Name of the Faculty	**Sh. Anjani kumar**
Discipline	**Instrumentation & Control**
Semester	**1st Sem**
Subject	**FIE**
Lesson Plan Duration	**15 weeks(from Aug to Nov 2025)**

Work Load (lecture/practical)per week (in hours) : Le

Week		Theory
		Topic (inculding
1st	1st	Unit : 1 : Definition of measurements and its significance
	2nd	Methods of mesurements : Direct methods,Indirect methods
	3rd	Scope and necessity of instruments
2nd	4th	Elements of a Generalized Measurement system : Primary sensing element
	5th	Variable conversion element
	6th	Data presentation element
3rd	7th	Introduction of transducers ,Definition of sensors & transducers
	8th	Difference b/w sensor & transducer
	9th	Class test of Unit-1
4th	10th	Unit : 2 : Types of instrumentation systems : Intelligent instrumentation
	11th	Dump instrumentation system
	12th	Clasification of instruments : Absolute instruments
5th	13th	Secondary instrumentation
	14th	Function of instruments : Indicating function
	15th	Recording function
6th	16th	Controlling function
	17th	Modes of operation of secondary Instruments:Analog mode
	18th	Digital mode
7th	19th	Class test of Unit-2
	20th	Unit :3.Performance characteristics: Static characteristics of

	21st	Dynamic characteristics-time constant, response time, natural frequency, damping coefficient
8th	22nd	Selection criteria of instruments.
	23rd	Calibration. Definition and importance of calibration
	24th	Process of calibration.
9th	25th	Class test of Unit-3
	26th	Unit: 4:Need of Recorders in Instrumentation system
	27th	Classification of Recorders: XY, Strip chart recorder, magnetic tape recorder
10th	28th	Digital display units: Light Emitting Diode (LED)
	29th	Liquid Crystal Display (LCD)
	30th	Segmental displays
11th	31st	Dot matrices
	32nd	Class test of Unit-4
	33rd	Unit :5: Fluorescent Displays
12th	34th	Limiting errors
	35th	Relative limiting error
	36th	known error
13th	37th	Sources of errors: Gross error
	38th	Systematic error
	39th	Instrumental error
14th	40th	Environmental error
	41st	Observational error
	42nd	Random error
15th	43rd	Normal distribution of errors
	44th	Class test of Unit-5
	45th	Revision

ctures- 03, practical- 04

Practicals
Topic
Familiarization with the process of calibration.
To study the measurement system using example.
Calibrate the given Ammeter with the standard Ammeter of same range.
Calibrate the given Voltmeter with the standard Voltmeter of same range.
Familiarization with the process of calibration.
To study the measurement system using example.
Calibrate the given Ammeter with the standard Ammeter of same range.
Calibrate the given Voltmeter with the standard Voltmeter of same range.
Identification of various types of Instruments.
All Practical files checked.
To study and operate different types of printers.
Demonstration and operation of strip chart recorder
Demonstration of Circular chart recorder.
All Practical files checked.
To study and operate different types of printers.
Demonstration and operation of strip chart recorder
Demonstration of Circular chart recorder.
All Practical files checked.
To assemble seven segment display using LEDs.
Calculate parallax error in analog meter.
Detection and removal of Systematic error in an Instrument.
All Practical files checked.
Identification of various types of Sensors and transducers.
To assemble seven segment display using LEDs.
Calculate parallax error in analog meter.
All Practical files checked.
Detection and removal of Systematic error in an Instrument.

dentification of various types of Sensors and transducers.
To prepare laboratory equipment maintenance check list.
To study safety precautions in handling laboratory equipments.
To assemble seven segment display using LEDs.
Calculate parallax error in analog meter.
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Detection and removal of Systematic error in an Instrument.
Familiarization and use of Fluorescent display.
Identification of various types of Sensors and transducers.
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Familiarization and use of Fluorescent display.
All Practical files checked.
To prepare laboratory equipment maintenance check list.
To study safety precautions in handling laboratory equipments.
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LESSON PLAN

Name of f Faculty Sh. Vikash
Discipline: Instrumentation
Semester: 1st (First year)
Subject: Engineering
Lesson Plan Durati Aug to Nov
Teaching Load: 6 Hours pra

Week	Day Lecture	Topic
1	1	**UNIT-1: Int**
	2	introductic
2	1	**Geometrica**
	2	**Technical L**
3	1	Vertical and
	2	**Dimensioni**
4	1	Dimensioni
	2	Holes, equa
5	1	**Scales: Scal**
	2	To draw/co
6	1	Doubt Sessi
	2	1st sessiona
7	1	**UNIT 2: Ort**
	2	Projection o
8	1	Line perper
	2	**Projection**
9	1	**Sectioning:**
	2	Orthograph
10	1	Doubt sessi
	2	2nd sessiona
11	1	**UNIT 3:**
	2	Developme
12	1	**UNIT 4: Iso**
	2	Isometric vi
13	1	**UNIT-5: Int**
	2	AutoCAD sk
14	1	Doubt sessi
	2	3rd sessiona
15	1	Revision
	2	Revision

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& control Engg.

Graphics

2025 (15 weeks)

ctical/week

roduction to Engineering drawing & Graphics
onto use & care of drawing instruments, Isometric views of different regular solids like cylinder, cone, cube, cuboid, pyr
al construction-geometrical figures such as triangles, rectangles, circles, ellipses and curves, hexagons, pentagons
ettering of Alphabet and Numerals: Definition and classification of lettering, Free hand (of height of 5,8,12 mm) and
d inclined (Gothic lettering) at 75 degree to horizontal and with suitable height to width ratio 7:4.
ing: Necessity of dimensioning, method and principles of dimensioning (mainly theoretical instructions).
ng of overall sizes, circles, threaded holes, chamfered surfaces, angles, tapered surfaces,
ally spaced on P.C.D., countersunk holes, counter bored holes, cylindrical parts, narrow spaces and gaps, radii, curves
les –Needs and importance (theoretical instructions), Type of scales, Definition of Representative Fraction (R.F.) and
nstruct plain and diagonal scales.
ion
l
thographic projection
of Points in different quadrant, Projection of Straight Line (1st angle), Line parallel to both the planes
ndicular to any one of the reference plane and parallel to others, Line inclined to any one of the references and
of Plane – Different lamina like square rectangular, triangular, circle and Hexagonal pentagon. Trace of planes (HT
Importance and salient features, Drawing of full section, half section, partial or broken out sections, Offset sections,
hic sectional views of different objects.
ion
al
nt of Surfaces – Development of lateral surfaces of right solids like cone, cylinder, pentagonal prism, pyramid and
metric Views
iews of different regular solids like cylinder, cone, cube, cuboid, pyramid and prism. Isometric views from given
roduction to AutoCAD
kill of student is evaluated in internal assessment only not in external exam.
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ramid and prism. Isometric views from given different orthographic projections(front, side and top view)

NAME OF Faculty	**Ms. Rajni**
DISCIPLINE:	**Instrumentation and control**
SEMESTER:	**1st**
SUbJECT:	**Fundamental of IT**
LESSON PLAN	**15 weeks(from Aug to Nov 2025)**

**workload Lecture/Practi

WEEK	THEORY	
	DAY	TOPIC (INCLUDING ASSIGNMENT/ TEST)
1st	1st	**UNIT I basics of Computer**
	2nd	Brief history of development of computers, Definition of Computer, Block diagram of a Computer, hardware, Software Importance of cache memory, CPU speed and CPU word length
2nd	3rd	Booting: Cold and hot Booting, Interaction between the CPU and Memory with Input/output devices
	4th	Memory, Bit, Nibble, Byte, kB, MB, GB, TB, PB, Functions of memory
3rd	5th	Use of storage devices in a Computer, List types of memory used in a Computer
	6th	Function of CPU and major functional parts of CPU
4th	7th	Revision/ Assignment / Test
	8th	**UNIT II basic Internet Skills**
5th	9th	Understanding browser, Introduction to www, efficient use of search engines
	10th	Awareness about Digital India portals (state and national portals) and college portals. advantages of Email, Various email
6th	11th	Creation of email id, sending and receiving emails, attaching documents with email and drive. Effective use of Gmail
	12th	G-Drive, Google Calendar, Google Sites, Google Sheets
	13th	Online mode of communication using Google Meet & webEx.

7th	14th	Revision/ Assignment / Test
8th	15th	**UNIT III Basic Logic Building**
	16th	Introduction to Programming, Steps involved in problem solving, Definition of algorithm, Definition of Flowchart
9th	17th	Steps involved in algorithm development, differentiate algorithm and flowchart, symbols used in flowcharts, algorithms
	18th	flowcharts for simple problems, Practice logic building using flowchart/algorithms
10th	19th	Revision/ Assignment / Test
	20th	**UNIT IV Office Tools**
11th	21st	Open Office writer
	22nd	LibreOffice/OpenOffice Calc
12th	23rd	Open Office Impress
	24th	Revision/ Assignment / Test
13th	25th	**UNIT V Use of Social Media**
	26th	Introduction to Digital Marketing
14th	27th	Effective use of Social Media like LinkedIn, Google+,
	28th	Features of Social media, advantages and Disadvantages of Social Media
15th	29th	Revision/ Assignment
	30th	Test

LESSON PLAN

cal Per week IN hours: Lecture (2) Practical (4)

PRACTICAL
Introduction to the IT Computer Lab
Browser features, browsing, using various search engines, writing search queries
Visit various e-governance/Digital India portals, understand their features, services offered
read Wikipedia pages on computer hardware components, look atthose components in lab, identify them, recognize various ports/interfaces and related cables, etc.
Using administrative Tools/Control Panel Settings of Operating Systems
Connect various peripherals (printer, scanner, etc.) to computer; explore various features of peripheral and their device driver software.
Explore features of Open Office tools and MS-Office, create documents, create presentation, create spread sheet, using these features, do it multiple times
working with Conversion Software like pdf To word, word To PPT, etc.
Working with Mobile Applications - Searching for authentic Mobile app, Installation and Settings, Govt. of India Mobile applications
Creating email id, sending and receiving mails with attachments.
Using Google drive, Google calendar
revision
revision

revision

Revision

Create Flow chart and algorithm for the following : a.addition of n numbers and display result
b.To convert temperature from Celsius to Fahrenheit c.To find area and Perimeter of Square
d. Swap Two Numbers
e. find the smallest of two numbers
f. Find whether given number is Even or Odd
g. To print first n even Numbers
h. find sum of series 1+2+3+. +N
i. print multiplication Table of a number
j. generate first n Fibonacci terms 0,1,1,2,3,5 n (n>2)
k. sum and average of given series of numbers
l. Factorial of number n (n!=1x2x3x n) m.armstrong Number
n. Find whether given number is Prime or not