Name of Faculty --Jagdish Arya
Branch -- Electrical Engg.
Semester -- Ist
Subject -- Engg. Graphics
Work Load --Practical 06
Lesson plan duration – 15 weeks

| WEEK | THEORY | |
|---|---|---|
| | **Day Lecture** | **Topic(Including Assignment/Test)** |
| 1 | 1 | **UNIT I**<br>**1. Introduction to Engineering Drawing and Graphics**<br>1.1 Introduction to use and care of drawing instruments, drawing materials, layout and sizes of drawing sheets and drawing boards. |
| | 2 | 1.2 Symbols and conventions-<br>a) Conventions of Engineering Materials, Sectional Breaks and Conventional lines. |
| 2 | 3 | b) Civil Engineering Sanitary fitting symbols<br>c) Electrical fitting symbols for domestic interior installations. |
| | 4 | 1.3 Geometrical construction-geometrical figures such as triangles, rectangles, circleswith the help of drawing instruments. |
| 3 | 5 | 1.3 Geometrical construction-geometrical figures such as ellipses and curves, hexagons, pentagons bisecting a line and arc , division of line and circle with the help of drawing instruments. |
| | 6 | **2. Technical Lettering of Alphabet and Numerals**<br>Definition and classification of lettering, Free hand (of height of 5,8,12 mm) and |
| 4 | 7 | instrumental lettering (of height 20 to 35 mm) : upper case and lower case, single and double stroke, |
| | 8 | vertical and inclined (Gothic lettering) at 75 degree to horizontal and with suitable height to width ratio 7:4. &**Assignment No.-1.** |
| 5 | 9 | **3. Dimensioning**<br>3.1 Necessity of dimensioning, method and principles of dimensioning (mainly theoretical instructions). |
| | 10 | **1st Sessional Test** |
| 6 | 11 | 3.2 Dimensioning of overall sizes, circles, threaded holes, chamfered surfaces, angles, tapered surfaces, holes, equally spaced on P.C.D., countersunk holes, counter bored holes, cylindrical parts, narrow spaces and gaps, radii, curves and arches. |
| | 12 | **4. Scales**<br>4.1 Scales –Needs and importance (theoretical instructions), Type of scales, Definition of Representative Fraction (R.F.) and Length of Scale. |
| 7 | 13 | 4.2 To draw/construct plain. |
| | 14 | 4.2 To draw/construct diagonal scales. |
| 8 | 15 | **UNIT II**<br>**1. Orthographic Projections**<br>1.1 Theory of orthographic projections (Elaborate theoretical instructions).<br>1.2 Three views of orthographic projections of different objects of given pictorial view of a block in 1st and 3rd angle. &**Assignment No.-2.** |
| | 16 | 1.3 Projection of Points in different quadrant |
| 9 | 17 | 1.4 Projection of Straight Line (1st angle)<br>i. Line parallel to both the planes.<br>ii. Line perpendicular to any one of the reference plane and parallel to others |

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| | | iii. Line inclined to any one of the references and parallel to another plane. |
| | 18 | 1.5 Projection of Plane – Different lamina like square rectangular, triangular, circle and Hexagonal pentagon. Trace of planes (HT and VT). |
| 10 | 19 | 1.6 Identification of surfaces. |
| | 20 | **2nd Sessional Test** |
| 11 | 21 | **2. Sectioning**<br>2.1 Importance and salient features<br>2.2 Drawing of full section, half section, partial or broken out sections, Offset sections, revolved sections and removed sections (theoretical only). |
| | 22 | 2.3 Orthographic sectional views of different objects. |
| 12 | 23 | **UNIT III**<br>1. Introduction of projection of right solids such as prism & pyramid (square, Pentagon, Hexagonal) cube, cone & cylinder (Axes perpendicular to H.P and parallel to V.P.) |
| | 24 | 2. Introduction of sections of right solids - Section planes, Sections of Hexagonal prism, pentagon pyramid, cylinder and cone (Section plane parallel to anyone reference planes and perpendicular to V.P. and inclined to H.P.) |
| 13 | 25 | 3. Development of Surfaces – Development of lateral surfaces of right solids like cone, cylinder, pentagonal prism, pyramid and hexagonal pyramid (Simple problems) |
| | 26 | **UNIT IV**<br>**Isometric Views**<br>1. Fundamentals of isometric projections and isometric scale.<br>2. Isometric views of different laminas like circle, pentagon and hexagon. |
| 14 | 27 | 3. Isometric views of different regular solids like cylinder, cone, cube, cuboid, pyramid and prism.<br>4. Isometric views from given different orthographic projections(front, side and top view) |
| | 28 | **UNIT V**<br>**Introduction to AutoCAD**<br>Basic introduction and operational instructions of various commands in AutoCAD. |
| 15 | 29 | At least two sheets of different objects on AutoCAD (given pictorial/isometric view of a block). |
| | 30 | **3rd Sessional Test** |

# Lesson Plan

**Name of the Faculty : Mr. Rahul Nehra**
**Discipline : Electrical Engineering**
**Semester : 1st Semester**
**Subject : Fundamental of Information Technology**

**Lesson Plan Duration : 13-15 Week**

| Week | Theory | | Practical | |
|---|---|---|---|---|
| | **Lecture Day** | **Topic (including assignment / test)** | **Practical Day** | **Topic** |
| | 1 | Brief history of development of computers, Definition of Computer, Block diagram of a Computer, Hardware, Software, Booting: Cold and Hot Booting, | 1 | Browser features, browsing, using various search engines, writing search queries . |
| | 2 | Interaction between the CPU and Memory with Input/output devices, Function of CPU and major functional parts of CPU. | 2 | Visit various e-governance/Digital India portals, understand their features, services offered. |
| | 3 | Memory, Bit, Nibble, Byte, KB, MB, GB, TB, PB, Functions of memory, Use of storage devices in a Computer, List types of memory used in a Computer, Importance of cache memory, CPU speed and CPU word length | 3 | . Read Wikipedia pages on computer hardware components, look at those components in lab, identify them, recognize various ports/interfaces and related cables, etc. |
| | 4 | Understanding browser, Introduction to WWW, efficient use of search engines, awareness about Digital India portals (state and national portals) and college portals. | 4 | Using Administrative Tools/Control Panel Settings of Operating Systems. |
| | 5 | Advantages of Email, Various email service providers, Creation of email id, sending and receiving emails | | |
| | 6 | attaching documents with email and drive. Effective use of Gmail, G-Drive, Google Calendar, Google Sites | | |
| | 7 | Google Sheets, Online mode of communication using Google Meet & WebEx | | |
| | 8 | Introduction to Programming, Steps involved in problem solving, Definition of Algorithm, Definition of Flowchart | | |
| | 9 | Steps involved in algorithm development, differentiate algorithm and flowchart, symbols used in flowcharts | | |
| | 10 | algorithms for simple problems, flowcharts for simple problems | | |
| | 11 | Practice logic building using flowchart/algorithms | | |

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| | 12 | Office Tools like LibreOffice/OpenOffice/MSOffice. | | |
| | 13 | OpenOffice Writer – Typesetting Text and Basic Formatting, Inserting Images, Hyperlinks, Bookmarks, Tables and Table Properties in Writer Introducing LibreOffice/OpenOffice Calc | | |
| | 14 | Working with Cells, Sheets, data, tables, using formulae and functions, using charts and graphics. | | |
| | 15 | OpenOffice Impress – Creating and Viewing Presentations | | |
| | 16 | Inserting Pictures and Tables, Slide Master and Slide Design, Custom Animation. | | |
| | 17 | Introduction to Digital Marketing – Why Digital Marketing, Characteristics of Digital Marketing, Tools for Digital Marketing, | | |
| | 18 | Effective use of Social Media like LinkedIn, Google+, Facebook, Twitter, etc.: Features of Social media | | |
| | 19 | Advantages and Disadvantages of Social Media. Revision of important topics | | |
| | 20 | Class test | | |

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| **Name of Faculty** | **PRANKIT GUPTA** |
| **Discipline** | **EE** |
| **Semester** | **First Sem (1st sem)** |
| **Subject** | **Principles Of Electrical Engineering** |
| **Lesson Plan Duration** | **15 Weeks** |
| **Work load [Theory + Practical] Per Week** | **[03+04]** |

| Week | Day | Theory Topic/ Assignment/ Test | No. | Practical |
|---|---|---|---|---|
| 1st | 1 | Unit1: Electrical Fundamentals- Nature of Electricity, Charge, free electrons, Electric potential and potential | 1 | Familiarization of basic components/equipment like ammeter, voltmeter, watt meter, resistance, capacitor, inductor, energy meter, power factor meter, CRO, multi-meter etc. and their operation, uses. |
| | 2 | Resistance: Definition, Unit, Laws of resistance, conductivity and resistivity, Effect of temperature on resistance, Temperature coefficient of resistance, Types of resistance & their applications, Color coding of resistance. | | |
| | 3 | Rating and wattages of Electrical appliances, heating effect of Electrical current. | | |
| 2nd | 1 | Introduction to Capacitors, capacitance, Variable capacitor, Factors affecting capacitance of a capacitor, Capacitance of parallel plate capacitor | 2 | Determine the value of resistance using colour coding method. |
| | 2 | Grouping of capacitors: capacitors in series, parallel, series-parallel. Energy stored in capacitor, Charging and discharging of a capacitor. | | |
| | 3 | Test/ Assignment | | |
| 3rd | 1 | Unit 2: Ohm's law, Definition of DC circuit, types of DC circuits: series circuit, parallel circuit, series-parallel circuit. | 3 | Observation of change in resistance of a bulb in hot and cold conditions, using voltmeter and ammeter. |
| | 2 | Concept of voltage source & current source, connections and their conversions, Wheatstone Bridge. | | |
| | 3 | Kirchhoff's Laws -KVL and KCL. | | |
| 4th | 1 | Star – Delta connections and their conversion | 4 | To charge and discharge a capacitor and to show the graph on C.R.O. |
| | 2 | Test | | |
| | 3 | Revision | | |
| 5th | 1 | Unit 3: Electrostatics & Magnetostatics: Concepts of Electrostatics, Coulomb's law. | 5 | Verification of laws of capacitors in series and parallel. |

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| | 2 | Concept of magnetism, Magnetic field, Magnetic lines of force. | | |
| | 3 | Definition of Electromagnetism, magnetic effect of electric current, direction of magnetic field and current: right hand rule, right hand cork screw rule. | | |
| 6th | 1 | Magnetic field due to circular coil, solenoid. | 6 | To verify ohm's law by drawing a graph between voltage and current. |
| | 2 | Current carrying conductors in a magnetic field and methods to find its direction, applications. | | |
| | 3 | Force between two parallel current carrying conductors. Analogy between electric and magnetic circuit. | | |
| 7th | 1 | Definition of Magnetic circuit, terms related to magnetic circuits: magneto- motive force (MMF), flux, magnetic flux density, reluctance, permeability, field intensity, relation between magnetic flux density, permeability, field intensity. | 7 | Verification of Kirchhoff's Current Law in a dc circuit. |
| | 2 | Revision | | |
| | 3 | Class Test/ Assignment | | |
| 8th | 1 | Unit 4: Electro-Magnetic Induction: Determination of Ampere Turns, Series & parallel magnetic circuits, Concept of magnetic leakage, useful flux & Air Gap. | 8 | Verification of Kirchhoff's Voltage Laws in a dc circuit. |
| | 2 | Magnetic curve (B-H curve) - cause of Hysteresis, Hysteresis loss, significance of Hysteresis loss, magnetic hysteresis loop for hard and soft magnetic materials. | | |
| | 3 | Faraday's laws of electro-magnetic induction. | | |
| 9th | 1 | Direction of Induced emf and current: Lenz's law, Fleming's right Hand rule | 9 | Measurement of current and voltage in series resistive circuit. |
| | 2 | E.M.F induced in a conductor: Dynamically induced emf, Statically induced emf: Self-induced emf and Mutual induced emf, | | |
| | 3 | Expression for self-inductance, mutual inductance. | | |
| 10th | 1 | Revision | 10 | Measurement of current and voltage in parallel resistive circuit. |
| | 2 | Class Test/ Assignment | | |

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| | 3 | Unit 5: Batteries: Electrolysis, Faradays law of electrolysis, important terms related to electrolysis, electroplating. | | |
| 11th | 1 | Concept of Cell: definition, emf of cell, internal resistance of cell terminal potential of cell | 11 | To find the ratio of inductance of a coil having air-core and iron-core respectively and to observe the effect of introduction of a magnetic core on coil inductance. |
| | 2 | Types of cells (primary and secondary cell), grouping of cells (series grouping, parallel grouping, series-parallel grouping). | | |
| | 3 | Concept of Battery: Definition, types of battery like Lead-Acid, Nickel-Cadmium, Lithium-ion batteries with their Construction, working principle and applications. | | |
| 12th | 1 | Charging methods of storage battery and charging indications. | 12 | Verification of Faraday's law of electromagnetic induction. To obtain BH curve of a magnetic material. |
| | 2 | Characteristics of battery: voltage, capacity, efficiency | | |
| | 3 | Care and maintenance of battery | | |
| 13th | 1 | Introduction to maintenance free batteries. | 13 | Demonstration of parts of a battery and find the specific gravity of battery. |
| | 2 | Disposal of batteries | | |
| | 3 | Revision | | |
| 14th | 1 | Class Test/ Assignment | 14 | Demonstration of charging and discharging of Battery and measure the terminal voltage during charging and discharging condition. |
| | 2 | Evalution of class test | | |
| | 3 | Display of marks | | |
| 15th | 1 | Revision of topics | 15 | Viva voce/ Quiz |
| | 2 | Revision of topics | | |
| | 3 | Revision of topics | | |