

LESSON PLAN - 2026 (WINTER)		
Discipline : Mechanical Engg.	Semester : 3rd	Name of the Teachnig Faculty : Sri NIBEDIT NAHAK
Subject: MANUFACTURING PROCESS	No.of days/Per weeks Class Alloted Weeks :3	Semester from date : 01.07.2026 No.of Weeks : 19 To Date : 05.11.2026 W.e.f: 01/07/2026 (19 weeks)
Weeks	Class day	Theory
1st	1st	Unit-I: Cutting Fluids & Lubricants: Introduction; Types of cutting fluids, Fluids and coolants required in turning, drilling, shaping, sawing & broaching;
	2nd	Selection of cutting fluids, methods of application of cutting fluid;
	3rd	Classification of lubricants (solid, liquid, gaseous), Properties and applications of lubricants
2nd	1st	Tutorial / Numerical Practice / Discussion
	2nd	Lathe Operations: Types of lathes – light duty, medium duty and heavy duty geared lathe, CNC lathe; Specifications; Basic parts and their functions;
	3rd	Operations and tools – Turning, parting off, Knurling, facing, Boring
3rd	1st	Operations and tools – drilling, threading, step turning, taper turning
	2nd	Tutorial / Numerical Practice / Discussion
	3rd	Nomenclature of single point cutting tool of lathe.
4th	1st	Unit-II: Broaching Machines: Introduction to broaching;
	2nd	Types of broaching machines – Horizontal type (Single ram & duplex ram), Vertical type
	3rd	Tutorial / Numerical Practice / Discussion
5th	1st	Types of broaching machines – pull up, pull down, and push down;
	2nd	Elements of broach tool
	3rd	Broach teeth details; Nomenclature; Tool materials
6th	1st	Tutorial / Numerical Practice / Discussion
	2nd	Drilling: Classification;
	3rd	Basic parts and their functions; Radial drilling machine;
7th	1st	Types of operations; Specifications of drilling machine;
	2nd	Types of drills and reamers.
	3rd	Tutorial / Numerical Practice / Discussion
8th	1st	Unit-III: Welding: Classification; Gas welding techniques;
	2nd	Types of welding flames; Arc Welding – Principle, Equipment, Applications;
	3rd	Shielded metal arc welding; Submerged arc welding;
9th	1st	TIG / MIG welding
	2nd	Tutorial / Numerical Practice / Discussion
	3rd	Resistance welding - Spot welding, Seam welding, Projection welding;
10th	1st	Welding defects; Brazing and soldering: Types, Principles, Applications
	2nd	Milling: Introduction; Types of milling machines:
	3rd	Plain, Universal, vertical; constructional details – specifications;
11th	1st	Tutorial / Numerical Practice / Discussion
	2nd	Milling operations: simple, compound and differential indexing; Milling cutters – types; Nomenclature of teeth; Teeth materials; Tool signature of milling cutter; Tool & work holding devices.
	3rd	Unit-IV: Gear Making: Manufacture of gears – by Casting, Moulding, Stamping, Coining Extruding,

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Weeks	Class day	Theory
12th	1st	Rolling, Machining; Gear generating methods: Gear Shaping with pinion cutter & rack cutter;
	2nd	Gear hobbing; Description of gear hob;
	3rd	Tutorial / Numerical Practice / Discussion
13th	1st	Operation of gear hobbing machine; Gear finishing processes;
	2nd	Gear materials and specification; Heat treatment processes applied to gears
	3rd	Press working: Types of presses and Specifications,
14th	1st	Press working operations - Cutting, bending, Drawing, punching, blanking, notching, lancing;
	2nd	Tutorial / Numerical Practice / Discussion
	3rd	Die set components- Punch and die shoe, guide pin, bolster plate, stripper, stock guide, feed stock, pilot;
15th	1st	Die set components- Punch and die clearances for blanking and piercing, effect of clearance. -continue
	2nd	Unit-V: Grinding and finishing processes: Principles of metal removal by Grinding
	3rd	Abrasives – Natural & Artificial; Bonds and binding processes: Vitrified, silicate, shellac, rubber, Bakelite; Factors affecting the selection of grind wheels: size and shape of wheel
16th	1st	Tutorial / Numerical Practice / Discussion
	2nd	Kind of abrasive, grain size, grade and strength of bond, structure of grain, spacing, kinds of bind material; Standard marking systems: Meaning of letters & numbers sequence of marking,
	3rd	Grades of letters; Grinding machines classification:- Cylindrical, Surface Tool & Cutter grinding machines;
17th	1st	Construction details; Principle of centerless grinding; Advantages & limitations of centerless grinding; Finishing by grinding:
	2nd	Honing, Lapping, Super finishing; Electroplating: Basic principles, Plating metals, applications; Hot dipping: Galvanizing,
	3rd	Tutorial / Numerical Practice / Discussion
18th	1st	Tin coating, Parkerizing, Anodizing; Metal spraying: wire process,
	2nd	Powder process and applications; Organic coatings: Oil base Paint, Lacquer base, Enamels, Bituminous paints, rubber base coating; Finishing specifications.
	3rd	Revision / Question Answer Session
19th	1st	Revision / Question Answer Session
	2nd	Revision / Question Answer Session
	3rd	Revision / Question Answer Session

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LESSON PLAN - 2026 (WINTER)

Discipline : Mechanical Engg.	Semester : 3rd	Name of the Teachnig Faculty : Sri NIBEDIT NAHAK
Subject: MATERIAL SCIENCE & ENGINEERING	No.of days/Per weeks Class Alloted Weeks :3	Semester from date : 01.07.2026 No.of Weeks : 19 To Date : 05.11.2026 W.e.f: 01/07/2026 (19 weeks)
Weeks	Class day	Theory
1st	1st	Unit-I: Crystal Structures & Bonds: Unit Cell and Space Lattice
	2nd	Crystal Systems –The seven basic crystal systems;
	3rd	Crystal Structures for Metallic Elements: BCC, FCC, HCP
2nd	1st	Tutorial / Numerical Practice / Discussion
	2nd	Coordination Number: SC, BCC, FCC
	3rd	Atomic Packing Factor: SC, BCC, FCC, HCP
3rd	1st	Simple problems on finding number of atoms for a unit cell.
	2nd	Tutorial / Numerical Practice / Discussion
	3rd	Simple problems on finding APF for a unit cell.
4th	1st	Bonds in Solids: Classification – primary or chemical bond, secondary or molecular bond; Primary Bonds: Ionic, Covalent, Metallic
	2nd	Secondary Bonds: Dispersion, Dipole, Hydrogen
	3rd	Tutorial / Numerical Practice / Discussion
5th	1st	Revision of Unit-I
	2nd	Eutectoid Systems
	3rd	Iron-Carbon Binary Diagram – Structure and Explanation
6th	1st	Tutorial / Numerical Practice / Discussion
	2nd	Iron-Carbon Binary Diagram – Structure and Explanation (Contd.)
	3rd	Numericals on Phase Diagram
7th	1st	Iron-Carbon Steels: Composition & Properties
	2nd	Flow Sheet for Iron & Steel Production
	3rd	Tutorial / Numerical Practice / Discussion
8th	1st	Iron Ores and Pig Iron:classification, composition and effects of impurities on iron;
	2nd	Cast Iron: classification, composition, properties and uses;
	3rd	Wrought Iron: properties, uses/applications of wrought Iron;
9th	1st	Comparison of cast iron, wrought iron and mild steel and high carbon steel;
	2nd	Tutorial / Numerical Practice / Discussion
	3rd	standard commercial grades of steel as per BIS and AISI;
10th	1st	Alloy Steels – purpose of alloying; effects of alloying elements – Important alloysteels:
	2nd	Silicon steel, High Speed Steel (HSS), heat resisting steel, spring steel,
	3rd	Stainless Steel (SS): types of SS, applications of SS – magnet steel – composition, properties and uses
11th	1st	Tutorial / Numerical Practice / Discussion
	2nd	Revision of Unit-II
	3rd	Unit-III: Non-Ferrous Metals and its Alloys: Properties and Uses – Al, Cu, Sn, Pb

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Weeks	Class day	Theory
12th	1st	Properties and Uses – Zn, Mg, Ni
	2nd	Copper alloys: Brasses, bronzes – composition, properties and uses;
	3rd	Tutorial / Numerical Practice / Discussion
13th	1st	Aluminum alloys: Duralumin, hindalium, magnelium – composition, properties and uses;
	2nd	Nickel alloys: Inconel, monel, nichrome – composition, properties and uses
	3rd	Anti-friction/Bearing alloys: Various types of bearing bronzes , Standard commercial grades as per BIS/ASME.
14th	1st	brittle fracture; cleavage; notch sensitivity;
	2nd	Tutorial / Numerical Practice / Discussion
	3rd	Fatigue; endurance limit; characteristics of fatigue fracture; variables affecting fatigue life;
15th	1st	Creep, creep curve; creep fracture;
	2nd	Rockwell; bend test; torsion test; fatigue test; creep test.
	3rd	penetrant test; ultrasonic inspection; radiography.
16th	1st	Tutorial / Numerical Practice / Discussion
	2nd	Electro chemical re-actions; Electrolytes; Factors affecting corrosion: Environment, selection, environment control and design; Surface engineering processes:
	3rd	Electroplating and Special metallic plating; Electro polishing and photoetching ;
17th	1st	Thin Film Coatings: PVD, CVD; Surface Analysis; Hard-facing
	2nd	Tutorial / Numerical Practice / Discussion
	3rd	orms for treating effluents as per standards.
18th	1st	Revision of Unit-III to V
	2nd	Revision / Question Answer Session
	3rd	Revision / Question Answer Session
19th	1st	Revision / Question Answer Session
	2nd	Revision / Question Answer Session
	3rd	Revision / Question Answer Session

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LESSON PLAN - 2026 (WINTER)		
Discipline : Mechanical Engg.	Semester : 3rd	Name of the Teachnig Faculty : Sri NIBEDIT NAHAK
Subject: MATERIAL TESTING AND METALLOGRAPHY LAB (PR2)	No.of days/Per weeks Class Alloted Weeks : 4	Semester from date : 01.07.2026 No.of Weeks : 19 To Date : 05.11.2026 W.e.f: 01/07/2026 (19 weeks)
Weeks	Class day	Theory
1st	1st	Preparation of a specimen and examination the microstructure of the Ferrous metals using the Metallurgical Microscope.
	2nd	Preparation of a specimen and examination the microstructure of the Ferrous metals using the Metallurgical Microscope.
	3rd	Preparation of a specimen and examination the microstructure of the Non- Ferrous metals using the Metallurgical Microscope.
	4th	Preparation of a specimen and examination the microstructure of the Non- Ferrous metals using the Metallurgical Microscope.
2nd	1st	Record Checking & Viva-Voce
	2nd	Record Checking & Viva-Voce
	3rd	Detect the cracks in the specimen using (i) Visual inspector
	4th	Detect the cracks in the specimen using (i) Visual inspector
3rd	1st	Detect the cracks in the specimen using (ii) Die penetrator
	2nd	Detect the cracks in the specimen using (iii) Magnetic particle
	3rd	Record Checking & Viva-Voce
	4th	Record Checking & Viva-Voce
4th	1st	Determination of Rockwell's Hardness Number for various materials like mild steel, high carbon steel
	2nd	Determination of Rockwell's Hardness Number for various materials like mild steel, high carbon steel
	3rd	Determination of Rockwell's Hardness Number for various materials like brass, copper and aluminium
	4th	Record Checking & Viva-Voce
5th	1st	Record Checking & Viva-Voce
	2nd	Finding the resistance of materials to impact loads by Izod test and Charpytest.
	3rd	Finding the resistance of materials to impact loads by Izod test and Charpytest.
	4th	Finding the resistance of materials to impact loads by Izod test and Charpytest.
6th	1st	Finding the resistance of materials to impact loads by Izod test and Charpytest.
	2nd	Record Checking & Viva-Voce
	3rd	Record Checking & Viva-Voce
	4th	Torsion test ori mild steel - relation between torque and angle of twist determination of shear modulus
7th	1st	Torsion test ori mild steel - relation between torque and angle of twist determination of shear modulus
	2nd	Torsion test on mild steel - relation between torque and angle of twist determination of shear stress
	3rd	Torsion test on mild steel - relation between torque and angle of twist determination of shear stress
	4th	Record Checking & Viva-Voce

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Discipline : Mechanical Engg.	Semester : 3rd	Name of the Teachnig Faculty : Sri NIBEDIT NAHAK
Subject: MATERIAL TESTING AND METALLOGRAPHY LAB (PR2)	No.of days/Per weeks Class Alloted Weeks : 4	Semester from date : 01.07.2026 To Date : 05.11.2026 No.of Weeks : 19 W.e.f: 01/07/2026 (19 weeks)
Weeks	Class day	Theory
8th	1st	Record Checking & Viva-Voce
	2nd	Revision
	3rd	Revision
	4th	Record Checking & Viva-Voce
9th	1st	Viva-voce
	2nd	Viva-voce
	3rd	Viva-voce
	4th	Record Checking & Viva-Voce
10th	1st	Viva-voce
	2nd	Explantion of UTM.
	3rd	Explantion of UTM.
	4th	Practice / Observation / Viva / Record Work
11th	1st	Finding Young's Modulus of Elasticity from tests on mild steel
	2nd	Finding Young's Modulus of Elasticity from tests on mild steel
	3rd	Finding yield points of mild steel from tests on mild steel
	4th	Finding yield points of mild steel from tests on mild steel
12th	1st	Practice / Observation / Viva / Record Work
	2nd	Finding percentage elongation and percentagereduction from tests on mild steel.
	3rd	Finding percentage elongation and percentagereduction from tests on mild steel.
	4th	Practice / Observation / Viva / Record Work
13th	1st	Record Checking & Viva-Voce
	2nd	Determination of modulus of rigidity by load deflector
	3rd	Determination of strain energy by load deflection methoc
	4th	Practice / Observation / Viva / Record Work
14th	1st	Determination of shear stress and stiffness by load deflector
	2nd	Record Checking & Viva-Voce
	3rd	Single or double Shear test on M.S. bar to finding the resistance of material to shear load.
	4th	Practice / Observation / Viva / Record Work
15th	1st	Single or double Shear test on M.S. bar to finding the resistance of material to shear load.
	2nd	Single or double Shear test on M.S. bar to finding the resistance of material to shear load.
	3rd	Record Checking & Viva-Voce
	4th	Practice / Observation / Viva / Record Work
16th	1st	Revision
	2nd	Revision
	3rd	Revision
	4th	Practice / Observation / Viva / Record Work
17th	1st	Revision
	2nd	Revision
	3rd	Revision
	4th	Practice / Observation / Viva / Record Work

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Discipline : Mechanical Engg.	Semester : 3rd	Name of the Teachnig Faculty : Sri NIBEDIT NAHAK
Subject: MATERIAL TESTING AND METALLOGRAPHY LAB (PR2)	No. of days/Per weeks Class Alloted Weeks : 4	Semester from date : 01.07.2026 To Date : 05.11.2026 No. of Weeks : 19 W.e.f: 01/07/2026 (19 weeks)
Weeks	Class day	Theory
18th	1st	Revision
	2nd	Viva-voce
	3rd	Viva-voce
	4th	Practice / Observation / Viva / Record Work
19th	1st	Viva-voce
	2nd	Viva-voce
	3rd	Revision, Viva-Voce and Practical Assessment Preparatior
	4th	Revision, Viva-Voce and Practical Assessment Preparatior
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LESSON PLAN - 2026 (WINTER)

Discipline : Mechanical Engg.	Semester : 5th	Name of the Teachnig Faculty : Sri NIBEDIT NAHAK
Subject: METROLOGY & MEASUREMENT	No.of days/Per weeks Class Alloted Weeks :3	Semester from date : 01.07.2026 To Date : 05.11.2026 No.of Weeks : 19 W.e.f: 01/07/2026 (19 weeks)
Weeks	Class day	Theory
1st	1st	Introduction to Measurement and Significance
	2nd	Methods of Measurement: Direct and Indirect
	3rd	Generalized Measuring System
2nd	1st	Standards of Measurement: Primary and Secondary
	2nd	Selection of Measuring Instruments
	3rd	Precision, Accuracy, Sensitivity and Repeatability
3rd	1st	Range, Threshold, Hysteresis and Calibration
	2nd	Classification of Errors
	3rd	Systematic and Random Errors
4th	1st	Thread Gauge Micrometer
	2nd	Bevel Protractor
	3rd	Sine Bar and Applications
5th	1st	Plug, Ring and Snap Gauges
	2nd	Comparators and Characteristics
	3rd	Surface Finish and Talysurf Tester
6th	1st	Coordinate Measuring Machine
	2nd	Revision Unit-I
	3rd	Internal Assessment-I
7th	1st	Introduction to Transducers
	2nd	Classification of Transducers
	3rd	Piezoelectric and Inductive Transducers
8th	1st	Strain Gauges
	2nd	Mounting of Strain Gauges
	3rd	Strain Gauge Rosettes
9th	1st	Force Measurement
	2nd	Proving Ring and Load Cell
	3rd	Torque Measurement: Prony Brake
10th	1st	Hydraulic and Eddy Current Dynamometers
	2nd	Pressure Measurement: McLeod Gauge
	3rd	Revision Unit-II
11th	1st	Speed Measurement and Tachometers
	2nd	Revolution Counters
	3rd	LVDT
12th	1st	Rotameter
	2nd	Turbine Meter
	3rd	Temperature Measurement
13th	1st	Resistance Thermometer
	2nd	Optical Pyrometer
	3rd	Humidity, Density and Liquid Level Measurement

LESSON PLAN - 2026 (WINTER)		
Discipline : Mechanical Engg.	Semester : 5th	Name of the Teachnig Faculty : Sri NIBEDIT NAHAK
Subject: METROLOGY & MEASUREMENT	No.of days/Per weeks Class Alloted Weeks :3	Semester from date : 01.07.2026 To Date : 05.11.2026 No.of Weeks : 19 W.e.f: 01/07/2026 (19 weeks)
Weeks	Class day	Theory
14th	1st	Biomedical Measurement
	2nd	Revision Unit-III
	3rd	Internal Assessment-II
15th	1st	Limits, Fits and Tolerances
	2nd	Selective Assembly and Interchangeability
	3rd	Hole and Shaft Basis System
16th	1st	Taylor's Principle
	2nd	Design of Plug and Ring Gauges
	3rd	IS Standards and Multi Gauging
17th	1st	Angular Measurement Instruments
	2nd	Clinometers and Angle Gauges
	3rd	Numericals on Angle Gauges
18th	1st	Screw Thread Measurement
	2nd	Two Wire Method
	3rd	Gear Measurement and Testing
19th	1st	Machine Tool Testing
	2nd	Model Test and Numericals
	3rd	Final Revision and Examination Preparation

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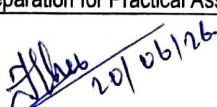
LESSON PLAN - 2026 (WINTER)

Discipline : Mechanical Engg.	Semester : 5TH	Name of the Teachnig Faculty : Sri NIBEDIT NAHAK
Subject: MANUFACTURING ENGINEERING LAB-II (PR3)	No.of days/Per weeks Class Alloted Weeks : 4	Semester from date : 01.07.2026 To Date : 05.11.2026 No.of Weeks : 19 W.e.f: 01/07/2026 (19 weeks)
Weeks	Class day	Theory
1st	1st	Drill three different sized holes in various materials, maintaining uniform distance between them.
	2nd	Drill three different sized holes in various materials, maintaining uniform distance between them.
	3rd	Drill three different sized holes in various materials, maintaining uniform distance between them.
	4th	Drill three different sized holes in various materials, maintaining uniform distance between them.
2nd	1st	Create a square from round bars with and without indexing
	2nd	Create a square from round bars with and without indexing
	3rd	Create a square from round bars with and without indexing
	4th	Create a square from round bars with and without indexing
3rd	1st	Create a hexagon from round bars with and without indexing
	2nd	Create a hexagon from round bars with and without indexing
	3rd	Create a hexagon from round bars with and without indexing
	4th	Create a hexagon from round bars with and without indexing
4th	1st	Generation of Spur Gear Teeth on a Round Bar.
	2nd	Generation of Spur Gear Teeth on a Round Bar.
	3rd	Generation of Spur Gear Teeth on a Round Bar.
	4th	Generation of Spur Gear Teeth on a Round Bar.
5th	1st	Simple Planning Exercise: Cut 'T' slots (one model).
	2nd	Simple Planning Exercise: Cut 'T' slots (one model).
	3rd	Simple Planning Exercise: Cut 'T' slots (one model).
	4th	Simple Planning Exercise: Cut 'T' slots (one model).
6th	1st	Shaping a Hexagon on a Round Bar, Keyways, Grooves, and Splines.
	2nd	Shaping a Hexagon on a Round Bar, Keyways, Grooves, and Splines.
	3rd	Shaping a Hexagon on a Round Bar, Keyways, Grooves, and Splines.
	4th	Shaping a Hexagon on a Round Bar, Keyways, Grooves, and Splines.
7th	1st	Shaping Step Block: Cut dovetail at angles of 60°, 90°, 120°
	2nd	Shaping Step Block: Cut dovetail at angles of 60°, 90°, 120°
	3rd	Shaping Step Block: Cut dovetail at angles of 60°, 90°, 120°
	4th	Shaping Step Block: Cut dovetail at angles of 60°, 90°, 120°
8th	1st	Grind external and internal surfaces using a universal grinding machine.
	2nd	Grind external and internal surfaces using a universal grinding machine.
	3rd	Grind external and internal surfaces using a universal grinding machine.
	4th	Grind external and internal surfaces using a universal grinding machine.
9th	1st	Grinding Cutting Tools to Required Angles
	2nd	Grinding Cutting Tools to Required Angles
	3rd	Grinding Cutting Tools to Required Angles
	4th	Grinding Cutting Tools to Required Angles
10th	1st	Grinding Milling Cutters on a Tool and Cutter Grinder
	2nd	Grinding Milling Cutters on a Tool and Cutter Grinder
	3rd	Grinding Milling Cutters on a Tool and Cutter Grinder
	4th	Grinding Milling Cutters on a Tool and Cutter Grinder
11th	1st	Grinding Flat Surface on a Surface Grinder Using Magnetic Chuck and Clamping Devices.
	2nd	Grinding Flat Surface on a Surface Grinder Using Magnetic Chuck and Clamping Devices.
	3rd	Grinding Flat Surface on a Surface Grinder Using Magnetic Chuck and Clamping Devices.

LESSON PLAN - 2026 (WINTER)

Discipline : Mechanical Engg.	Semester : 5TH	Name of the Teachnig Faculty : Sri NIBEDIT NAHAK
Subject: METROLOGY AND MEASUREMENT LAB (PR1)	No.of days/Per weeks Class Alloted Weeks : 4	Semester from date : 01.07.2026 To Date : 05.11.2026 No.of Weeks : 19 W.e.f: 01/07/2026 (19 weeks)
Weeks	Class day	Theory
11th	1st	Practice / Observation / Record Work / Viva
	2nd	Practice / Observation / Record Work / Viva
	3rd	Practice / Observation / Record Work / Viva
	4th	Practice / Observation / Record Work / Viva
12th	1st	Record Checking & Viva-Voce
	2nd	Record Checking & Viva-Voce
	3rd	Record Checking & Viva-Voce
	4th	Record Checking & Viva-Voce
13th	1st	Measure geometrical dimensions of v-thread using thread vernier
	2nd	Measure geometrical dimensions of v-thread using thread vernier
	3rd	Measure geometrical dimensions of v-thread using thread vernier
	4th	Measure geometrical dimensions of v-thread using thread vernier
14th	1st	Practice / Observation / Record Work / Viva
	2nd	Practice / Observation / Record Work / Viva
	3rd	Practice / Observation / Record Work / Viva
	4th	Practice / Observation / Record Work / Viva
15th	1st	Record Checking & Viva-Voce
	2nd	Record Checking & Viva-Voce
	3rd	Record Checking & Viva-Voce
	4th	Record Checking & Viva-Voce
16th	1st	Measure the thickness of ground MS plates using slip gauges
	2nd	Measure the thickness of ground MS plates using slip gauges
	3rd	Measure the thickness of ground MS plates using slip gauges
	4th	Measure the thickness of ground MS plates using slip gauges
17th	1st	Practice / Observation / Record Work / Viva
	2nd	Practice / Observation / Record Work / Viva
	3rd	Practice / Observation / Record Work / Viva
	4th	Practice / Observation / Record Work / Viva
18th	1st	Preparation for Practical Assessment
	2nd	Preparation for Practical Assessment
	3rd	Preparation for Practical Assessment
	4th	Preparation for Practical Assessment
19th	1st	Preparation for Practical Assessment
	2nd	Preparation for Practical Assessment
	3rd	Preparation for Practical Assessment
	4th	Preparation for Practical Assessment
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LESSON PLAN - 2026 (WINTER)		
Discipline : Mechanical Engg.	Semester : 5TH	Name of the Teachnig Faculty : Sri NIBEDIT NAHAK
Subject: MANUFACTURING ENGINEERING LAB-II (PR3)	No.of days/Per weeks Class Alloted Weeks : 4	Semester from date : 01.07.2026 To Date : 05.11.2026 No.of Weeks : 19 W.e.f: 01/07/2026 (19 weeks)
Weeks	Class day	Theory
1st	1st	Drill three different sized holes in various materials, maintaining uniform distance between them.
	2nd	Drill three different sized holes in various materials, maintaining uniform distance between them.
	3rd	Drill three different sized holes in various materials, maintaining uniform distance between them.
	4th	Drill three different sized holes in various materials, maintaining uniform distance between them.
2nd	1st	Create a square from round bars with and without indexing
	2nd	Create a square from round bars with and without indexing
	3rd	Create a square from round bars with and without indexing
	4th	Create a square from round bars with and without indexing
3rd	1st	Create a hexagon from round bars with and without indexing
	2nd	Create a hexagon from round bars with and without indexing
	3rd	Create a hexagon from round bars with and without indexing
	4th	Create a hexagon from round bars with and without indexing
4th	1st	Generation of Spur Gear Teeth on a Round Bar.
	2nd	Generation of Spur Gear Teeth on a Round Bar.
	3rd	Generation of Spur Gear Teeth on a Round Bar.
	4th	Generation of Spur Gear Teeth on a Round Bar.
5th	1st	Simple Planning Exercise: Cut 'T' slots (one model).
	2nd	Simple Planning Exercise: Cut 'T' slots (one model).
	3rd	Simple Planning Exercise: Cut 'T' slots (one model).
	4th	Simple Planning Exercise: Cut 'T' slots (one model).
6th	1st	Shaping a Hexagon on a Round Bar, Keyways, Grooves, and Splines.
	2nd	Shaping a Hexagon on a Round Bar, Keyways, Grooves, and Splines.
	3rd	Shaping a Hexagon on a Round Bar, Keyways, Grooves, and Splines.
	4th	Shaping a Hexagon on a Round Bar, Keyways, Grooves, and Splines.
7th	1st	Shaping Step Block: Cut dovetail at angles of 60°, 90°, 120°
	2nd	Shaping Step Block: Cut dovetail at angles of 60°, 90°, 120°
	3rd	Shaping Step Block: Cut dovetail at angles of 60°, 90°, 120°
	4th	Shaping Step Block: Cut dovetail at angles of 60°, 90°, 120°
8th	1st	Grind external and internal surfaces using a universal grinding machine.
	2nd	Grind external and internal surfaces using a universal grinding machine.
	3rd	Grind external and internal surfaces using a universal grinding machine.
	4th	Grind external and internal surfaces using a universal grinding machine.
9th	1st	Grinding Cutting Tools to Required Angles
	2nd	Grinding Cutting Tools to Required Angles
	3rd	Grinding Cutting Tools to Required Angles
	4th	Grinding Cutting Tools to Required Angles
10th	1st	Grinding Milling Cutters on a Tool and Cutter Grinder
	2nd	Grinding Milling Cutters on a Tool and Cutter Grinder
	3rd	Grinding Milling Cutters on a Tool and Cutter Grinder
	4th	Grinding Milling Cutters on a Tool and Cutter Grinder
11th	1st	Grinding Flat Surface on a Surface Grinder Using Magnetic Chuck and Clamping Devices.
	2nd	Grinding Flat Surface on a Surface Grinder Using Magnetic Chuck and Clamping Devices.
	3rd	Grinding Flat Surface on a Surface Grinder Using Magnetic Chuck and Clamping Devices.

LESSON PLAN - 2026 (WINTER)		
Discipline : Mechanical Engg.	Semester : 5TH	Name of the Teachnig Faculty : Sri NIBEDIT NAHAK
Subject: MANUFACTURING ENGINEERING LAB-II (PR3)	No.of days/Per weeks Class Allotted Weeks : 4	Semester from date : 01.07.2026 To Date : 05.11.2026 No.of Weeks : 19 W.e.f: 01/07/2026 (19 weeks)
Weeks	Class day	Theory
	4th	Grinding Flat Surface on a Surface Grinder Using Magnetic Chuck and Clamping Devices.
12th	1st.	Dismantling and Servicing of Drilling Machine Components and Reassembly
	2nd	Dismantling and Servicing of Drilling Machine Components and Reassembly
	3rd	Dismantling and Servicing of Drilling Machine Components and Reassembly
	4th	Dismantling and Servicing of Drilling Machine Components and Reassembly
13th	1st	Dismantling and Servicing of Shaper Head Components and Reassembly
	2nd	Dismantling and Servicing of Shaper Head Components and Reassembly
	3rd	Dismantling and Servicing of Shaper Head Components and Reassembly
	4th	Dismantling and Servicing of Shaper Head Components and Reassembly
14th	1st	Dismantling and Servicing of Milling Machine Components and Reassembly.
	2nd	Dismantling and Servicing of Milling Machine Components and Reassembly.
	3rd	Dismantling and Servicing of Milling Machine Components and Reassembly.
	4th	Dismantling and Servicing of Milling Machine Components and Reassembly.
15th	1st	Servicing of Universal Grinding Machine
	2nd	Servicing of Universal Grinding Machine
	3rd	Servicing of Universal Grinding Machine
	4th	Servicing of Universal Grinding Machine
16th	1st	Preparation for Practical Assessment
	2nd	Preparation for Practical Assessment
	3rd	Preparation for Practical Assessment
	4th	Preparation for Practical Assessment
17th	1st	Preparation for Practical Assessment
	2nd	Preparation for Practical Assessment
	3rd	Preparation for Practical Assessment
	4th	Preparation for Practical Assessment
18th	1st	Preparation for Practical Assessment
	2nd	Preparation for Practical Assessment
	3rd	Preparation for Practical Assessment
	4th	Preparation for Practical Assessment
19th	1st	Preparation for Practical Assessment
	2nd	Preparation for Practical Assessment
	3rd	Preparation for Practical Assessment
	4th	Preparation for Practical Assessment
Nibedit Nahak 20/6/26 TEACHING FACULTY  20/06/26 HOD /C		