | 1 st | UNIT 1: First, second, third and zeroth law of thermodynamics |
| | 2 nd | concept of entropy (for reversible and irreversible process, of phase transition) |
| | 3 rd | concept of entropy(of ideal gases) |
| 2 nd | 4 th | free energy, work function |
| | 5 th | chemical potential, Gibb's Helmholtz equation |
| | 6 th | Clausius-Clapeyron equation |
| 3 rd | 7 th | Related Numericals,revision test |
| | 8 th | Phase rule, terminology |
| | 9 th | derivation of Gibbs phase rule, phase diagrams of water system |
| 4 th | 10 th | sulphur system |
| | 11 th | (Pb-Ag) system, (Zn-Mg) system |
| | 12 th | (Na-K) system, numerical problems |
| 5 th | 13 th | UNIT 2: Water and its treatment: Hardness of water and its determination by EDTA |
| | 14 th | alkalinity and its determination |
| | 15 th | related numerical problems |
| 6 th | 16 th | Scale formation and sludge formation (composition, properties and methods of prevention) |
| | 17 th | Water softening by ion exchange |
| | 18 th | desalination (reverse osmosis, electrodialysis) |
| 7 th | 19 th | Green Chemistry: Definition and concept |
| | 20 th | Twelve principles of green chemistry |
| | 21 st | Alternate solvents-ionic liquids |
| 8 th | 22 nd | super critical fluid (SCF) system |
| | 23 rd | derivatized and immobilized solvent materials |
| | 24 th | Revision Test |

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| 9 th | 25 th | UNIT 3: Corrosion: Dry and Wet corrosion |
| | 26 th | Electrochemical theory of corrosion |
| | 27 th | Pitting, water-line corrosion |
| 10 th | 28 th | differential aeration, stress corrosion |
| | 29 th | factors affecting corrosion |
| | 30 th | preventive measures (proper design and material selection) |
| 11 th | 31 st | cathodic and anodic protection |
| | 32 nd | Revision Test |
| | 33 rd | Lubricants: Mechanism of thin and thick layer lubrication |
| 12 th | 34 th | classification of lubricants |
| | 35 th | important properties of lubricants (viscosity index, flash and fire point) |
| | 36 th | saponification number, pour point, iodine number |
| 13 th | 37 th | Greases as lubricants: consistency and drop point test |
| | 38 th | UNIT 4: Ceramics (brief introduction of clays, silica) |
| | 39 th | feldspar, porcelain and Vitreous Enamels |
| 14 th | 40 th | cement (introduction, raw materials, manufacture of portland cement) |
| | 41 st | Analysis of cement |
| | 42 nd | Nanoscale materials (introduction, properties of nanomaterials, brief discussion of nanocrystals) |
| 15 th | 43 rd | clusters, fullerenes, carbon nanotubes |
| | 44 th | Dendrimers, nanowires, nanocomposites |
| | 45 th | Revision test |

LESSON PLAN

Name :Mr. Brij Bhushan (Theory)

Discipline: Applied Sciences & Humanities Department

Semester: 2nd

Subject: Engg. Drawing and Graphics (ME-105N)

Lesson Plan Duration: 15 weeks (from January, 2018 to April, 2018)

Work Load: Lectures-04

| Week | Theory | |
|-----------------|------------------|---|
| | Lecture Day | Topic |
| 1 st | 1 st | Unit – I: Introduction, Projection of Points: Introduction to Engineering Equipment, Elements of Engineering Drawing |
| | 2 nd | Types of Lines |
| | 3 rd | Various types of projections, First and third angle systems of orthographic projections. |
| | 4 th | Projections of points in different quadrants |
| 2 nd | 5 th | Shortest distance of Point from reference line. |
| | 6 th | Projections of straight lines |
| | 7 th | Line parallel to one or both reference planes, |
| | 8 th | Line contained by one or both reference planes |
| 3 rd | 9 th | Line perpendicular to one of the reference planes |
| | 10 th | Line inclined to one plane but parallel to the other plane |
| | 11 th | Line inclined to both the reference planes |
| | 12 th | True length of a line and its inclinations with reference planes, traces of a line. |

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| 4 th | 13 th | Unit –II : Projection of planes: Introduction, |
| | 14 th | Types of planes and their specification |
| | 15 th | Projection of planes by change of position method only. |
| | 16 th | Projection of plane perpendicular to reference plane. |
| 5 th | 17 th | projection of plane perpendicular to a plane and parallel to another plane |
| | 18 th | projection of plane parallel to one plane and inclined to the other plane |
| | 19 th | Projection of plane perpendicular to a plane, with axis inclined to both the planes. |
| | 20 th | Projection of planes contained by profile plane. |
| 6 th | 21 st | Projection of Solids: Types of solids, |
| | 22 nd | Projections of polyhedral solids in simple positions with axis perpendicular to a plane, |
| | 23 rd | Projections of polyhedral solids with axis parallel to both planes |
| | 24 th | Projections of polyhedral solids with axis parallel to one plane and inclined to the other. |
| 7 th | 25 th | Projection of Solids of revolution – in simple positions with axis perpendicular to a plane, |
| | 26 th | Projection of Solids of revolution with axis parallel to both planes, |
| | 27 th | Projection of Solids of revolution with axis parallel to one and inclined to the other. |
| | 28 th | Projection of Solids of revolution with axis inclined to both planes. |
| 8 th | 29 th | Unit –III : Section of Solids: Basics |
| | 30 th | Introduction to section planes. |
| | 31 st | Apparent section, true section. |

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| | 32 nd | Sectional view, need for sectional view, cutting plane, cutting plane line. |
| 9 th | 33 rd | Sectional view of simple solids such as Prism, Cylinders, in simple position |
| | 34 th | Sectional view of simple solids such as Pyramids and Cones in simple position |
| | 35 th | Section plane perpendicular to one plane and parallel to the other |
| | 36 th | Section plane perpendicular to one plane and inclined to the other. |
| 10 th | 37 th | Development of Surfaces: Basics |
| | 38 th | Development of surface of cubes in simple positions |
| | 39 th | Development of surface of cylinders in simple positions |
| | 40 th | Development of surface of prisms in simple positions |
| 11 th | 41 st | Development of surface of pyramids in simple Positions |
| | 42 nd | Development of surface of prisms in truncated positions |
| | 43 rd | Development of surface of pyramids in truncated Positions |
| | 44 th | Development of surface of frustum of pyramids in simple Positions |
| 12 th | 45 th | Unit –IV : Orthographic views (First Angle Projection Only): Basics |
| | 46 th | Three orthographic views of solids |
| | 47 th | Concept of hidden edges. |
| | 48 th | Concept of symmetrical axis |
| 13 th | 49 th | Orthographic Views of Square Nuts. |
| | 50 th | Orthographic Views of Hexagonal Nuts |
| | 51 st | Orthographic Views of Square Bolt |
| | 52 nd | Orthographic Views of Hexagonal Bolt |

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| 14 th | 53 rd | AUTOCAD basics: Cartesian and Polar Co-ordinate system, |
| | 54 th | Absolute and Relative Coordinates systems. |
| | 55 th | Basic Commands: Line, Point, Rectangle, Polygon |
| | 56 th | Circle, Arc, Ellipse, Polyline |
| 15 th | 57 th | Basic editing Commands: Basic Object Selection Methods, Window and Crossing Window |
| | 58 th | Erase, Move, Copy, Offset, Fillet, Chamfer, Trim, Extend, Mirror |
| | 59 th | Display Commands: Zoom, Pan, Redraw, and Regenerate |
| | 60 th | Simple dimensioning and text, simple exercises. |

Lesson Plan

Name : Ms Shweta

Discipline: Electronics and Communication Department

Semester: 2nd (sec-C, D)

Subject: Basics Electronics Lab (ECE-103N)

Lesson Plan Duration: 15 weeks (from January, 2018 to April, 2018)

Work Load: Practicals-02

| | Practical | |
|------|---------------|---|
| Week | Practical Day | Topic |
| 1 | 1 | Identification, specification, Testing of RLC components, potentiometers, switches, breadboard, diodes, BJTs, JFETs, MOSFETs, power transistors, SCRs and LEDs. |
| 2 | 2 | Study and operation of digital multimeter, Function generator, regulated power supply, CRO; amplitude, phase and frequency of sinusoidal signals on CRO. |
| 3 | 3 | Viva-Voce |
| 4 | 4 | To study and perform the experimental verification of VI characteristics of PN diode in forward and reverse bias. |
| 5 | 5 | To study and perform the experimental verification of half wave and full wave rectifier and calculate its ripple factor, efficiency and PIV. |
| 6 | 6 | Viva-Voce |
| 7 | 7 | To study and perform the experimental verification of zener diode as voltage regulator and calculate its parameter. |
| 8 | 8 | To study and perform the experimental verification of input-output characteristics of BJT in CE configuration. |
| 9 | 9 | To study and perform the experimental verification of Op-amp as inverting, non-inverting, differential amplifier and calculate its voltage gain |
| 10 | 10 | Viva-Voce |
| 11 | 11 | To study and perform the experimental verification of summing and difference amplifier and calculate its voltage gain. |
| 12 | 12 | To study and perform the experimental verification of IV characteristics of JFET and MOSFET and calculate all its parameters. |
| 13 | 13 | Viva -Voce |
| 14 | 14 | Simulation of simple electronics circuit and analyzing its input and output waveforms using any of EDA tool. |
| 15 | 15 | Internal Viva |

LESSON PLAN

Name: Dr. Vidushi

Discipline: Applied sciences and humanities

Semester: 2nd

Lesson plan duration: 15 weeks (from January, 2018 to April, 2018)

Subject: Fundamentals of Biotechnology (BT-101N)(Theory)

Work Load: Lectures-04

| Week | Theory | |
|-----------------|------------------|---|
| | Lecture Day | Topic |
| 1 st | 1 st | Unit:1 Introduction to Biotechnology (definitions and areas) |
| | 2 nd | Applications of Biotechnology related to daily life |
| | 3 rd | Bioethics and its need |
| | 4 th | Introduction to living world: Concept and definition of Biology |
| 2 nd | 5 th | Characteristic features of living organisms |
| | 6 th | Cell ultra-structure: Structure of Prokaryotic cell(Bacteria) |
| | 7 th | Structure of Eukaryotic Cell(Plant and Animal cell) |
| | 8 th | Functions of cell organelles: Nucleus, mitochondria |
| 3 rd | 9 th | Revision test:1 |
| | 10 th | Chloroplast, Ribosomes (structure and functions) |
| | 11 th | Endoplasmic Reticulum and other organelles |
| | 12 th | Difference between: Prokaryotic and Eukaryotic cell, Animal and Plant cell |
| 4 th | 13 th | Revision test:2 |
| | 14 th | Introduction to biomolecules: Definition, general classification of carbohydrates |
| | 15 th | Important functions of carbohydrates |
| | 16 th | Lipids (Types and importance) |
| 5 th | 17 th | Proteins (structure and importance) |
| | 18 th | Nucleic acids: DNA (Structure and form) |
| | 19 th | RNA (Structure and form) |
| | 20 th | Vitamins (Types and importance) |
| 6 th | 21 st | Hormones (Types and importance) |
| | 22 nd | Enzymes and its industrial applications |
| | 23 rd | Revision test:3 |
| | 24 th | Unit: 2 Cell Division –Mitosis and its utility to living systems |
| 7 th | 25 th | Meiosis and its genetic significance |
| | 26 th | Gene: Concept, location, Definition and structure |
| | 27 th | Introduction to Replication |
| | 28 th | Transcription (definition and mechanism) |

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| 8 th | 29 th | Translation (definition and mechanism) |
| | 30 th | Mutations and its types |
| | 31 st | Genetic disorders |
| | 32 nd | Human traits: Genetics of Blood Groups |
| 9 th | 33 rd | Diabetes type I and II (causes and remedies) |
| | 34 th | Revision test:3 |
| | 35 th | Morphology and pathogenicity of Bacteria |
| | 36 th | Fungi (importance and harmfulness) |
| 10 th | 37 th | Virus (importance and harmfulness) |
| | 38 th | Protozoa (importance and harmfulness) |
| | 39 th | Unit :3 Concepts of Genetic Engineering: Definition and Applications |
| | 40 th | Tools used in Recombinant DNA technology |
| 11 th | 41 st | Plasmids as nature's interlopers |
| | 42 nd | Vectors as gene transfer vehicles |
| | 43 rd | Restriction enzymes as nature's pinking shears |
| | 44 th | Applications of Genetic engineering. |
| 12 th | 45 th | Revision test:4 |
| | 46 th | Transgenesis and methods of production of transgenic organism |
| | 47 th | Production and significance of Transgenic plants |
| | 48 th | Production and significance of Transgenic animals |
| 13 th | 49 th | Basic concept of genetically modified organisms and significance |
| | 50 th | Unit :4 Applications of Biotechnology in Agriculture |
| | 51 st | Applications of Biotechnology in Medicine |
| | 52 nd | Applications of Biotechnology in Environment |
| 14 th | 53 rd | Applications of Biotechnology in Industry |
| | 54 th | Applications of Biotechnology in Forensic Science |
| | 55 th | Revision test :5 |
| | 56 th | Role of Biology in Information Technology (Bioinformatics) |
| 15 th | 57 th | Nano biotechnology and its applications |
| | 58 th | Micro-electromechanical systems (Bio-MEMS) |
| | 59 th | Biosensors (concept and uses) |
| | 60 th | Ethical issues related to Biotechnology |

Lesson Plan

Name: Dr. Shelly

Discipline:- Applied Science & Humanities

Semester:- 2nd

Subject:- Chemistry Lab (AS-109N)

Lesson Plan Duration:- 15 weeks (From Jan-2018 to April-2018)

Work Load: Labs-02

| Week | Labs Day | Name of Experiments |
|-----------------|-----------------|---|
| 1 st | 1 st | Determination of Temporary and Permanent Hardness by EDTA Method |
| | 2 nd | |
| 2 nd | 1 st | Determination of Ca ²⁺ and Mg ²⁺ Hardness of water by EDTA Method |
| | 2 nd | |
| 3 rd | 1 st | Determination of Alkalinity of given water sample |
| | 2 nd | |
| 4 th | 1 st | Determination of Dissolved Oxygen (DO) in given water Sample. |
| | 2 nd | |
| 5 th | 1 st | Determination of Viscosity of Lubricants by Redwood Viscometer No (1 & 2) |
| | 2 nd | |
| 6 th | 1 st | To Determine the Strength of HCl solution by titrating it with NaOH solution Conductometrically. |
| | 2 nd | |
| 7 th | 1 st | To Determine the Coefficient of Viscosity of a Liquid by Ostwald Viscometer |
| | 2 nd | |
| 8 th | 1 st | To Determine the surface Tension of a given Liquid by Means of Stalagmometer by Drop number Method. |
| | 2 nd | |
| 9 th | 1 st | To Determine the Strength of strong Acid by Titrating it with strong Base using pH Meter. |
| | 2 nd | |

| Week | Labs Day | Name of Experiments |
|------------------|-----------------|---|
| 10 th | 1 st | To Determining the Total Iron Content (Fe ²⁺ and Fe ³⁺) in an Iron ore by Self Indicator Method. |
| | 2 nd | |
| 11 th | 1 st | To Determine the Concentration of KmnO ₄ solution Spectrophotometrically. |
| | 2 nd | |
| 12 th | 1 st | To Determining the Total Iron Content (Fe ²⁺ and Fe ³⁺) in an Iron ore by Internal Indicator Method. |
| | 2 nd | |
| 13 th | 1 st | .Viva- Voce |
| | 2 nd | |
| 14 th | 1 st | Practical Performance Test |
| | 2 nd | |
| 15 th | 1 st | Practical Performance Test |
| | 2 nd | |

Lesson Plan (Lab)

Name of the Faculty : **Ms. Deepti**

Discipline : **Applied Science**

Semester : **2nd**

Subject : **Computer Programming Lab (CSE-103N)**

Lesson plan : **15 Weeks (From January, 2018 to April, 2018)**

Lecture per Week (in Hours): **Lectures-02**

| Week | Practical | |
|-----------------|---------------|---|
| | Practical Day | Topic |
| 1 st | 1. | Introduction to C-Language & Basics of Programming Write a program to find the sum of individual digits of a positive integer. |
| 2 nd | 2. | Introduction to Loops Write a program to generate the first n terms of the Fibonacci sequence. Write a program to generate all the prime numbers between 1 and n, where n is the input value given by the user. |
| 3 rd | 3. | Introduction to Conditional Programming Write a program to find the roots of a quadratic equation. |
| 4 th | 4. | Introduction to Functions in C Write a function to generate Pascal's triangle. Write a function to construct a pyramid of numbers. |
| 5 th | 5. | Write programs that use both recursive and non-recursive functions for the following a. To find the factorial of a given integer. b. To find the GCD (greatest common divisor) of two given integers. |
| 6 th | 6. | Introduction to Arrays (1-D,2-D & Multidimensional) Write a program for addition of Two Matrices Write a program for calculating transpose of a matrix. Write a program for Matrix multiplication by checking compatibility Write a C functions to find both the largest and smallest number of an array of integers. |
| 7 th | 7. | Strings & Its Operations:- Write a function that uses functions to perform the count the lines, words and characters in a given text. |
| 8 th | 8. | Write a program to read a string and write it in reverse order Write a program to concatenate two strings Write a program to check that the input string is a palindrome or not. |
| 9 th | 9. | Pointers, Structure & Union:- |

| | | |
|------------------|-----|--|
| | | Write a program to print the element of array using pointers Write a program to implement call by reference |
| 10 th | 10. | Write a program to explores the use of structures, union and other user defined variables |
| 11 th | 11. | File Handling:- Write a program which copies one file to another. Write a program to reverse the first n characters in a file. |
| 12 th | 12. | Revision |
| 13 th | 13. | Revision |
| 14 th | 14. | Viva |
| 15 th | 15. | Viva |

Text Books:

T1:Pradip Dey and Manas Ghose, Computer Fundamental and Programming in C, Oxford Pub.

T2: Vikas Gupta, Computer Concepts and C Programming, Dreamtech.

Reference Books/Websites:

R1:Introduction to Computer & Programming in C by J.B Dixit

R2: Yashwant Kanetker, Let us C, BPB Publications.

Lesson Plan

Name of the Faculty : **Mr. Anoop**

Discipline : **Applied Science**

Semester : **2nd**

Subject : **Electrical Technology Lab (EE-103N)**

Lesson plan : **12 Weeks (From January, 2018 to April, 2018)**

Lecture per Week (in Hours): **Lectures-02**

| Week | Practical | |
|------------------|---------------|--|
| | Practical Day | Topic |
| 1 st | 1. | Introduction to Electrical technology lab and instruments. |
| 2 nd | 2. | To verify KVL and KCL. |
| 3 rd | 3. | To verify Superposition theorem on a linear circuit with at least one voltage & one current source. |
| 4 th | 4. | To verify Thevenin's Theorem on a linear circuit with at least one voltage & one current source |
| 5 th | 5. | To study frequency response of a series R-L-C circuit on CRO and determine resonant frequency & Q- factor for various Values of R, L, and C. |
| 6 th | 6. | To study frequency response of a parallel R-L-C circuit on CRO and determine resonant frequency & Q -Factor for various values of R, L, and C. |
| 7 th | 7. | To perform direct load test on a single phase transformer and plot efficiency v/s load characteristic. |
| 8 th | 8. | To perform O.C. and S.C. tests on a single phase transformer. |
| 9 th | 9. | To calibrate a single phase energy meter. |
| 10 th | 10. | To perform starting & reversal of direction of a three phase induction motor. |
| 11 th | 11. | Measurement of power in a 3 phase balanced system by two watt meter method. |
| 12 th | 12. | Viva |

Text Books:

1. Vijay Kumar Garg, Basic Electrical Engg: A complete Solution, Wiley India Ltd.
2. Rajendra Prasad, Electrical Engg. Fundamentals, PHI Pub.

Reference Books:

1. S.K. Sahdev, Basic Electrical Engg., Pearson Education
2. PV Prasad, Basic Electrical Engg, Sivangaraju, Cengage Learning Pub.
3. Bobrow, Electrical Engg. Fundamentals, Oxford Univ. Press
4. Kulshreshtha, Basic Electrical Engg., McGraw Hill Pub.

LESSON PLAN(Theory)

Name : Ms. Deepti

Discipline: Applied Sciences & Humanities

Semester:2nd

Subject:Introduction to Computer Programming (CSE-101N)

Lesson Plan Duration: 15 weeks (from January, 2018 to April, 2018)

Work Load: Lectures-03

| Week | Theory | |
|-----------------|------------------|--|
| | Lecture Day | Topic |
| 1 st | 1 st | Overview of Computers: Block diagram and its description |
| | 2 nd | Number systems, Arithmetic of Number Systems |
| | 3 rd | -do- |
| 2 nd | 4 th | -do- |
| | 5 th | -do- |
| | 6 th | Computer Hardware: I/O Devices |
| 3 rd | 7 th | -do- |
| | 8 th | Memory :Main Memory & Secondary Memory |
| | 9 th | -do- |
| 4 th | 10 th | Different levels of PL: High Level language, Assembly language, Machine language |
| | 11 th | Introduction to Compiler, Interpreter, Debugger, Linker, Loader, Assembler. |
| | 12 th | Algorithm & related examples |
| 5 th | 13 th | Flowcharts & Related Examples |
| | 14 th | Revision of Important Concepts of 1 st Unit |
| | 15 th | Introduction to Computer Programming Language :C Elements of C, Data types |
| 6 th | 16 th | Operators in C : Their precedence & associativity of operators |
| | 17 th | Input & Output Statements in C, Structure of C- Program |
| | 18 th | Programming examples |
| 7 th | 19 th | Introduction to Conditional Programming In C, Various Conditional Constructs in C |
| | 20 th | Programming Examples of Conditional Constructs |
| | 21 st | -do- |
| 8 th | 22 nd | Introduction to Loops in C: Various Loop Structures like While,Do-While,For |
| | 23 rd | Programming Examples of Loops |
| | 24 th | -do- |

| | | |
|------------------|------------------|--|
| 9 th | 25 th | Break , Continue,goto statements in C & Their practical application |
| | 26 th | Revision of Important Concepts of 2 nd Unit |
| | 27 th | Introduction to Arrays in C (1-D,2-D & Multidimensional) |
| 10 th | 28 th | Processing of Arrays with programming examples |
| | 29 th | String Handling in C, String Library Functions |
| | 30 th | Programming Examples of String |
| 11 th | 31 st | Functions in C, Definition, Prototype of Functions |
| | 32 nd | Parameter Passing Techniques (Call By Value, Call By Reference) |
| | 33 rd | Recursive Functions ,Passing Array to a Function |
| 12 th | 34 th | Programming Examples of Functions & Related Concepts |
| | 35 th | Revision of Important Concepts of 3 rd Unit |
| | 36 th | Pointers in C : Declaration, Initialization & Their Usage |
| 13 th | 37 th | Pointers & Functions using programming examples |
| | 38 th | Pointers & Strings using programming examples |
| | 39 th | Structures in C |
| 14 th | 40 th | Union in C |
| | 41 st | Pointers with Structure & Union |
| | 42 nd | File Handling in C |
| 15 th | 43 rd | Programming examples |
| | 44 th | Revision of important concepts of 4 th Unit |
| | 45 th | Revision Test |

Text Books:

T1:PradipDey and ManasGhose, Computer Fundamental and Programming in C, Oxford Pub.
T2: Vikas Gupta, Computer Concepts and C Programming, Dreamtech.

Reference Books/Websites:

R1:Introduction to Computer & Programming in C by J.B Dixit
R2:YashwantKanetker, Let us C, BPB Publications.

Lesson Plan

Name of the Faculty : Dr. Anita
Discipline : Applied Science & Humanities Department
Semester : 2nd
Subject : Applied Physics Lab-II (AS-106N)
Lesson plan : 15 Weeks (From January,2018 to April,2018)

Lecture per Week (in Hours): Lectures-02

| Week | Practical | |
|------------------|---------------|---|
| | Practical Day | Topic |
| 1 st | 1. | To find the frequency of ultrasonic waves by Piezoelectric methods. |
| 2 nd | 2. | To find the value of e/m for electrons by Helical method. |
| 3 rd | 3. | To find the ionisation potential of Argon/Mercury using a Thyatron tube. |
| 4 th | 4. | To study the variation of magnetic field with distance and to find the radius of coil by Stewart and Gee's apparatus. |
| 5 th | 5. | To study the characteristics of (Cu-Fe, Cu-Constantan) thermocouple. |
| 6 th | 6. | To find the value of Planck's constant by using photoelectric cell. |
| 7 th | 7. | To find the value of coefficient of self inductance by using a Rayleigh bridge. |
| 8 th | 8. | To find the value of Hall Coefficient of semiconductor. |
| 9 th | 9. | To study the V-I characteristics of a p-n diode. |
| 10 th | 10. | To find the band gap of intrinsic semiconductor using four probe method. |
| 11 th | 11. | To calculate the hysteresis loss by tracing a B-H curve. |
| 12 th | 12. | To verify Richerdson thermionic equation. |
| 13 th | 13. | To find the flashing and quenching potential of Argon and to find the capacitance of unknown capacitor. |
| 14 th | 14. | To find the temperature coefficient of resistance by using Pt resistance thermometer by post office box. |

LESSON PLAN

Name :Dr.Anita (Theory)

Discipline: Applied Sciences & Humanities Department

Semester: 2nd

Subject: Applied Physics-II (AS-102N)

Lesson Plan Duration: 15 weeks (from January, 2018 to April, 2018)

Work Load: Lectures-04

| Week | Theory | |
|-----------------|------------------|--|
| | Lecture Day | Topic |
| 1 st | 1 st | Unit – I: Crystal Structure: Crystalline and Amorphous solids, Crystal Structure: lattice translation vector, symmetry operations, space lattice, |
| | 2 nd | basis; Unit cell and Primitive cell, |
| | 3 rd | Fundamental types of lattices: two-dimensional and three dimensional Bravais lattices |
| | 4 th | Characteristics of Unit cells: Simple Cubic (SC), Body Centred Cubic (BCC), Face Centred Cubic (FCC), |
| 2 nd | 5 th | Hexagonal Close Packed (HCP) structure; Simple crystal structures: Sodium Chloride, |
| | 6 th | Cesium Chloride, Diamond, |
| | 7 th | Cubic Zinc Sulfide; Miller Indices |
| | 8 th | Bonding in Solids |
| 3 rd | 9 th | Point defects in crystals: Schottky and Frenkel defects. |
| | 10 th | Revision |
| | 11 th | Unit – II: Quantum Theory: Need and origin of Quantum concept, |
| | 12 th | Wave-particle duality |
| 4 th | 13 th | Phase velocity |
| | 14 th | group velocity |
| | 15 th | Uncertainty Principle and Applications |
| | 16 th | Schrodinger's wave equation: time-dependent |
| 5 th | 17 th | Schrodinger's wave equation time –independent |
| | 18 th | Physical Significance of wave function ψ . |
| | 19 th | Revision |
| | 20 th | Unit – III: Free Electron Theory: Classical free electron theory: |
| 6 th | 21 st | electrical conductivity in metals |
| | 22 nd | electrical conductivity in metals |
| | 23 rd | thermal conductivity in metals, |
| | 24 th | Wiedemann-Franz law |
| 7 th | 25 th | success and drawbacks of free electron theory; |
| | 26 th | success and drawbacks of free electron theory; |

| | | |
|------------------|------------------|---|
| | 27 th | Quantum free electron theory: wave function, |
| | 28 th | eigen values |
| 8 th | 29 th | Fermi-Dirac distribution function, |
| | 30 th | Density of states |
| | 31 st | Fermi energy and its importance |
| | 32 nd | Thermionic Emission (qualitative). |
| 9 th | 33 rd | Thermionic Emission (qualitative). |
| | 34 th | Revision of free electron theory |
| | 35 th | Band theory of Solids: Bloch theorem |
| | 36 th | Kronig-Penney Model (qualitative), |
| 10 th | 37 th | Kronig-Penney Model (qualitative), |
| | 38 th | E versus k diagram, Brillouin Zones, |
| | 39 th | E versus k diagram, Brillouin Zones, |
| | 40 th | Concept of effective mass of electron, |
| 11 th | 41 st | Energy levels and energy bands, |
| | 42 nd | Energy levels and energy bands, |
| | 43 rd | Distinction between metals, insulators and semiconductors |
| | 44 th | Hall effect and its Applications. |
| 12 th | 45 th | Hall effect and its Applications. |
| | 46 th | Revision of band theory of solids |
| | 47 th | Unit –IV: Superconductivity: Introduction, General features of Superconductors |
| | 48 th | Meissner effect, |
| 13 th | 49 th | Types of superconductors |
| | 50 th | Elements of BCS theory, |
| | 51 st | London equations, |
| | 52 nd | Applications of superconductivity. |
| 14 th | 53 rd | Revision of superconductivity |
| | 54 th | Nanomaterials: Introduction |
| | 55 th | Synthesis of nanomaterials: Top-down and Bottom-up approach, |
| | 56 th | Sol-Gel and Ball Milling methods |
| 15 th | 57 th | Properties of Nanomaterials |
| | 58 th | Applications of Nanomaterials. |
| | 59 th | Revision of Nanomaterials |
| | 60 th | Revision & Problems |

LESSON PLAN

Name : Mr. Vijay (Theory)

Discipline: Applied sciences and humanities Department

Semester: 2nd

Subject: Maths (AS-105 N)

Lesson Plan Duration: 15 weeks (from January, 2018 to April, 2018)

Work Load: Lectures-04

| Week | Theory | |
|-----------------|------------------|---|
| | Lecture Day | Topic |
| 1 st | 1 st | Unit - I Theory of Equations: Introduction, formation of equations. |
| | 2 nd | Relation between roots and coefficients |
| | 3 rd | Reciprocal Equations, Transformation of equations |
| | 4 th | Integral Calculus: Beta and Gamma functions, |
| 2 nd | 5 th | Evaluation of integrals by Leibnitz's rule (Differentiation under the Integral sign) |
| | 6 th | REVISION TEST. |
| | 7 th | Unit - II Introduction of Laplace Transforms and its applications: |
| | 8 th | Laplace transforms: Basic concepts, Existence conditions, |
| 3 rd | 9 th | transform of elementary functions, |
| | 10 th | Properties of Laplace transforms, |
| | 11 th | transform of derivatives and integrals, |
| | 12 th | multiplication and division property, |
| 4 th | 13 th | Evaluation of integrals by Laplace transforms, |
| | 14 th | Inverse transforms, |
| | 15 th | The Convolution theorem, |
| | 16 th | Unit step function, second shifting theorem, |
| 5 th | 17 th | Dirac's Delta function |
| | 18 th | Application to linear differential equations and simultaneous linear differential equations with constant coefficients. |
| | 19 th | REVISION TEST. |
| | 20 th | Unit – III |

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|------------------|------------------|--|
| | | Introduction to differential equations.. |
| 6 th | 21 st | Exact differential equations, |
| | 22 nd | Equations reducible to exact differential equations 1 |
| | 23 rd | Equations reducible to exact differential equations 2 |
| | 24 th | Equations reducible to exact differential equations 3 |
| 7 th | 25 th | Equations reducible to exact differential equations 4 |
| | 26 th | Applications of differential equations of first order |
| | 27 th | Equations of first order and first degree to simple electric circuits |
| | 28 th | Newton's law of cooling |
| 8 th | 29 th | Heat flow |
| | 30 th | Orthogonal trajectories |
| | 31 st | Linear differential equations of second and higher order-1 |
| | 32 nd | Linear differential equations of second and higher order-2 |
| 9 th | 33 rd | complete solution-1 |
| | 34 th | complete solution-2 |
| | 35 th | complementary function and particular integral-1 |
| | 36 th | complementary function and particular integral-2 |
| | 37 th | REVISION TEST. |
| | 39 th | Ordinary Differential Equations and its applications |
| | 40 th | undetermined coefficients to find the particular integral-1 |
| 11 th | 41 st | undetermined coefficients to find the particular integral-2 |
| | 42 nd | Cauchy's and Legendre's linear equation-1 |
| | 43 rd | Cauchy's and Legendre's linear equation-2 |
| | 44 th | Simultaneous linear equations with constant coefficients-1 |
| 12 th | 45 th | Simultaneous linear equations with constant coefficients-2 |
| | 46 th | REVISION TEST. |
| | 47 th | Unit 4(introduction to vector calculus) |
| | 48 th | Differentiation of Vectors, Scalar and vector point functions, |
| 13 th | 49 th | Gradient of a scalar field |
| | 50 th | directional derivative |
| | 51 st | divergence and Curl of a vector field and their physical interpretations-1 |
| | 52 nd | divergence and Curl of a vector field and their physical interpretations-2 |
| 14 th | 53 rd | line integrals, surface integral, volume integral |
| | 54 th | line integrals, surface integral, volume integral-1 |
| | 55 th | Green's theorem in the plane, |
| | 56 th | Stoke's Theorem |
| 15 th | 57 th | Gauss Divergence Theorem(without proof) and their applications |
| | 58 th | Applications of gauss divergence theorem. |

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| | 59 th | REVISION TEST. |
| | 60 th | REVISION TEST. |

LESSON PLAN

Name : Ms. Shweta(Theory)

Discipline: Electronics & Communication

Semester: 2nd

Subject: Basic of Electronics Engineering (ECE-101N)

Lesson Plan Duration: 15 weeks (from January, 2018 to April, 2018)

Work Load: Lectures-03

| Week | Theory | |
|-----------------|------------------|--|
| | Lecture Day | Topic |
| 1 st | 1 st | UNIT 1: Active and passive components |
| | 2 nd | Concept of PN Diode |
| | 3 rd | Diode equalent circuit, Load line |
| 2 nd | 4 th | Diode as a switch, breakdown mechanism |
| | 5 th | Zener diode: operation and applications |
| | 6 th | Rectifier circuits |
| 3 rd | 7 th | Half wave and full wave rectifier |
| | 8 th | Rectifier calculations and effeciency |
| | 9 th | Photo diode |
| 4 th | 10 th | Applications of photo diode |
| | 11 th | LED |
| | 12 th | Revision Test |
| 5 th | 13 th | UNIT 2: BIPOLAR JUNCTION TRANSISTOR |
| | 14 th | Different type of transistor, basic operation |
| | 15 th | Input , output characteristic of CC, CE, CB configurations |
| 6 th | 16 th | Transistor as a switch and amplifier |
| | 17 th | Biasing of transistor: fixed, self bias |
| | 18 th | Voltage divider biasing |
| 7 th | 19 th | Concept of feedback in amplifier |
| | 20 th | Advantages of negative feedback amplifier |
| | 21 st | Oscillator and barkhusein criteria. |
| 8 th | 22 nd | Revision Test |
| | 23 rd | UNIT 3: Operational amplifier |
| | 24 th | Basic block diagram, eualent circuit |
| 9 th | 25 th | Characteristic of Ideal OPAM, Virtual short |
| | 26 th | Ideal vs practical opam |
| | 27 th | Configuration of OPAM: Inverting, non inverting |

| | | |
|------------------|------------------|--|
| 10 th | 28 th | Differential configuration |
| | 29 th | Parameters of OPAMP: abnd width, slew rate, input offset voltage |
| | 30 th | Output offset voltage, CMRR |
| 11 th | 31 st | OP-AMP applications |
| | 32 nd | Revision Test |
| | 33 rd | Unit 4: Special semiconductor devices |
| 12 th | 34 th | Operation and VI characteristic of MOSFET |
| | 35 th | Concept of N MOSFET, P MOSFET,C- MOSFET |
| | 36 th | Diac characteristics , operation |
| 13 th | 37 th | applications of Diac |
| | 38 th | UJT working, VI characteristics. |
| | 39 th | SCR charactersitics |
| 14 th | 40 th | Applications of SCR |
| | 41 st | TRIAC : basic concepts |
| | 42 nd | characterstics of SCR |
| 15 th | 43 rd | applictaions of SCR |
| | 44 th | applications of SCR |
| | 45 th | Revision Test |

LESSON PLAN

Name : Ms. Parvinder Kaur (Theory)

Discipline: Applied Sciences & Humanities

Semester: 2nd

Subject: Technical Communication (HS-101N)

Lesson Plan Duration: 15 weeks (from January, 2018 to April, 2018)

Work Load: Lectures-03

| Week | Theory | |
|-----------------|------------------|---|
| | Lecture Day | Topic |
| 1 st | 1 st | UNIT 1: Definition of Communication |
| | 2 nd | Process, Types of Communication |
| | 3 rd | Levels & Flow of Communication |
| 2 nd | 4 th | <ul style="list-style-type: none"> • Technical Communication • General Communication |
| | 5 th | <ul style="list-style-type: none"> • Definition of Barriers • Noise in the Channel |
| | 6 th | <ul style="list-style-type: none"> • Semantic Gap |
| 3 rd | 7 th | Intrapersonal Barrier |
| | 8 th | Interpersonal Barriers |
| | 9 th | Organizational Barrier |
| 4 th | 10 th | Causes to Barrier |
| | 11 th | Solutions to Overcome Barriers |
| | 12 th | Revision Test |
| 5 th | 13 th | UNIT 2: Listening Skills & its importance |
| | 14 th | Kinds & Traits of Good Listeners |
| | 15 th | Barriers to Listening Skills |
| 6 th | 16 th | Speaking & Role of Confidence |
| | 17 th | How to bring Clarity & Fluency |
| | 18 th | Reading Skills & its importance |
| 7 th | 19 th | Reading Techniques SQ3R |
| | 20 th | Introduction to Writing Skills |
| | 21 st | Techniques for Effective Writing |
| 8 th | 22 nd | Revision Test |
| | 23 rd | UNIT 3: Group Discussion & its Role |
| | 24 th | <ul style="list-style-type: none"> • Types of Group Discussion • Methodology of an effective Group Discussion |

| | | |
|------------------|------------------|---|
| 9 th | 25 th | <ul style="list-style-type: none"> • GD as a Selection Process • Advantages of GD |
| | 26 th | Introduction to Oral Presentation |
| | 27 th | Features of effective Oral presentation |
| 10 th | 28 th | Steps of Oral Presentation |
| | 29 th | Introduction to Job Interview |
| | 30 th | Requisites of a Job Interview |
| 11 th | 31 st | Body language in a job Interview |
| | 32 nd | Revision Test |
| | 33 rd | Unit 4: Introduction to Technical Letters |
| 12 th | 34 th | Importance of Technical Letters |
| | 35 th | Kinds of Technical Letters |
| | 36 th | Formats of Technical Letters |
| 13 th | 37 th | Introduction to Job Application |
| | 38 th | Introduction to Covering Letter |
| | 39 th | Format of Job Application |
| 14 th | 40 th | Kinds of Resume |
| | 41 st | Formats of Resume |
| | 42 nd | Introduction to Technical Articles |
| 15 th | 43 rd | Kinds of Technical Articles |
| | 44 th | Elements of Technical Articles |
| | 45 th | Revision Test |

LESSON PLAN

Name : Mr.Vijay (Theory)

Discipline: Applied sciences and humanities Department

Semester: 2nd

Subject: Maths(AS-105 N)

Lesson Plan Duration: 15 weeks (from January, 2018 to April, 2018)

Work Load: Lectures-04

| Week | Theory | |
|-----------------|------------------|---|
| | Lecture Day | Topic |
| 1 st | 1 st | Unit - I Theory of Equations: Introduction, formation of equations. |
| | 2 nd | Relation between roots and coefficients |
| | 3 rd | Reciprocal Equations, Transformation of equations |
| | 4 th | Integral Calculus: Beta and Gamma functions, |
| 2 nd | 5 th | Evaluation of integrals by Leibnitz's rule (Differentiation under the Integral sign) |
| | 6 th | RAVISION TEST. |
| | 7 th | Unit - II Introduction of Laplace Transforms and its applications: |
| | 8 th | Laplace transforms: Basic concepts, Existence conditions, |
| 3 rd | 9 th | transform of elementary functions, |
| | 10 th | Properties of Laplace transforms, |
| | 11 th | transform of derivatives and integrals, |
| | 12 th | multiplication and division property, |
| 4 th | 13 th | Evaluation of integrals by Laplace transforms, |
| | 14 th | Inverse transforms, |
| | 15 th | The Convolution theorem, |
| | 16 th | Unit step function, second shifting theorem, |
| 5 th | 17 th | Dirac's Delta function |
| | 18 th | Application to linear differential equations and simultaneous linear differential equations with constant coefficients. |
| | 19 th | Revision test. |
| | 20 th | Unit – III |

| | | |
|------------------|------------------|--|
| | | Introduction to differential equations.. |
| 6 th | 21 st | Exact differential equations, |
| | 22 nd | Equations reducible to exact differential equations 1 |
| | 23 rd | Equations reducible to exact differential equations 2 |
| | 24 th | Equations reducible to exact differential equations 3 |
| 7 th | 25 th | Equations reducible to exact differential equations 4 |
| | 26 th | Applications of differential equations of first order |
| | 27 th | equations of first order and first degree to simple electric circuits |
| | 28 th | Newton's law of cooling |
| 8 th | 29 th | heat flow |
| | 30 th | orthogonal trajectories |
| | 31 st | Linear differential equations of second and higher order-1 |
| | 32 nd | Linear differential equations of second and higher order-2 |
| 9 th | 33 rd | complete solution-1 |
| | 34 th | complete solution-2 |
| | 35 th | complementary function and particular integral-1 |
| | 36 th | complementary function and particular integral-2 |
| | 37 th | Revision test |
| | 39 th | Ordinary Differential Equations and its applications |
| | 40 th | undetermined coefficients to find the particular integral-1 |
| 11 th | 41 st | undetermined coefficients to find the particular integral-2 |
| | 42 nd | Cauchy's and Legendre's linear equation-1 |
| | 43 rd | Cauchy's and Legendre's linear equation-2 |
| | 44 th | Simultaneous linear equations with constant coefficients-1 |
| 12 th | 45 th | Simultaneous linear equations with constant coefficients-2 |
| | 46 th | Revision test. |
| | 47 th | Unit 4(introduction to vector calculus) |
| | 48 th | Differentiation of Vectors, Scalar and vector point functions, |
| 13 th | 49 th | Gradient of a scalar field |
| | 50 th | directional derivative |
| | 51 st | divergence and Curl of a vector field and their physical interpretations-1 |
| | 52 nd | divergence and Curl of a vector field and their physical interpretations-2 |
| 14 th | 53 rd | line integrals, surface integral, volume integral |
| | 54 th | line integrals, surface integral, volume integral-1 |
| | 55 th | Green's theorem in the plane, |
| | 56 th | Stoke's Theorem |
| 15 th | 57 th | Gauss Divergence Theorem(without proof) and their applications |
| | 58 th | Applications of gauss divergence theorem. |

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| | 59 th | Revision test. |
| | 60 th | Revision test. |

LESSON PLAN

Name :Mr. Ashwani

(Practical) Discipline: Applied Sciences & Humanities

Department Semester: 2nd

Subject: Engg. Workshop (ME-107N)

Lesson Plan Duration: 15 weeks (from January, 2018 to April, 2018)

Work Load: Lectures-03

| Week | Practical | |
|-----------------|---------------|---|
| | Practical Day | Topic |
| 1 st | 1 | To study different types of measuring and marking tools used in workshop |
| 2 nd | 2 | To study different types of machine tools (lathe, shape, milling, drilling machines) |
| 3 rd | 3 | To prepare a job on a lathe involving facing, outside turning, taper turning, step Turning, radius making and parting-off. |
| 4 th | 4 | To prepare a job on a lathe involving facing, outside turning, taper turning, step Turning, radius making and parting-off. |
| 5 th | 5 | To study different types of fitting tools and marking tools used in fitting practice. |
| 6 th | 6 | To prepare a job in fitting shop |
| 7 th | 7 | To prepare lap joint using electric arc welding |
| 8 th | 8 | To prepare butt joint using electric arc welding |
| 9 th | 9 | To perform pipe welding. |

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| 10 th | 10 | To study various types of carpentry tools |
| 11 th | 11 | To prepare cross lap joint of a rectangular piece of wood |
| 12 th | 12 | To prepare half lap T joint of a rectangular piece of wood |
| 13 th | 13 | To study various types of foundry tools |
| 14 th | 14 | To prepare mold and core assembly, to put metal in the mold and fettle the casting. |
| 15 th | 15 | Viva- voce of workshop |