inspection.
10 Safety precautions in metal casting

Government Polytechnic Korea

Department- Mechanical Engineering | **Subject - Applied Mechanics**

S.No.	Topic to taught	No. of Lecture required	Date of Theory Delivery	Topic Covered	Remark
Unit1	**Fundamentals andResolution of Forces**				
1	Definition of Mechanics, Statics, Dynamics- Kinetics,Kinematics. Concept of space, mass, particle, body, rigid body, scalar, vector,fundamental units, derived units.	01	27/03/25	As per plan	
2	Force- concept, definition, unit, graphical representation. Concept of system of forces non-coplanar, coplanar,concurrent, non-concurrent and parallel forces.Composition and Resolution of forces. Free body diagrams, law of parallelogram, Varignon's theorem	02	01/04/25 02/04/25	"	
3	Numericals	01	03/04/25	"	
4	Equilibrium of Coplanar concurrent forces,parallel forces and non-concurrent forces, Lami's Theorem. Moment of a force and Couple, properties of couple, conditions of equilibrium, applications.	01	09/04/25	"	
5	Numericals	03	16/04/25, 17/04/25, 25/04/25		
Unit2	**Centroid and Moment of Inertia**				
1	Location of Centroidand ,Center of Gravity. Centroid of regularplane and compound areas. Center of Gravity of simple solid	01	24/04/25	As per plan	
2	Numericals of centriod	01	29/04/25	"	
3	Momentof Inertia of plane areas.Perpendicularand Parallel Axis theoram	01	30/04/25	"	
4	numericals of MOI	01	01/05/25	"	
Unit 3	**Friction**				
1	1 Rough and Smooth surfaces, concept of friction. Types of friction, Coulomb's laws of friction ,Co-efficient of friction, angle of friction, angle of repose. Friction on horizontal and inclined plane,	01	06/05/25	"	
2	Method of reducing friction. Screw and Nutfriction, friction in journal Bearings	01	07/05/25	"	
3	Numericals	03	08/05/25, 09/05/25, 13/05/25		
4	Numericals	01	15/05/25	"	
Unit4	**Kinematics and Kinetics**	01	17/06/25	"	
1	KinematicsinCartesian and polar coordinates. Concept of speed, velocity, acceleration, radial and transverse velocity, Particle under uniform and non-uniform acceleration, tangential and normal acceleration.	01	18/06/25	"	

	Angular displacement,Angular Velocity, Angular Acceleration. Motion under gravity	01	19/06/25	As per planning	
3	Numericals	01	24/06/25	—11—	
4	Kinetics of particle, motion under constant force, Newton's Laws of Motion. Momentum and energy principles, Impulsesand angular momentum.	01	25/06/25	—11—	
5	Numericals	01	26/06/25	—11—	
Unit5	**Work, Power and Energy**				
1	Work-Definition and unit of work done, force displacement diagram, torque, work done by torque.	01	01/07/25	All topics Covered	
2	Numericals	03	02/07/25 03/07/25 08/07/25	—11—	
3	Power-Definition and unit of Power, I.H.P and B.H.P of engine, Equation of H.P in terms of Torque and R.P.M. Energy- Definition and units of Energy,Kinetic and Potential energy. Relation between Heat and Mechanical work,relation between Electrical and Mechanical energy	02	17/07/25 22/07/25	—11—	
4	Numericals		29/07/25 / 30/07/25	—11—	
Unit 6	**Simple Lifting Machines and Transmission of power**				
1	Load, Effort, Mechanical advantage, Velocityratio, Efficiency and relation between them. Law of Machine, Reversibility of Lifting machine.	02	05/08/25 06/08/25	All topics covered.	
2	Numericals on Law of Machine	01	07/08/25	—11—	
3	Study of MachinesDifferential wheel and axel, Simple Screw Jack, Pulley block, System of pulleys, Simple and compound levers.	01	12/08/25	—11—	
4	Transmission of power through Belt (flat belt, Vbelt, Timer belt), Rope,Gears (Spur, Helical,worm and worm wheel,rack and pinion)	01	13/08/25	—11—	
5	Gear trains (simple,compound, epycyclic):terminology,classification, salient features, area of application, velocity ratio and efficiency.	01	14/08/25	—11—	
6	numericals	01	19/08/25	—11—	

HOD

Faculty Name & Signature Harshit Rai

Principal

Government Polytechnic Korea

Department- Mechanical Engineering **Subject - Manufacturing process**

S.No.	Topic to taught		Date of Theory Delievery	Topic Covered	Remark
Unit1	**Introduction to Manufacturing Processes**	01	27/01/25	As per planned	
1	1.1 Classification of basic manufacturing process based on chip-less and chip-removal processes, Primary and Secondary manufacturing processes, Various generating & forming processes,	01	29/01/25	-11-	
2	1.2 Factors which influence selection of manufacturing process for a particular application.	01	31/01/25	-11-	
3	1.3 Recall mechanical properties of metals	02	01/02/25 03/02/25	-11-	
Unit2	**Metal Casting**		04/02/25		
1	2.1 Definition and Need 2.2 Pattern: types, materials, pattern allowances, color code, applications 2.3 Cores: Need, types, materials	02	06/02/25 07/02/25	As per planned	
2	2.4 Moulds: Molding sand: Types, properties, binders, additives, mixing, Molding equipments & tools Type of moulds, mould making, applications	03	10/02/25 11/02/25 12/02/25	-11-	
3	2.5 Melting of metal: Pit furnace, Cupola, Induction furnace 2.6 Metal pouring: Gates and Risers.	01	13/02/25	-11-	
4	2.7 Casting Processes: Dry sand mould casting, Shell mould casting, Investment casting, Die casting, Centrifugal casting.	02	14/02/25 15/02/25	-11-	
5	Casting defects: Blow, scar, blister, gas holes, pin holes, porosity, drop, inclusion, dross, dirt, wash, buckle, scab, rat tail, penetration, swell, misrun, cold shut, hot tear, shrinkage cavity, mould shift, core shift	03	17/02/25 18/02/25 20/02/25	-11-	
6	2.9 Inspection of castings: Visual inspection, pressure test, magnetic particle inspection, dye penetration inspection, Radiographic inspection, ultrasonic inspection. 2.10 Safety precautions in metal casting	02	21/02/25 22/02/25	-11-	
Unit 3	**Metal Forming and Press working**				
1	3.1 Cold and Hot working of metals, effect on metal properties, advantages & limitations.	01	03/03/25	-11-	

	3.2 Forming processes, types, working principle, tools and equipment, applications of: Rolling,	01	04/03/25		
3	Forging, Drawing, Deep drawing, Extrusion	01	05/03/25		
4	3.4 Press working: Emphasis that press working is not forming process, Punching, Blanking, Notching, Lancing, Slitting, Nibbling, Trimming	03	06/03/25 07/03/25 08/03/25		
Unit4	**Metal Joining**				
1	Classification, recall gas and arc welding processes.	01	10/03/25		
2	Working principle, equipment, sketch, process parameters, applications of: (i) MIG, TIG, Flux coated arc and submerged	03	11/03/25 12/03/25 17/03/25		
3	(ii) Resistance welding – Butt, Seam, Spot, Projection and Percussion.	01	18/03/25		
4	(iii) Thermit welding.(iv) Forged welding	01	19/03/25		
5	Effects of welding heat Weld defects and their causes. Safety precautions in welding.	04	20/03/25 21/03/25 22/03/25 24/03/25		
Unit5	**Plastic Molding and Powder Metallurgy**				
1	Plastic Molding: Concept, working principle, equipment and applications of Compression molding,	01	01/04/25		
2	Blow molding, Injection molding and Extrusion	01	02/04/25		
3	Powder Metallurgy: Introduction, advantages and disadvantages	01	03/04/25		
4	Powder metallurgy processes: Powder making, blending, compacting, sintering, infiltration and impregnation, Applications	01	04/04/25		

HOD

Faculty Name & Signature

Harshit Rai

Principal

Government Polytechnic Korea

Department- Mechanical Engineering **Subject - Advanced Manufacturing process**

S.No.	Topic to taught	No. of Hrs Required.	Date of Theory Deleivery	Topic Covered	Remark
Unit1.	**Non-Conventional Machining Processes**			As per planned.	
1	Need of advance manufacturing, manufacturing trends and challenges, manufacturingaspects.	02	09/01/25 10/01/25	"	
2	Types of non conventionalmachining processes and energy source utilized.	01	10/01/25	"	
3	Working principle, setup,Process parameter Advantages, limitation and application and safe practices of- Electrical discharge machining (EDM), Wire Electrical discharge machining (WEDM),	02	14/01/25 16/01/25	"	
4	Working principle, setup,Process parameter Advantages, limitation and application and safe practices of- Electrochemical Machining (ECM), Plasma arc machining (PAM),	02	17/01/25 20/01/25	"	
5	Working principle, setup,Process parameter Advantages, limitation and application and safe practices of- Abrasive jet machining (AJM), UltrasonicMachining (USM)	03	21/01/25 22/01/25 24/01/25	"	
6	Working principle, setup,Process parameter Advantages, limitation and application and safe practices ofElectron Beam Machining(EBM),Laserbeammachining (Cutting)	02	30/01/25 31/01/25	"	
Unit2	**AdvancedCasting Processes**				
1	Metal casting basics, Gatingandriserdesign,	01	01/02/25	All Topics Covered	
2	Workingprinciple,setup, process parameters, Advantages, limitations and applications of Evaporative pattern casing process (EPC),	03	03/02/25 04/02/25 06/02/25	"	
3	Workingprinciple,setup, process parameters, Advantages, limitations and applications of Centrifugal and pressure diecasting	02	12/02/25 13/02/25	"	
4	Workingprinciple,setup, process parameters, Advantages, limitations and applications of Slushcasting, Hybrid EPC process, Vacuum EPC	02	17/02/25 20/02/25	"	
5	Workingprinciple,setup, process parameters, Advantages, limitations and applications of shell moulding process	03	21/02/25 22/02/25 27/02/25	"	
Unit 3	**AdvancedWeldingand Forming Processes**				
1	Working principle, setup, Process parameter Advantages,limitationand application- Orbital TIG welding, Electron beam welding(EBW),	02	03/03/25 04/03/25	As per planned	
2	Laserbeam welding (LBW), ultrasonic welding.	01	08/03/25	"	
3	Industrial adhesive and Adhesive bonding	01	10/03/25	"	
4	Advanced Metal forming- High energy rate forming,	01	11/03/25	"	
5	Electro-magneticforming, explosiveforming,Electro- hydraulicforming,	01	12/03/25	"	

	...tch forming, Contour roll forming.	02	26/09/25		
	GearManufacturing				
	Types of gear and Gear manufacturingmethods	02	07/04/25	As per planned.	
2	GearHobbing-Typesand workingprincipleofgear hobbing, Advantages, limitations and application	02	09/04/25 11/04/25	—11—	
3	Gear Shaping-Gear Shaping by pinioncutter, Gear Shaping by rack cutter, Advantages, limitation and application of both the methods and comparison of gear hobbing and gear shaping.	03	15/04/25 16/04/25 17/04/25	—11—	
4	GearFinishingmethods- Need of gear finishing anddifferentmethodsof gear finishing like: a) Gearshaving b) Geargrinding c)Gearburnishing	03	21/04/25 22/04/25 24/04/25	—11—	
5	d) Gearlapping e) Gearhoning f) Geartoothrounding	04	26/04/25 28/04/25 29/04/25 30/04/25	—11—	
Unit5	**Recent trends in CAM**				
1	Additivemanufacturing: 3D printing, Rapid prototyping.Constructionandworking of 3D printer. Type and properties of materialfor3Dprinterand Rapid prototyping machine.	01	01/05/25	—11—	
2	Fileformat:STL(Stereo Lithography). 3Dprintersoftware:part import, orientation, processing and printing.	01	02/05/25	—11—	
3	Computer Integrated Manufacturing (CIM): concept,definition,areas covered and benefits.	01	03/05/25	—11—	
4	Automation-Define,need of automation, high and low cost automation, examples of automations.	01	05/05/25	—11—	
5	Types of Automation - Fixed(Hard)automation, programmable automationsandFlexible automations (Soft).	01	06/05/25	—11—	
6	Group Technology- concept, basis for developing part families, part classification and coding with example, concept of cellular manufacturing. Advantages and limitations.	02	08/05/25 09/05/25	—11—	
7	Flexible Manufacturing System (FMS): concept, evaluation, main elements and their functions, layout and its importance,applications.	01	14/05/25	—11—	
8	Components of Robot: manipulator,end effectors,actuators, sensors, controller, processor,software and applications.	01	15/05/25	—11—	
9	Robot: definition, terminology,classification and types	01	16/05/25	—11—	

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Government Polytechnic Korea

Department- Mechanical Engineering **Subject - Automobile Engg**

S.no.	Topic to taught		Date of Theory Deleivery	Topic Covered	Remark
Unit1.0	**Essentials of Automobile**				
1	Introduction, classification of automobiles		23/09/24	As per planned	
2	Types of automobiles. Two wheeler/Light Commercial Vehicle/Sport Utility Vehicle/Heavy commercial Vehicles		24/09/24	-11-	
3	Layout of automobile, importance of vehicle layout, types of vehicle layout (FEFWD, FERWD, RERWD, 4WD), Advantages, Disadvantages, Applications and Comparisons of Different types of vehicle layouts, Major components of the automobile and its functions and location.		25/09/24	-11-	
4	Layout of chassis, Frame and Body: • Requirement of Chassis, classification of chassis. Function of Chassis • Frame and Body, Load acting on Frame, advantages, disadvantages and applications of different types of chassis		26/09/24	-11-	
5	Significance of Body Streamlining: Need and Importance of Aerodynamic Aspects, Basic terms related with Car Aerodynamics (e.g. Drag, Lift, Skin Friction, Form Drag, Wake, Coefficient of Drag etc.)		30/09/24	-11-	
6	Automotive engines Types of Automobile Engines: Petrol Engine, Diesel Engine. Engines locations - front, rear and transverse under floor with their advantages and disadvantages.		01/10/24	-11-	
7	Engine Constructional features : Engine block, engine heads, crank case oil pan, cylinder liners, Gasket, combustion chambers with their types, piston, piston pin, gudgeon pin, connecting rod, crank shaft, cam shaft, Valve & valve mechanism. Valve timing / port timing diagram, timing gears, Inlet & Exhaust mufflers, concept of firing order in multi-cylinder engine. Lubrication and cooling.		07/10/24	-11-	
Unit-2	**Fuel supply system and auto-electric and electronic**				
1	Introduction of fuel system for petrol engine. Gravity feed system, Fuel pump, Simple and solex carburetor.		14/10/24	-11-	
2	Concept of Petrol Injection (Mechanical and Electronic injection systems) & MPFI Petrol injection systems. Concept of supercharging. Introduction of fuel		15/10/24	-11-	
3	Concept of Fuel injection systems and Its Construction, Working of Fuel injection pump and their types, Fuel injector.		16/10/24	-11-	

4	...cal and Electronic system 2.5 Basic Electrical-Electronics Components ...sed in automobiles with their conventional symbols. Main Components of the Electrical and electronic System. Function of Starting and charging systems, construction and Working of Alternator.		17/10/24	—11—	
5	Ignition System, Function and Requirement of Ignition System, Distributor, Ignition Coil, Ignition Timing, Ignition Advance, coil and Electronic Ignition System. Lighting system, Automobile Battery- Function of Battery, Types of Battery		18/10/24	—11—	
6	Principle of Lead Acid Battery, Construction and Operation of Lead Acid Battery Low-maintenance and Maintenance-free Batteries., Significance of Battery Rating & Battery Capacity, Battery Open Volt and Specific Gravity Test. Types of Lights, Necessity and Importance of Cable Color Codes, Wiring Harness.		19/10/24	—11—	
7	Different types of Gauges, Windscreen wiper, Function & Location of Major Sensors and Actuators used in Automobile Electronics		19/10/24	—11—	
Unit-3	**Brakes, Clutch and Suspension systems**				
1	Need & function of braking system, principle of braking system, Brake efficiency, stopping distance and basic terms related to braking. Electric and Electronic technology used in braking system		22/10/24	—11—	
2	Foundation brakes - drum and disc brakes, Hydraulic and pneumatic brakes, Self energized brakes, Power brakes, Air brakes, Emergency & Parking Brakes Floating-caliper brakes, ceramic pads, twin brake disc systems, hybrid systems, coated discs, anti-squeal technology		23/10/24	—11—	
3	Electronic brakes - EPB (electric park brake), ESP (electronic stability control), braking assistance, predictive braking, brake-by-wire, slip control, regenerative braking, autonomous emergency braking Anti lock braking System: Layout of ABS, Pressure Modulation, and Types of ABS.		24/10/24	—11—	
4	Electric Driven Intelligent Brake-construction, working and its function Construction and Working of Master Cylinder, Wheel Cylinder, Tandem Master Cylinder, Significance and general procedure of Bleeding of Brake.		26/10/24	—11—	
5	Need and function of clutch system, construction and working of clutch system, classification of clutch Types of clutch systems ,Single plate and multi plate clutch, Centrifugal clutch, Semi centrifugal clutch AMTs (automate manual transmission), CVTs, DCTs (direct-shift, Hybrids clutch.		06/10/24	—11—	

	...sion system *...nction of Suspension system, construction and working of Suspension system, classification of Suspension system, Types of suspensions used in automobiles.*				
6	Function and Requirement of Rigid Suspension System: Basic Terms - Jounce, Rebound, Sprung and Unsprung Weight, Spring Rate, Elasticity, Types and Constructional Features of Leaf Springs, Function of Independent Suspension System, Advantages of Front Wheel Independent Suspension, Construction and Working of Mac-Pherson Strut Type, Wishbone Type Suspension system		08/11/24		
7	Shock Absorbers and Air Suspension: Layout, Construction and Working of Air Suspension, Function and Types of Shock Absorber, Principle of Hydraulic Shock Absorber, Construction and Working of Telescopic Shock Absorber, Constructional Features & working of Gas Filled Shock Absorber		09/11/24		
Unit-4	**Automobile Transmission system**				
	Need and functions of transmission system. Concept of various road resistances such as wind, Gradient, Resistance, Total resistance, Tractive- effort. Types of transmission systems. Need of gear box, function and working of gear box, construction of gear box, types of gear boxes - sliding mesh. Constant mesh, synchromesh gear boxes, mathematical analysis of gear boxes, Gear shifting mechanisms, five speed gear box		11/11/24		
	Function , construction and working of Torque converter, Overdrive automatic transmission, fluid flywheel and epicyclic gear train Functions of propeller shaft, types of propeller shaft, Universal joints & slip joints on propeller shaft.		13/11/24		
	Function & need of differential Final drive and differential		22/11/24		
	Axles: function and need of axles, types of axles, • Function and need of rear axle such as semi floating, fully floating, Three quarter floating. • Rear axle drives such as Hotchkiss type, torque tube type. • Function and need of Front Axle, Types of (Front) Stub axle		29/11/24		
Unit-5	**Automobile Steering and Tyre system Steering system**				
1	Function of the steering system, Steering wheel & column, Basic Terms related to Steering- Steering Ratio, Turning Radius, Under steering and Over steering, Basic Components of Steering Linkages Steering geometry, adjusting the steering angles, Ackerman principal.		30/11/24		

	...ction and Working of Rack and Pinion, Re-circulating Ball Type Steering ...ear Box Power steering, Principle of Power Steering, Steering lock, Construction and Working of Hydraulic and Electronic Power Steering.			02/12/24	
3	Significance and ranges of Caster (Positive, Negative), Camber (Positive, Negative), Toe-in, Toe out, King Pin Inclination (KPI), Steering Axis Inclination (SAI) Steering trouble shooting			02/12/24	
4	Types of Automobile Wheels, Rims and Tyres, Construction and Working of Different Types of Wheels, Rims and Tyres, specifications. Criteria for Selection of tyre. Wheel alignment and balancing, procedure of Wheel Alignment, Purpose of Wheel Balancing, Significance of Static and Dynamic Balancing, Procedure for Static and Dynamic Balancing. Tyre Economy: Consideration in Tyre Tread Design, Factors affecting to Tyre Life, Tyre Wear and Rotation, Tyre Designation.			02/12/24	
Unit-6	Automobile Emissions and its Control				
1	Introduction, Complete and Incomplete Combustion. Constituents of Exhaust Gases, Pollutant Formation Effect of Air Fuel Ratio on Exhaust Emission, Effect of Driving Mode on Exhaust Emission, Sources of Pollutants in an Automobile Control Approaches for Automobile Emission			03/12/24	
2	Muffler, Alternative Fuels- Layout of Vehicle operated on Natural Gas (LPG & CNG): Need, Fuel Characteristics, Construction & Working, Advantages, and Limitations. Layout of Electric Vehicles: Need, Working, Advantages, Limitations. Hydrogen as fuel.			04/12/24 06/12/24	
3	Motor Vehicle Act Salient Features of M. V. Act 1988 and Central Motor Vehicle Rules 1989. 6.1.2, Types and Significance of Traffic Signs, Important Transport Terms in M. V. Act (Motor Vehicle, Motor Cycle, HGV, MGV, LGV, Public Service Vehicle, Transport Vehicle, Driver, Passenger, Accident			09/12/24 11/12/24	
4	Passenger Comfort and Safety, Function and requirements of Passenger Safety System. Features of Air Bags, Seat Belts, Collapsible Steering Column.			12/12/24	

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Government Polytechnic Korea

Department- Mechanical Engineering **Subject - Applied Mechanics**

No.	Topic to taught	No. of Lecture required	Date of Theory Delivery	Topic Covered	Remark
t1	**Fundamentals andResolution of Forces**				
1	Definition of Mechanics, Statics, Dynamics- Kinetics,Kinematics. Concept of space, mass, particle, body, rigid body, scalar, vector,fundamental units, derived units.	01	24/09/24	—"—	
2	Force- concept, definition, unit, graphical representation. Concept of system of forces non-coplanar, coplanar,concurrent, non-concurrent and parallel forces.Composition and Resolution of forces. Free body diagrams, law of parallelogram, Varignon's theorem	01	26/09/24	—"—	
3	Numericals	01	30/09/24	—"—	
4	Equilibrium of Coplanar concurrent forces,parallel forces and non-concurrent forces, Lami's Theorem. Moment of a force and Couple, properties of couple, conditions of equilibrium, applications.	01	03/10/24	—"—	
5	Numericals	01	17/10/24	—"—	
Unit2	**Centroid and Moment of Inertia**				
1	Location of Centroidand ,Center of Gravity. Centroid of regularplane and compound areas. Center of Gravity of simple solid	01	24/10/24	—"—	
2	Numericals of centriod	01	29/10/24	—"—	
3	Momentof Inertia of plane areas.Perpendicularand Parallel Axis theoram	01	29/10/24	—"—	
4	numericals of MOI	01	29/10/24	—"—	
Unit 3	**Friction**				
1	1 Rough and Smooth surfaces, concept of friction. Types of friction, Coulomb's laws of friction ,Co-efficient of friction, angle of friction, angle of repose. Friction on horizontal and inclined plane,	01	02/11/24	—"—	
2	Method of reducing friction. Screw and Nutfriction, friction in journal Bearings	01	05/11/24	—"—	
3	Numericals	01	06/11/24	—"—	
4	Numericals	01	07/11/24	—"—	
Unit4	**Kinematics and Kinetics**	01	08/11/24	—"—	
1	KinematicsinCartesian and polar coordinates. Concept of speed, velocity, acceleration, radial and transverse velocity, Particle under uniform and non-uniform acceleration, tangential and normal acceleration.	01	23/11/24	—"—	

	Motion under gravity ...locity), Angular Acceleration.				
3	Numericals		06/12/25	—11—	
4	Kinetics of particle, motion under constant force, Newton's Laws of Motion. Momentum and energy principles, Impulsesand angular momentum.		—11—	—11—	
5	Numericals		—11—	—11—	
Unit5	**Work, Power and Energy**		07/12/25	—11—	
1	Work-Definition and unit of work done, force displacement diagram, torque, work done by torque.				
2	Numericals		09/12/25	—11—	
3	Power-Definition and unit of Power, I.H.P and B.H.P of engine, Equation of H.P in terms of Torque and R.P.M. Energy- Definition and units of Energy,Kinetic and Potential energy. Relation between Heat and Mechanical work,relation between Electrical and Mechanical energy		16/12/25 20/12/25	—11—	
4	Numericals		21/12/25	—11—	
Unit 6	**Simple Lifting Machines and Transmission of power**				
1	Load, Effort, Mechanical advantage, Velocityratio, Efficiency and relation between them. Law of Machine, Reversibility of Lifting machine.		23/12/25	—11—	
2	Numericals on Law of Machine		23/12/25	—11—	
3	Study of MachinesDifferential wheel and axel, Simple Screw Jack, Pulley block, System of pulleys, Simple and compound levers.		03/01/25	—11—	
4	Transmission of power through Belt (flat belt, Vbelt, Timer belt), Rope,Gears (Spur, Helical,worm and worm wheel,rack and pinion)		03/01/25	—11—	
5	Gear trains (simple,compound, epycyclic):terminology,classification, salient features, area of application, velocity ratio and efficiency.		03/01/25	—11—	
6	numericals				

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