Lesson Plan

Name of the Faculty : Guest Faculty

Discipline : Electrical Engineering

Year/Semester : 1st Year-(Annual System) Subject

: **ENGINEERING GRAPHICS**

Lesson Plan duration : 37 weeks (from 30thJuly, 2018 to 30th April, 2019)

Work load per week : Lecture – 00, Practical – 03

Week	Practical	
	Practical Day	Topic
1st	1st	**Unit:-1 Introduction to Engineering Drawing** Definition of Engineering Drawing, Introduction to drawing instruments, materials, layout and sizes of drawing sheets and drawing boards, engineering graph book, different grades of pencils to be used. Different types of lines in engineering drawing as per BIS specifications Practice of vertical, horizontal and inclined lines Principles of dimensioning: Types, elements, placing, different methods of dimensioning
2nd	2nd	1.5 Practice of geometrical figures such as –triangles, rectangles, circles, ellipses and parabola, hexagonal, pentagon with the help of drawing instruments.
3rd	3rd	Definition and classification of lettering, single stroke vertical and inclined lettering at 75^0 (alphabet and numerals) Freehand letter writing and sketches of various kind of objects in graph Sketch book/graph paper.
4th	4th	**Unit:- 2 Graphics using CAD** Meaning, requirement of computer graphics, CAD, screen structure and toolbars in AutoCAD, coordinate system, Drawing Limits, Units. Practice of LINE command, coordinates-Absolute, incremental, polar. POLYLINE, CIRCLE(3P,2P, TTR), ARC, ELLIPSE
5th	5th	Using above geometrical commands for making figure e.g. triangle, rectangle, hexagon, pentagon, parabola. 2.4 Editing commands-Scale, erase, copy, stretch, lengthen and explode
6th	6th	Use of SNAP, GRID and ORTHO mode for selection of points quickly. Use of these modes while picking points in LINE, CIRCLE, PLINE, ARC, ELLIPSE etc commands.

7th	7th	**Unit:-3 Scales** 3.1 Scales-their needs and importance (theoretical instructions), types of scales, definition of Representative Fraction(R.F.) and length of scale.
8th	8th	3.2 Construction of Plain and diagonal scale.
9th	9th	**1st Internal Assessment Exam (Tentative)**
10th	10th	**Unit:-4 Orthographic Projection** Theory of orthographic projections (Elaborate theoretical instructions) Projections of points in different quadrants Projection of line (1st angle and 3rd angle) 4.3.1 Line parallel to both planes
11th	11th	44.3.2 Line perpendicular to any one of the principal plane 4.3.3 Line inclined to any one of the principal plane and parallel to other.
12th	12th	Projection of Solid-Cube, Cuboid, Cone, Prism, pyramid Three views of orthographic projections of different objects (At least one sheet in 3rd angle)
13th	13th	4.6 Making above sheets in AutoCAD of:- point line solids and two objects
14th	14th	**Unit:- 5 Sectioning and Identification of surfaces** 5. 1 Identifications of surfaces, Importance and salient features of sectioning of objects
15th	15th	5. 2 Description of full section, half section partial or broken out sections, Offset Sections, revolved sections and removed sections
16th	16th	**Unit:- 6 Isometric Views** 6.1 Fundamental of isometric projections and isometric scale
17th	17th	6.2 Isometric views of different objects
18th	18th	6.3 AutoCAD for the isometric views sheets. Making single computer sheet showing all the three views and an isometric (in single split screen view) of any object showing understanding of use of AutoCAD in making isometric views – at least 1 sheet
19th	19th	**Unit:- 7 Common Symbols and conventions used in Engineering** 7.1 Civil Engineering sanitary fitting symbols
20th	20th	**2nd Internal Assessment Exam (Tentative)**
Winter Vacations 25.12.2018 to 08.01.2019		
21st	21st	7.2 Electrical fitting symbols for domestic interior installations 7.3 Safety symbols used in engineering works
22nd	22nd	**Unit:-8 Development of surfaces (cylinder, cuboid, cone)** 8.1 Parallel line, radial line method
23rd	23rd	**Unit:-9 Detailed and assembly drawing** 9.1 Principle and utility of detailed and assembly drawings
24th	24th	9.2 Wooden joints i.e. corner mortise and tenon joint, Tee Halving joint, Mitre faced corner joint, Tee bridle joint , crossed wooden joint,

		cogged joint, dovetail joint, through Mortise and tenon joint, furniture drawing – freehand and with the help of drawing instruments
25th	25th	9.3 Making Wooden Joint sheets in AutoCAD, rendering & showing assembly animation at least 1 sheet
26th	26th	**Unit:- 10 Screw threads and threaded fastener** 10.1 Thread Terms and Nomenclature
27th	27th	10.1.1 Type of threads-external and internal threads, right and left hand threads (actual conventional representation), Single and multiple start thread.
28th	28th	10.1.2 Different forms of screw threads –V threads (B.S.W. threads, B.A thread, American National and Metric thread), Square threads (Square, Acme, buttress and Knuckle thread)
29th	29th	10.2. Nuts and Bolts 10.2.1 Different views of hexagonal and square nuts. Square and hexagonal headed bolt.
30th	30th	10. 2. 2 Assembly of Hexagonal ended bolt and Hexagonal nut with washer. 10. 2. 3 Assembly of square headed bolt with hexagonal and with washer.
31st	31st	10. 3. Locking Devices 10. 3. 1 Different types of locking devices-Lock nut, castle nut, split pin nut, locking plate, slotted nut and spring washer.
32nd	32nd	10. 3. 2 Foundations bolts-Rag bolt, Lewis bolt, Curved bolt and eye bolt. 10. 3. 3 Drawing of various types of studs
33rd	33rd	**Unit :- 11 Keys and Cotters** 11. 1 Various types of keys and cotters-weir practical application, drawings of various keys and cotters showing keys and cotters in position
34th	34th	11. 2 Various types of Joints -Spigot and Socket Joints -Gib and cotter joint -Knuckle joint
35th	35th	**Unit:- 12 Couplings** Introduction to coupling, their use and types Muff coupling
36th	36th	Flange coupling (protected) Flexible Coupling
37th	37th	**REVISION**

Name : Guest Faculty

Discipline : Electrical Engg

Semester : Ist Sem

Subject : FUNDAMENTAL OF ELECTRICAL & ELECTRONICS

Lesson plan duration : 30 Weeks(From July 18 to April 19)

Total Load :Theory-02/Practical-02(Week)

WEEK	THEORY (Including Test and Assignment)		PRACTICAL	
	LECTURE DAY	TOPIC	PRACTICAL DAY	TOPIC
1st	1	Overview of DC Circuits		
	2	Simple problems on series and parallel combination of resistors and capacitors with their wattage consideration,	1	Operation and use of measuring instruments viz voltmeter, ammeter, CRO,Wattmeter, multi-meter and other accessories
2nd	3	Application of Kirchhoff's current law		
	4	Kirchhoff's voltage law to simple circuits.	2	Operation and use of measuring instruments viz voltmeter, ammeter, CRO, Wattmeter, multi-meter and other accessories
3rd	5	Star – Delta connections and their conversion.		
	6	DC Circuit Theorems	3	Measurement of resistance of an ammeter and a voltmeter
4th	7	Thevenin's theorem, Norton's theorem,	4	Verification of following Theorems:- a. Thevenin's theorem, b. Norton's theorem,

	8	application of network theorems in solving D.C. circuit problems.		
5th	9	Superposition nodal analysis, Mesh analysis,(ASSIGNMENT)	5	Verification of followingTheorems:- a. Thevenin's theorem, b. Norton's theorem,
	10	Maximum PowerTransfer Theorem		
6th	11	Voltage and CurrentSources	6	Observation of change in resistance of a bulb in hot and cold conditions,using voltmeter and ammeter.
	12	Concept of voltage source, symbol and graphical representation characteristics of ideal and practical sources.		
7th	13	Concept of current sources, symbol, characteristics and graphical representation of ideal and practical current sources.	7	Verification of Krichhoff's Current and Voltage Laws in a dc circuit
	14	Semiconductor Physics Review of basic atomic structure and energy levels, concept of insulators, conductors and semi conductors,		
8th	15	atomic structure of Germanium (Ge) and Silicon (Si), covalent bonds	8	Verification of Krichhoff's Current and Voltage Laws in a dc circuit
	16	Concept of intrinsic and extrinsic semi conductor, process of doping.	9	
9th	17	Energy level diagram of conductors, insulators and semi conductors; minority and majority charge carriers.		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
	18	P and N type		

		semiconductors and their conductivity,		
10th	19	effect of temperature on conductivity of intrinsic semi conductors.(TEST)	10	To find the ratio of inductance of a coil having air-core andiron-core respectivelyand to observe the effect of introduction of a magnetic core on coil inductance
	20	Semiconductor Diode PN junction diode, mechanism of current flow in PN junction, forward and reverse biased PN junction,		
11th	21	potential barrier, drift and diffusion currents, depletion layer, concept of junction capacitance in forward and reverse biased condition.	11	Charging and testing of a lead - acid storage battery.
	22	V-I characteristics, static and dynamic resistance and their value calculation from the characteristics.		
12th	23	Application of diode as half-wave, full wave and bridge rectifiers.	12	Measurement of power and power factor in a single phase R-.L-.C. circuit and calculation of active and reactive powers in the circuit.
	24	Peak Inverse Voltage, rectification efficiencies and ripple factor calculations, shunt capacitor filter, series inductor filter, LC and π filters.		
13th	25	Types of diodes, characteristics and applications of Zener diodes. Zener and avalanche breakdown	13	Measurement of power and power factor in a single phase R-.L-.C. circuit and calculation of active and reactive powers in the circuit.
	26	Electro Magnetic Induction Concept of electro-magnetic field		

		produced by flow of electric current,		
14th	27	circuit, concept of magneto-motive force (MMF), flux, reluctance, permeability, analogy between electric and magnetic circuit.	14	Plotting of V-I characteristics of a PN junction diode & Zener diode
	28	Faraday's laws of electro-magnetic induction, principles of self and mutual induction, self and mutually induced e.m.f, simple numerical problems.		
15th	29	Concept of current growth, decay and time constant in an inductive (RL) circuit.(ASSIGNMENT)	15	Observe the output of waveform using a. Half-wave rectifier circuit using one diode b. Full-wave rectifier circuit using two diodes c. Bridge-rectifier circuit using four diodes
	30	Energy stored in an inductor, series and parallel combination of inductors.		
16th	31	Batteries Basic idea of primary and secondary cells Construction, working principle and applications of Lead-Acid, Nickel-Cadmium and Silver-Oxide batteries	16	Observe the output of waveform using a. Half-wave rectifier circuit using one diode b. Full-wave rectifier circuit using two diodes c. Bridge-rectifier circuit using four diodes
	32	Charging methods used for lead-acid battery (accumulator)		
17th	33	Care and maintenance of lead-acid battery(TEST)	17	Plotting of the wave shape of full wave rectifier with a. Shunt capacitor filter b. Series inductor filter
	34	Series and parallel connections of batteries		
18th	35	General idea of solar	18	

		cells, solar panels and their applications		Plotting of the wave shape of full wave rectifier with a. Shunt capacitor filter b. Series inductor filter
	36	Introduction to maintenance free batteries		
19th	37	AC Fundamentals Concept of alternating quantities Difference between ac and dc	19	Plotting of input and output characteristics and calculation of parameters of transistors in CE configuration.
	38	Concepts of: cycle, frequency, time period, amplitude, instantaneous value, average value, r.m.s. value, maximum value, form factor and peak factor.		
20th	39	Representation of sinusoidal quantities by phasor diagrams.		
	40	Equation of sinusoidal wave form for an alternating quantity and its derivation	20	Plotting of input and output characteristics and calculation of parameters of transistors in CE configuration.
21st	41	Effect of alternating voltage applied to a pure resistance, pure inductance and pure capacitance.	21	Plotting of input and output characteristics and calculation of parameters of transistors in CB configuration.
	42	AC Circuits Concept of inductive and capacitive reactance		
22nd	43	Alternating voltage applied to resistance and inductance in series.(TEST)	22	Plotting of input and output characteristics and calculation of parameters of transistors in CB configuration.
	44	Alternating voltage applied to resistance and capacitance in series. 9.4 Introduction to series and parallel resonance and its conditions		
	45	Power in pure resistance,	23	

23rd		inductance and capacitance, power in combined RLC circuits. Power factor, active and reactive power and their significance, definition and significance of powerfactor.		Plotting of V-I characteristics of a FET.
	46	Definition of conductance, susceptance, admittance, impedance and their units		
24th	47	Introduction to Bipolar-Transistors(TEST)	24	Plotting of V-I characteristics of a FET.
	48	Concept of a bipolar transistor, its structure, PNP and NPN transistors, their symbols and mechanism of current flow; Current relations in a transistor; concept of leakage current;		
25th	49	CB, CE, CC configurations of a transistor; Input and output characteristics in CB and CE configurations; input and output dynamic resistance in CB and CE	25	To determine the efficiency of single phase Transformer
	50	Transistor as an amplifier in CE Configuration; concept of DC load line and calculation of current gain and voltage gain using DC load line.		
26th	51	Transistor Biasing Circuits Concept of transistor biasing and selection of operating point. Need for stabilization of operating point.		
	52	Field Effect Transistors Construction, operation and characteristics of FETs and their applications.	26	To determine the efficiency of single phase Transformer

27th	53	Construction, operation and characteristics of a MOSFET in depletion and enhancement modes and its applications.		
	54	CMOS - advantages and applications Comparison of JFET, MOSFET and BJT.(ASSIGNMENT)		revision
28th	55	Introduction to ElectricalMachines Transformers : Principal of operation, construction detail of single phase transformer, turns ratio , efficiency, loses in a transformer.		
	56	DC machine : principal of operation, construction of DC motor and generator, Characteristics of different types of DC machines , Starter		
29th	57	AC machines : Principal and working of synchronous machines, single phase induction motor		revision
	58	revision		
30th	59	test		
	60	revision		revision

Govt. Polytechnic Nanakpur, Panchkula

Name of the faculty: Dharamvir Saini

Discipline: Electrical Engg.

Year: Ist

Subject: Internet of Things and Artificial Intelligence

Lesson Plan Duration: 35 Weeks (From 30 July, 2018 to 30 April, 2019)

Workload (Practical) per week (In Hours) Practical-02

Week	Practical Day/Hours	Practical
1st	1st	Introduction to Internet of Things (IoT)
	2nd	Applications (IoT)
2nd	3rd	architecture
	4th	protocols
3rd	5th	Understand the concepts of Internet of Things
	6th	Build small IoT applications
4th	7th	Understand and analyzing sensor
	8th	generated data using analytic techniques in Excel
5th	9th	Wireless sensors and actuators
	10th	Data aggregation systems and analog-to-digital data conversion
6th	11th	data center or cloud
	12th	Characteristics of IoT
7th	13th	Physical Design of IOT
	14th	Logical Design of IoT
8th	15th	Functional blocks of IoT,
	16th	Communication Models.
9th	17th	Basics of C language
	18th	using Arduino IDE
10th	19th	Understating basics of Arduino IDE
	20th	Variables
11th	21st	data type
	22th	loops,
12th	23rd	control statement
	24th	function
13th	25th	Practical using Arduino-interfacing sensors
	26th	Interfacing Light Emitting Diode(LED)
14th	27th	Blinking LED
	28th	Interfacing Button and LED
15th	29th	LED blinking when button is pressed
	30th	Interfacing Light Dependent Resistor (LDR)
16th	31st	LED, displaying automatic night lamp
	32st	Interfacing Temperature Sensor(LM35
17th	33rd	Use of sensor
	34	Revise the previous practicals
18th	35	Details of humidity sensor
	36	or humidity sensor (e.g. DHT11)

19th	37	Interfacing Liquid Crystal Display(LCD)
	38	Revise the previous practicals
20th	39	display data generated by sensor on LCD
	40	Interfacing Air Quality Sensor-pollution (e.g. MQ135)
21st	41	display data on LCD ,
	42	Revise the previous practicals
22st	43	switch on LED when data sensed is higher than specified value.
	44	Interfacing Bluetooth module (e.g. HC05
23rd	45	Revise the practicals
	46	receiving data from mobile phone
24th	47	on Arduino and display on LCD
	48	Revise the practicals
25th	49	Interfacing Relay module to demonstrate Bluetooth
	50	based home automation application. (using Bluetooth and relay).
26th	51	Revise the practicals
	52	Introduction to Artificial Intelligence (AI)
27th	53	Machine Learning (ML),
	54	Deep Learning (DL).
28th	55	Role of AI in IoT
	56	its applications
29th	57	Managing
	58	Analyzing data generated by IoT devices
30th	59	The Original Robotic Industry – Manufacturing
	60	Increased intelligence
31st	61	Big Data
	62	Machine Learning Tasks
32st	63	Machine Learning Applications
	64	History and relationship to other fields
33st	65	e.g. classification
	66	Revision of the Practicals
34th	67	linear regression, etc.
	68	Numerical based on above techniques
35st	69	Revision of the practicals
	70	Understanding excel for analyzing data

Name : **Charanjeet Singh**

Discipline : **Electrical Engg.**

Semester : **1st Year**

Subject : **Information Technology Lab**

Lesson plan duration : **30 Weeks (From july 18 to April 19)**

Total Load : **2 practical per Week**

WEEK	PRACTICAL	
	PRACTICAL DAY	TOPIC
Ist	1	Given a PC, name its various components and peripherals. List their functions
2nd	2	Given a PC, name its various components and peripherals. List their functions
3rd	3	Installing various components of computer system and installing system software and application software
4th	4	Installation of I/O devices, printers and installation of operating system viz. Windows/BOSS/ LINUX
5th	5	Installation of I/O devices, printers and installation of operating system viz. Windows/BOSS/ LINUX
6th	6	Features of Windows as an operating system Start Shut down and restore Creating and operating on the icons Opening, closing and sizing the windows and working with windows interfacing elements (option buttons, checkbox, scroll etc.) Using elementary job commands like – creating, saving, modifying, renaming, finding and deleting a file and folders Changing settings like, date, time, colour (back ground and fore ground etc.) Using short cuts Using on line help

7th	7	Features of Windows as an operating system Start □ Shut down and restore □ Creating and operating on the icons □ Opening, closing and sizing the windows and working with windows interfacing elements (option buttons, checkbox, scroll etc.) □ Using elementary job commands like – creating, saving, modifying, renaming, finding and deleting a file and folders □ Changing settings like, date, time, colour (back ground and fore ground etc.) □ Using short cuts □ Using on line help
8th	8	Word Processing (MS Office/Open Office) a) File Management: □ Opening, creating and saving a document, locating files, copying contents in some different file(s), protecting files, giving password protection for a file b) Page set up: □ Setting margins, tab setting, ruler, indenting c) Editing a document: □ Entering text, cut, copy, paste using tool- bars d) Formatting a document: □ Using different fonts, changing font size and colour, changing the appearance through bold/italic/underlined, highlighting a text, changing case, using subscript and superscript, using different underline methods □ Aligning of text in a document, justification of document, inserting bullets and numbering □ Formatting paragraph, inserting page breaks and column breaks, line spacing □ Use of headers, footers: Inserting footnote, end note, use of comments, autotext □ Inserting date, time, special symbols, importing graphic images, drawing tools
9th	9	Word Processing (MS Office/Open Office) a) File Management: □ Opening, creating and saving a document, locating files, copying contents in some different file(s), protecting files, giving password protection for a file b) Page set up: □ Setting margins, tab setting, ruler, indenting c) Editing a document: □ Entering text, cut, copy, paste using tool- bars d) Formatting a document: □ Using different fonts, changing font size and colour, changing the appearance through bold/italic/underlined, highlighting a text, changing case, using subscript and superscript, using different underline methods

		▯ Aligning of text in a document, justification of document, inserting bullets and numbering ▯ Formatting paragraph, inserting page breaks and column breaks, line spacing ▯ Use of headers, footers: Inserting footnote, end note, use of comments, autotext ▯ Inserting date, time, special symbols, importing graphic images, drawing tools
10th	10	Tables and Borders: ▯ Creating a table, formatting cells, use of different border styles, shading in tables, merging of cells, partition of cells, inserting and deleting a row in a table ▯ Print preview, zoom, page set up, printing options ▯ Using find, replace options f) Using Tools like: ▯ Spell checker, help, use of macros, mail merge, thesaurus word content and statistics, printing envelops and lables ▯ Using shapes and drawing toolbar, ▯ Working with more than one window
11th	11	Tables and Borders: ▯ Creating a table, formatting cells, use of different border styles, shading in tables, merging of cells, partition of cells, inserting and deleting a row in a table ▯ Print preview, zoom, page set up, printing options ▯ Using find, replace options f) Using Tools like: ▯ Spell checker, help, use of macros, mail merge, thesaurus word content and statistics, printing envelops and lables ▯ Using shapes and drawing toolbar, ▯ Working with more than one window
12th	12	Spread Sheet Processing (MS Office/Open Office) a) Starting excel, open worksheet, enter, edit, data, formulae to calculate values, format data, save worksheet, switching between different spread sheets b) Menu commands: Create, format charts, organise, manage data, solving problem by analyzing data. Programming with Excel Work Sheet, getting information while working c) Work books: Managing workbooks (create, open, close, save), working in work books, selecting the cells, choosing commands, data entry techniques, formula creation and links, controlling calculations Editing a worksheet, copying, moving cells, pasting, inserting, deletion cells, rows, columns, find and replace text, numbers of cells, formatting worksheet,

		conditional formatting
13th	13	a) Starting excel, open worksheet, enter, edit, data, formulae to calculate values, format data, save worksheet, switching between different spread sheets b) Menu commands: Create, format charts, organise, manage data, solving problem by analyzing data. Programming with Excel Work Sheet, getting information while working c) Work books: Managing workbooks (create, open, close, save), working in work books, selecting the cells, choosing commands, data entry techniques, formula creation and links, controlling calculations Editing a worksheet, copying, moving cells, pasting, inserting, deletion cells, rows, columns, find and replace text, numbers of cells, formatting worksheet, conditional formatting
14th	14	Creating a chart: Working with chart types, changing data in chart, formatting a chart, use chart to analyze data Using a list to organize data, sorting and filtering data in list e) Retrieve data with query: Create a pivot table, customizing a pivot table. Statistical analysis of data f) Exchange data with other application: Embedding objects, linking to other applications, import, export document.
15th	15	Creating a chart: Working with chart types, changing data in chart, formatting a chart, use chart to analyze data Using a list to organize data, sorting and filtering data in list e) Retrieve data with query: Create a pivot table, customizing a pivot table. Statistical analysis of data f) Exchange data with other application: Embedding objects, linking to other applications, import, export document.
16th	16	Creating a chart: Working with chart types, changing data in chart, formatting a chart, use chart to analyze data Using a list to organize data, sorting and filtering data in list e) Retrieve data with query: Create a pivot table, customizing a pivot table. Statistical analysis of data f) Exchange data with other application: Embedding objects, linking to other applications, import, export

		document.
17th	17	PowerPoint Presentation (MS Office/Open Office) a) Introduction to PowerPoint - How to start PowerPoint - Working environment: concept of toolbars, slide layout & templates. - Opening a new/existing presentation - Different views for viewing slides in a presentation: normal, slide sorter. b) Addition, deletion and saving of slides c) Insertion of multimedia elements - Adding text boxes - Adding/importing pictures - Adding movies and sound - Adding tables and charts etc. - Adding organizational chart - Editing objects - Working with Clip Art
18th	18	PowerPoint Presentation (MS Office/Open Office) a) Introduction to PowerPoint - How to start PowerPoint - Working environment: concept of toolbars, slide layout & templates. - Opening a new/existing presentation - Different views for viewing slides in a presentation: normal, slide sorter. b) Addition, deletion and saving of slides c) Insertion of multimedia elements - Adding text boxes - Adding/importing pictures - Adding movies and sound - Adding tables and charts etc. - Adding organizational chart - Editing objects - Working with Clip Art
19th	19	d) Formatting slides - Using slide master - Text formatting - Changing slide layout - Changing slide colour scheme - Changing background - Applying design template
20th	20	d) Formatting slides - Using slide master - Text formatting - Changing slide layout - Changing slide colour scheme - Changing background - Applying design template
21st	21	How to view the slide show? - Viewing the presentation using slide navigator - Slide transition - Animation effects, timing, order etc. Use of Pack and Go Options.

22nd	22	How to view the slide show? - Viewing the presentation using slide navigator - Slide transition - Animation effects, timing, order etc. Use of Pack and Go Options.
23rd	23	Internet and its Applications
24th	24	Establishing an internet connection. Browsing and down loading of information from internet.
25th	25	Establishing an internet connection. Browsing and down loading of information from internet.
26th	26	Sending and receiving e-mail - Creating a message - Creating an address book - Attaching a file with e-mail message - Receiving a message - Deleting a message
27th	27	Sending and receiving e-mail - Creating a message - Creating an address book - Attaching a file with e-mail message - Receiving a message - Deleting a message
28th	28	Assigning IP Addresses to computers and use of domain names.
29th	29	Functioning of Antivirus a) Installation and updation of an antivirus. b) How to scan and remove the virus.
30th	30	Functioning of Antivirus a) Installation and updation of an antivirus. b) How to scan and remove the virus.