

## Lesson Plan

Name of the Faculty : SH. R.K.RAWAT  
 Discipline : Mechanical Engg.  
 Semester : 5<sup>th</sup>  
 Subject : T.O.M.  
 Lesson plan duration : 15 weeks (from JULY, 2018 to NOVEMBER, 2018)

Week	Theory	
	Lecture Day	Topic (including assignments /tests)
Week 1	1 <sup>st</sup>	<b>Simple Mechanisms:</b> Introduction to link, kinematic pair,
	2 <sup>nd</sup>	lower and higher pair
	3 <sup>rd</sup>	Kinematic chain
	4 <sup>th</sup>	Mechanism
Week 2	1 <sup>st</sup>	Inversions of Mechanism
	2 <sup>nd</sup>	Different types of mechanisms
	3 <sup>rd</sup>	Examples
	4 <sup>th</sup>	Revision & Assignment
Week 3	1 <sup>st</sup>	<b>Power Transmission:</b> Introduction to Belt and Rope drives
	2 <sup>nd</sup>	Types of belt drives
	3 <sup>rd</sup>	Types of pulleys
	4 <sup>th</sup>	Velocity ratio, slip and creep
Week 4	1 <sup>st</sup>	Crowning of pulleys (Simple Numerical)
	2 <sup>nd</sup>	Flat and V belt drive
	3 <sup>rd</sup>	Ratio of driving tensions, power transmitted, centrifugal tension,
	4 <sup>th</sup>	Condition for maximum horse power
Week 5	1 <sup>st</sup>	Different types of chains and their terminology
	2 <sup>nd</sup>	Gear terminology
	3 <sup>rd</sup>	Types of gears and their applications
	4 <sup>th</sup>	Simple and compound gear trains
Week 6	1 <sup>st</sup>	Power transmitted by simple spur gear
	2 <sup>nd</sup>	Simple Numerical Practice
	3 <sup>rd</sup>	Assignment & Revision
	4 <sup>th</sup>	Test
Week 7	1 <sup>st</sup>	<b>Flywheel:</b> Principle and applications of flywheel
	2 <sup>nd</sup>	Turning - moment diagram of flywheel for different engines
	3 <sup>rd</sup>	Fluctuation of speed
	4 <sup>th</sup>	Fluctuation of energy
Week 8	1 <sup>st</sup>	Coefficient of fluctuation of speed
	2 <sup>nd</sup>	Coefficient of fluctuation of energy
	3 <sup>rd</sup>	Simple numerical problems on fluctuation of speed and fluctuation of

		energy
	4 <sup>th</sup>	Turning Moment Diagram for flywheel
Week 9	1 <sup>st</sup>	Assignment & Revision
	2 <sup>nd</sup>	Test
	3 <sup>rd</sup>	<b>Governor:</b> Principal of governor
	4 <sup>th</sup>	Watt Governor
Week 10	1 <sup>st</sup>	Porter Governor
	2 <sup>nd</sup>	Hartnel governor
	3 <sup>rd</sup>	Numerical based on watt governor
	4 <sup>th</sup>	Hunting, Isochronism, Stability,
Week 11	1 <sup>st</sup>	Sensitiveness of a governor
	2 <sup>nd</sup>	Assignment & Revision
	3 <sup>rd</sup>	Test
	4 <sup>th</sup>	<b>Balancing:</b> Concept of balancing
Week 12	1 <sup>st</sup>	Introduction to balancing of rotating masses
	2 <sup>nd</sup>	simple numerical
	3 <sup>rd</sup>	several masses rotating in different planes
	4 <sup>th</sup>	Simple problems
Week 13	1 <sup>st</sup>	Numerical Practice
	2 <sup>nd</sup>	Assignment & Revision
	3 <sup>rd</sup>	<b>Vibrations:</b> Concept of vibrations
	4 <sup>th</sup>	longitudinal, transverse and torsional vibrations
Week 14	1 <sup>st</sup>	simple numerical
	2 <sup>nd</sup>	Damping of vibrations
	3 <sup>rd</sup>	Causes of vibrations in machines
	4 <sup>th</sup>	Harmful Effects of Vibrations
Week 15	1 <sup>st</sup>	Remedies to curb vibrations
	2 <sup>nd</sup>	Revision & Assignment
	3 <sup>rd</sup>	Test
	4 <sup>th</sup>	Test

## Lesson Plan

Name of the Faculty : SH. ASHOK KUMAR  
 Discipline : Mechanical Engg.  
 Semester : 5<sup>th</sup>  
 Subject : CNC MACHINE & AUTOMATION  
 Lesson plan duration : 15 weeks (from JULY, 2018 to DEC, 2018)

Week	Theory		Practical	
	Lecture Day	Topic (including assignments /tests)	Practical Day	Topic
Week 1 <sup>st</sup>	1 <sup>st</sup>	<b>Introduction:</b> Introduction to NC, CNC & DNC, their advantages, disadvantages and applications.	1 <sup>st</sup>	Study of constructional detail of CNC lathe.
	2 <sup>nd</sup>	Basic components of CNC machines,	2 <sup>nd</sup>	Study of constructional detail of CNC lathe.
	3 <sup>rd</sup>	Machine Control Unit, input devices,		
Week 2 <sup>nd</sup>	1 <sup>st</sup>	selection of components to be machined on CNC machines,	1 <sup>st</sup>	Study of constructional detail of CNC milling machine.
	2 <sup>nd</sup>	Axis identification	2 <sup>nd</sup>	Study of constructional detail of CNC milling machine.
	3 <sup>rd</sup>	<b>Construction and Tooling-</b> Design features, specification of CNC machines, use of slideways,		
Week 3 <sup>rd</sup>	1 <sup>st</sup>	Balls, rollers and coatings, motor and leadscrew, swarf removal	1 <sup>st</sup>	Practice
	2 <sup>nd</sup>	Safety and guarding devices	2 <sup>nd</sup>	Practice
	3 <sup>rd</sup>	Various cutting tools for CNC machines		
Week 4 <sup>th</sup>	1 <sup>st</sup>	Concept of CNC tool holder, different pallet systems	1 <sup>st</sup>	Study the constructional details and working of Automatic tool changer and Multiple pallets
	2 <sup>nd</sup>	Automatic tool changer system, management of a tool room.		
	3 <sup>rd</sup>	Revision	2 <sup>nd</sup>	Study the constructional details and working of Automatic tool changer and Multiple pallets
Week 5 <sup>th</sup>	1 <sup>st</sup>	<b>System Devices-</b> Control System; Open Loop and Closed Loop System,	1 <sup>st</sup>	Develop a part programme for following lathe operations and make the job on CNC lathe. - Plain turning and facing operation - Taper turning operation

	2 <sup>nd</sup>	Concept of Actuators & its types		- Circular interpolation
	3 <sup>rd</sup>	Transducers & its types	2 <sup>nd</sup>	Develop a part programme for following lathe operations and make the job on CNC lathe. - Plain turning and facing operation - Taper turning operation - Circular interpolation
Week 6 <sup>th</sup>	1 <sup>st</sup>	Sensors & its types	1 <sup>st</sup>	<b>Practice</b>
	2 <sup>nd</sup>	Tachometer, LVDT,		
	3 <sup>rd</sup>	Opto-interrupters,	2 <sup>nd</sup>	Practice
Week 7 <sup>th</sup>	1 <sup>st</sup>	Potentiometers for linear position	1 <sup>st</sup>	Develop a part programme for the following milling operation and make the job on CNC milling - Plain milling - Slot milling
	2 <sup>nd</sup>	Potentiometers for angular position		
	3 <sup>rd</sup>	Encoder and decoder	2 <sup>nd</sup>	Develop a part programme for the following milling operation and make the job on CNC milling - Plain milling - Slot milling
Week 8 <sup>th</sup>	1 <sup>st</sup>	Axis drives	1 <sup>st</sup>	Develop a part programme for the following milling operation and make the job on CNC milling Contouring - Pocket milling
	2 <sup>nd</sup>	Assignment		
	3 <sup>rd</sup>	Mock Test	2 <sup>nd</sup>	Develop a part programme for the following milling operation and make the job on CNC milling - Contouring - Pocket milling
Week 9 <sup>th</sup>	1 <sup>st</sup>	<b>Part Programming</b> -Introduction to Part programming	1 <sup>st</sup>	Preparation of work instructions for machine operator
	2 <sup>nd</sup>	Basic concepts of part programming, NC words,		
	3 <sup>rd</sup>	Part programming formats, simple programming for rational components,	2 <sup>nd</sup>	Preparation of work instructions for machine operator
Week 10 <sup>th</sup>	1 <sup>st</sup>	part programming using conned cycles,	1 <sup>st</sup>	Practice

	2 <sup>nd</sup>	Subroutines and do loops, tool off sets,		
	3 <sup>rd</sup>	cutter radius compensation and tool wear compensation	2 <sup>nd</sup>	Practice
Week 11 <sup>th</sup>	1 <sup>st</sup>	Revision	1 <sup>st</sup>	Preparation of preventive maintenance schedule for CNC machine.
	2 <sup>nd</sup>	<b>Problems in CNC Machines-</b> Common problems in CNC machines related to mechanical, electrical		
	3 <sup>rd</sup>	Common problems in CNC machines related to pneumatic & electronic components.	2 <sup>nd</sup>	Preparation of preventive maintenance schedule for CNC machine.
Week 12 <sup>th</sup>	1 <sup>st</sup>	Study of common problems and remedies	1 <sup>st</sup>	Demonstration through industrial visit for awareness of actual working of FMS in production.
	2 <sup>nd</sup>	use of on-time fault finding diagnosis tools in CNC machines.		
	3 <sup>rd</sup>	<b>Automation and NC system-</b> Concept of automation,	2 <sup>nd</sup>	Demonstration through industrial visit for awareness of actual working of FMS in production.
Week 13 <sup>th</sup>	1 <sup>st</sup>	Emerging trends in automation, automatic assembly.	1 <sup>st</sup>	Practice & VIVA
	2 <sup>nd</sup>	Overview of FMS, Group technology,		
	3 <sup>rd</sup>	CAD/CAM and CIM.	2 <sup>nd</sup>	Practice & VIVA
Week 14 <sup>th</sup>	1 <sup>st</sup>	Revision	1 <sup>st</sup>	Practice & VIVA
	2 <sup>nd</sup>	<b>Robot Technology-</b> Introduction to robot technology		
	3 <sup>rd</sup>	Basic robot motion	2 <sup>nd</sup>	Practice & VIVA
Week 15 <sup>th</sup>	1 <sup>st</sup>	Basic robot motion and its applications	1 <sup>st</sup>	Practice & VIVA
	2 <sup>nd</sup>	Revision		
	3 <sup>rd</sup>	Test	2 <sup>nd</sup>	Practice & VIVA

## Lesson Plan

Name of the Faculty : SH. BALJIT SIWACH  
 Discipline : Mechanical Engg.  
 Semester : 5<sup>th</sup>  
 Subject : R.A.C  
 Lesson plan duration : 15 weeks (from January, 2018 to April, 2018)

Week	Theory		Practical	
	Lecture Day	Topic (including assignments /tests)	Practical Day	Topic
Week 1	1 <sup>st</sup>	<b>Fundamentals of Refrigeration-</b> Introduction to refrigeration, and air conditioning	1 <sup>st</sup>	Introduction to the subject, why we should study it?
	2 <sup>nd</sup>	Meaning of refrigerating effect, units of refrigeration	2nd	Applications in industry, Scope, factors affecting it.
	3 <sup>rd</sup>	COP, Methods of refrigeration.		
	4 <sup>th</sup>	Methods of refrigeration		
Week 2	1 <sup>st</sup>	Introduction to air refrigerator working on reversed carnot cycle	1st	Identify various tools of refrigeration kit and practice in cutting, bending, flaring, swaging and brazing of tubes.
	2 <sup>nd</sup>	<b>Vapour Compression System-</b> Introduction, principle, function	2nd	Identify various tools of refrigeration kit and practice in cutting, bending, flaring, swaging and brazing of tubes.
	3 <sup>rd</sup>	parts and necessity of vapour compression system		
	4 <sup>th</sup>	T- S and p– H charts,		
Week 3	1 <sup>st</sup>	Dry, wet and superheated compression	1st	Practice
	2 <sup>nd</sup>	Effect of sub cooling, super heating,		
	3 <sup>rd</sup>	Mass flow rate, entropy, enthalpy, work done	2nd	Practice
	4 <sup>th</sup>	Refrigerating effect and COP		
Week 4	1 <sup>st</sup>	Actual vapour compression system	1 <sup>st</sup>	Study of thermostatic switch, LP/HP cut out overload protector filters, strainers and filter driers.
	2 <sup>nd</sup>	Revision		
	3 <sup>rd</sup>	Assignment & Mock Test	2 <sup>nd</sup>	Study of thermostatic switch, LP/HP cut out overload protector filters, strainers and filter driers.
	4 <sup>th</sup>	<b>Refrigerants-</b> Functions, classification of refrigerants		
	1 <sup>st</sup>	properties of R - 717, R – 22		Identify various parts of a refrigerator and window air

Week 5	2 <sup>nd</sup>	Properties of R-134 and CO <sub>2</sub> .	1 <sup>st</sup>	conditioner.
	3 <sup>rd</sup>	Properties of ideal refrigerant	2 <sup>nd</sup>	Identify various parts of a refrigerator and window air conditioner.
	4 <sup>th</sup>	Selection of refrigerant		
Week 6	1 <sup>st</sup>	<b>Vapour Absorption System-</b> Introduction, principle and working of simple absorption system	1 <sup>st</sup>	Practice
	2 <sup>nd</sup>	Domestic Electrolux refrigeration systems.		
	3 <sup>rd</sup>	Solar power refrigeration system	2 <sup>nd</sup>	Practice
	4 <sup>th</sup>	Advantages and disadvantages of solar power refrigeration system over vapour compression system		
Week 7	1 <sup>st</sup>	Assignment & Revision	1 <sup>st</sup>	To find COP of Refrigeration system
	2 <sup>nd</sup>	Test		
	3 <sup>rd</sup>	<b>Refrigeration Equipment-</b> Compressor – Function	2 <sup>nd</sup>	To find COP of Refrigeration system
	4 <sup>th</sup>	Various types of compressors		
Week 8	1 <sup>st</sup>	Condenser & its Function	1 <sup>st</sup>	To detect trouble/faults in a refrigerator/window type air conditioner
	2 <sup>nd</sup>	Various types of condensers		
	3 <sup>rd</sup>	Evaporator & its Function	2 <sup>nd</sup>	To detect trouble/faults in a refrigerator/window type air conditioner
	4 <sup>th</sup>	Various types of evaporators		
Week 9	1 <sup>st</sup>	Expansion Valve & its Function	1 <sup>st</sup>	Practice
	2 <sup>nd</sup>	Capillary tube, thermostatic expansion valve		
	3 <sup>rd</sup>	low side and high side float valves	2 <sup>nd</sup>	Practice
	4 <sup>th</sup>	Application of various expansion valves		
Week 10	1 <sup>st</sup>	Safety Devices-Thermostat	1 <sup>st</sup>	Charging of a refrigerator/window type air conditioner.
	2 <sup>nd</sup>	Overload protector, LP, HP cut out switch.		
	3 <sup>rd</sup>	Revision	2 <sup>nd</sup>	Charging of a refrigerator/window type air conditioner.
	4 <sup>th</sup>	Assignment & Mock Test		

Week 11	1 <sup>st</sup>	<b>Psychrometry</b> - Definition, importance, specific humidity, relative humidity	1 <sup>st</sup>	Study of cut section of single cylinder compressor
	2 <sup>nd</sup>	Degree of saturation, DBT, WBT, DPT,		
	3 <sup>rd</sup>	Sensible heat, latent heat, Total enthalpy of air	2 <sup>nd</sup>	Study of cut section of single cylinder compressor
	4 <sup>th</sup>	Psychrometry chart		
Week 12	1 <sup>st</sup>	Various processes of psychrometry	1 <sup>st</sup>	Practice
	2 <sup>nd</sup>	Problems		
	3 <sup>rd</sup>	Mock Test	2 <sup>nd</sup>	Practice
	4 <sup>th</sup>	Revision		
Week 13	1 <sup>st</sup>	<b>Air-Conditioner</b> - Study of window air-conditioning	1 <sup>st</sup>	Visit to an ice plant, cold storage plant, central air conditioning plant
	2 <sup>nd</sup>	Split type air conditioning,		
	3 <sup>rd</sup>	Concept of central aircondition	2 <sup>nd</sup>	Visit to an ice plant, cold storage plant, central air conditioning plant
		Automobile air-conditioning		
Week 14	1 <sup>st</sup>	Comparison Split A.C with Window A.C.	1 <sup>st</sup>	Practice & VIVA
	2 <sup>nd</sup>	Appliction OF AC		
	3 <sup>rd</sup>	Revision	2 <sup>nd</sup>	Practice & VIVA
	4 <sup>th</sup>	Test		
Week15	1 <sup>st</sup>	Revision	1 <sup>st</sup>	Practice & VIVA
	2 <sup>nd</sup>	Revision		
	3 <sup>rd</sup>	Revision	2 <sup>nd</sup>	Practice & VIVA
	4 <sup>th</sup>	Revision		



## Lesson Plan

Name of the Faculty : SH. SHIVENDER DAHIYA

Discipline : Mechanical Engg.

Semester : 5th

Subject : ENVIRONMENT EDU.

Lesson plan duration : 15 weeks (from July, 2018 to Nov, 2018)

Week	Theory	
	Lecture Day	Topic (including assignments /tests)
Week 1	1 <sup>st</sup>	Definition & Introduction of Environmental Education
	2 <sup>nd</sup>	Scope and Importance of Environmental Education
	3 <sup>rd</sup>	Basics of ecology, biodiversity
Week 2	1 <sup>st</sup>	eco system and sustainable development
	2 <sup>nd</sup>	Revision
	3 <sup>rd</sup>	Mock Test
Week 3	1 <sup>st</sup>	<b>Sources of pollution-</b> natural and manmade, causes
	2 <sup>nd</sup>	Control measures of pollution
	3 <sup>rd</sup>	Air Pollution, water Pollution & its Causes
Week 4	1 <sup>st</sup>	Noise Pollution, soil Pollution & its Causes
	2 <sup>nd</sup>	Radioactive and nuclear pollution & its Causes
	3 <sup>rd</sup>	Their units of measurement
Week 5	1 <sup>st</sup>	Revision
	2 <sup>nd</sup>	Assignment
	3 <sup>rd</sup>	Test
Week 6	1 <sup>st</sup>	<b>Mining and deforestation-</b> Causes
	2 <sup>nd</sup>	Effects and control measures of Mining and deforestation
	3 <sup>rd</sup>	Revision
Week 7	1 <sup>st</sup>	<b>Environmental Legislation-</b> Water (prevention and control of pollution) Act 1974
	2 <sup>nd</sup>	Air (Prevention and Control of Pollution) Act 1981
	3 <sup>rd</sup>	Environmental Protection Act 1986, Role
Week 8	1 <sup>st</sup>	Function of State Pollution Control Board,
	2 <sup>nd</sup>	Environmental Impact Assessment (EIA)
	3 <sup>rd</sup>	Assignment on this chapter
Week 9	1 <sup>st</sup>	Revision

	2 <sup>nd</sup>	<b>Role of Non-conventional Energy Resources</b>
	3 <sup>rd</sup>	Solar Energy
Week 10	1 <sup>st</sup>	Wind Energy, Bio Energy,
	2 <sup>nd</sup>	Hydro Energy
	3 <sup>rd</sup>	Mock Test
Week 11	1 <sup>st</sup>	<b>Current Issues in Environmental Pollution</b>
	2 <sup>nd</sup>	Global Warming, Green House Effect
	3 <sup>rd</sup>	Depletion of Ozone Layer
Week 12	1 <sup>st</sup>	Recycling of Material
	2 <sup>nd</sup>	Environmental Ethics,
	3 <sup>rd</sup>	Rain Water Harvesting
Week 13	1 <sup>st</sup>	Maintenance of Groundwater
	2 <sup>nd</sup>	Acid Rain, Carbon Credits
	3 <sup>rd</sup>	Revision
Week 14	1 <sup>st</sup>	Test on this chapter
	2 <sup>nd</sup>	Revision chapter 1 & 2
	3 <sup>rd</sup>	Revision chapter 3 & 4
Week 15	1 <sup>st</sup>	Revision chapter 5 & 6
	2 <sup>nd</sup>	Revision chapter 7 & 8
	3 <sup>rd</sup>	Test

## Lesson Plan

Name of the Faculty : TO B ASSIGNED  
 Discipline : Mechanical Engg.  
 Semester : 5<sup>th</sup>  
 Subject : ES-1  
 Lesson plan duration : 15 weeks (from July, 2018 to Nov, 2018)

Week	Practical	
	Practical Lect.	Topic (including assignments /tests)
Week 1	1 <sup>st</sup>	<b>Writing skills-Introduction</b>
	2 <sup>nd</sup>	
Week 2	1 <sup>st</sup>	i) Official and business correspondence
	2 <sup>nd</sup>	
Week 3	1 <sup>st</sup>	ii) Job application - covering letter and resume
	2 <sup>nd</sup>	
Week 4	1 <sup>st</sup>	Practice
	2 <sup>nd</sup>	
Week 5	1 <sup>st</sup>	iii) Report writing - key features and kinds
	2 <sup>nd</sup>	
Week 6	1 <sup>st</sup>	Test on above Written skills
	2 <sup>nd</sup>	
Week 7	1 <sup>st</sup>	<b>Oral Communication Skills- Introduction</b>
	2 <sup>nd</sup>	
Week 8	1 <sup>st</sup>	i) Giving advice
	2 <sup>nd</sup>	
Week 9	1 <sup>st</sup>	, ii) Making comparisons
	2 <sup>nd</sup>	
Week 10	1 <sup>st</sup>	iii) Agreeing and disagreeing
	2 <sup>nd</sup>	
Week 11	1 <sup>st</sup>	iv) Taking turns in conversation
	2 <sup>nd</sup>	
Week 12	1 <sup>st</sup>	

	2 <sup>nd</sup>	v) Fixing and cancelling appointments
Week 13	1 <sup>st</sup>	<b>Generic Skills-</b> Stress management
	2 <sup>nd</sup>	
Week 14	1 <sup>st</sup>	Time management, Negotiations and conflict resolution
	2 <sup>nd</sup>	
Week 15	1 <sup>st</sup>	Team work and leadership qualities
	2 <sup>nd</sup>	

## Lesson Plan

Name of the Faculty : SH. VIPIN KUMAR  
 Discipline : Mechanical Engg.  
 Semester : 5<sup>th</sup>  
 Subject : W.T-III  
 Lesson plan duration : 15 weeks (from July, 2018 to Nov., 2018)

Week	Theory	
	Lecture Day	Topic (including assignments /tests)
Week 1	1 <sup>st</sup>	<b>Milling-</b> Specification and working principle of milling machine
	2 <sup>nd</sup>	Classification, brief description and applications of milling machine
	3 <sup>rd</sup>	Main parts of column and knee type milling machine
Week 2	1 <sup>st</sup>	Milling machine accessories and attachment – Arbors, adaptors, collets, vices, circular table, indexing head and tail stock, vertical milling attachment
	2 <sup>nd</sup>	Milling methods - up milling and down milling
	3 <sup>rd</sup>	Identification of different milling cutters and work mandrels
Week 3	1 <sup>st</sup>	Work holding devices
	2 <sup>nd</sup>	Milling operations – face milling, angular milling, form milling, straddle milling and gang milling.
	3 <sup>rd</sup>	Cutting parameters Indexing on dividing heads, plain and universal dividing heads.
Week 4	1 <sup>st</sup>	Indexing methods: direct, Plain or simple, compound, differential and angular indexing, numerical problems on indexing.
	2 <sup>nd</sup>	Revision
	3 <sup>rd</sup>	Mock Test
Week 5	1 <sup>st</sup>	<b>Grinding-</b> Purpose of grinding
	2 <sup>nd</sup>	Various elements of grinding wheel – Abrasive, Grade, structure, Bond
	3 <sup>rd</sup>	Common wheel shapes and types of wheel – built up wheels, mounted wheels
Week 6	1 <sup>st</sup>	Diamond wheels. Specification of grinding wheels as per BIS
	2 <sup>nd</sup>	Truing, dressing, balancing and mounting of wheel.
	3 <sup>rd</sup>	Grinding methods – Surface grinding,
Week 7	1 <sup>st</sup>	Cylindrical grinding and centreless grinding.
	2 <sup>nd</sup>	Grinding machine – Cylindrical grinder, surface grinder,
	3 <sup>rd</sup>	Internal grinder, centreless grinder, tool and cutter grinder.
Week 8	1 <sup>st</sup>	Selection of grinding wheel
	2 <sup>nd</sup>	Assignment

	3 <sup>rd</sup>	<b>Gear Manufacturing and Finishing Processes-</b> Gear hobbing
Week 9	1 <sup>st</sup>	Gear shaping
	2 <sup>nd</sup>	<b>Modern Machining Processes-</b> Mechanical Process - Ultrasonic machining (USM): Introduction, principle, process, advantages and limitations, applications
	3 <sup>rd</sup>	Electro Chemical Processes - Electro chemical machining (ECM) – Fundamental principle, process, applications,
Week 10	1 <sup>st</sup>	Electro chemical Grinding (ECG) – Fundamental principle, process, application
	2 <sup>nd</sup>	Electrical Discharge Machining (EDM) - Introduction, basic EDM circuit,
	3 <sup>rd</sup>	EDM Principle, metal removing rate, dielectric fluid, applications
Week 11	1 <sup>st</sup>	Laser beam machining (LBM) – Introduction, machining process and applications
	2 <sup>nd</sup>	Electro beam machining (EBM)- Introduction, principle, process and applications
	3 <sup>rd</sup>	Revision
Week 12	1 <sup>st</sup>	<b>Metallic Coating Processes-</b> Metal spraying – Wire process, powder process, applications
	2 <sup>nd</sup>	Powder coating
	3 <sup>rd</sup>	<b>Metal Finishing Processes-</b> Purpose of finishing surfaces.
Week 13	1 <sup>st</sup>	Surface roughness-Definition and units
	2 <sup>nd</sup>	Honing Process, its applications
	3 <sup>rd</sup>	Description of hones
Week 14	1 <sup>st</sup>	Brief idea of honing machines.
	2 <sup>nd</sup>	Lapping process, its applications.
	3 <sup>rd</sup>	Description of lapping compounds and tools.
Week 15	1 <sup>st</sup>	Brief idea of lapping machines.
	2 <sup>nd</sup>	Super finishing process, its applications.
	3 <sup>rd</sup>	Polishing Buffing