

<b>RGPV (DIPLOMA WING) BHOPAL</b>		<b>OBE CURRICULUM FOR THE COURSE</b>		<b>FORMAT-3</b>	<b>Sheet No. 1/2</b>
<b>Branch</b>	<b>ELECTRICAL ENGINEERING</b>			<b>Semester</b>	<b>III</b>
<b>Course Code</b>		<b>Course Name</b>	<b>General Mechanical Engineering</b>		
<b>Course Outcome 1</b>	Perform mechanical testing of materials.			Teach Hrs	Marks
<b>Learning Outcome 1</b>	Classify engineering materials and their mechanical properties.			05	05
<b>Contents</b>	Engineering materials, need and its classification, properties and uses of metals and alloys: Ferrous metals: cast iron, wrought iron, steel, alloy steel. Non ferrous metals: aluminum, copper, lead, tin, copper tin-antimony alloy, bearing metals, copper tin alloy, zinc, copper zinc alloy. Mechanical properties of materials: stiffness, strength, ductility malleability, elasticity, plasticity toughness, brittleness, hardness and hardenability, fatigue.				
<b>Method of Assessment</b>	Paper pen test				
<b>Learning Outcome 2</b>	Perform tensile, compression, shear, hardness, impact tests.			14	20
<b>Contents</b>	Tensile, compression and shear tests using UTM machine. Brinell and Rockwell hardness test using hardness tester. Izod and Charpy test using impact testing machine.				
<b>Method of Assessment</b>	Laboratory test by observation				
<b>Course Outcome 2</b>	Explain two phase system for steam, steam generators.			Teach Hrs	Marks
<b>Learning Outcome 1</b>	State laws of thermodynamics.			04	05
<b>Contents</b>	Thermodynamic system, state, properties, process, cycle, work, heat and power, statement of zeroth, Ist, IInd law of thermodynamics.				
<b>Method of Assessment</b>	Paper pen test				
<b>Learning Outcome 2</b>	Explain properties of steam.			04	10
<b>Contents</b>	Properties of steam, enthalpy, specific volume, internal energy of dry and wet steam, simple numerical problems.				
<b>Method of Assessment</b>	Theory exam				
<b>Learning Outcome 3</b>	Explain construction, working of Babcock and Wilcox boiler, Cochran boiler, LaMont boiler.			08	10
<b>Contents</b>	Boilers, its classification, construction working, Mountings and accessories of a boiler: Babcock and Wilcox boiler, Cochran boiler, LaMont boiler.				
<b>Method of Assessment</b>	Theory exam				
<b>Learning Outcome 4</b>	Identify components, mountings, accessories of a given boiler.			07	15
<b>Contents</b>	Demonstration of boiler components, mountings, accessories.				
<b>Method of Assessment</b>	Laboratory test by observation				
<b>Course Outcome 3</b>	Explain internal combustion engines, air compressors.			Teach Hrs	Marks
<b>Learning Outcome 1</b>	Explain internal combustion engines.			07	10
<b>Contents</b>	Define heat engine, difference between internal combustion engines, external combustion engine, and classification of internal combustion engines. Construction and working of two strokes and four stroke petrol and diesel engine, indicated horse power, brake horse power, mechanical efficiency of an internal combustion engine.				
<b>Method of Assessment</b>	Theory exam				
<b>Learning Outcome 2</b>	Identify components of a given internal combustion engine.			07	15
<b>Contents</b>	Demonstration of internal combustion engine components.				
<b>Method of Assessment</b>	Laboratory test by observation				
<b>RGPV (DIPLOMA WING) BHOPAL</b>		<b>OBE CURRICULUM FOR THE COURSE</b>		<b>FORMAT-3</b>	<b>Sheet No. 2/2</b>
<b>Branch</b>	<b>ELECTRICAL ENGINEERING</b>			<b>Semester</b>	<b>III</b>
<b>Course Code</b>		<b>Course Name</b>	<b>General Mechanical Engineering</b>		

<b>Learning Outcome 3</b>	Explain multistage reciprocating, rotary compressors.	09	10
<b>Contents</b>	Air compressors its classification, construction and working of reciprocating air-compressor, rotary compressor, multistage reciprocating air compressor its merits and demerits, industrial uses of air-compressor.		
<b>Method of Assessment</b>	Paper pen test		
<b>Course Outcome 4</b>	Select hydraulic pumps, turbines for a given situation.	Teach Hrs	Marks
<b>Learning Outcome 1</b>	Describe fluid properties and its measurement.	04	10
<b>Contents</b>	Definition of fluid properties, fluid pressure and its measurement, static pressure, intensity of pressure at a point in fluid at rest, pressure head, absolute and gauge pressure, simple and differential U tube manometers.		
<b>Method of Assessment</b>	Quiz		
<b>Learning Outcome 2</b>	Solve given problems using Pascal's law, continuity equation, Bernoulli's theorem.	06	10
<b>Contents</b>	Energies in fluid, pressure energy, kinetic energy, potential energy, total energy, Pascal's Law, continuity equation, Bernoulli's theorem, its assumption and application.		
<b>Method of Assessment</b>	Theory exam		
<b>Learning Outcome 3</b>	Select hydraulic pumps, turbines for a given situation.	05	10
<b>Contents</b>	Construction and working of hydraulic pumps- reciprocating and centrifugal pump. Construction and working of water turbines- impulse turbine and reaction turbine, factors affecting selection of hydraulic pumps, factors affecting selection of a water turbine.		
<b>Method of Assessment</b>	Theory exam		
<b>Course Outcome 5</b>	Explain power transmission drives.	Teach Hrs	Marks
<b>Learning Outcome 1</b>	Describe power transmission, belt drive, gear drive.	07	10
<b>Contents</b>	Methods of power transmission, belt drive, open and cross belt drive, its application and advantages, velocity ratio of pulleys, compound belt drive, effect of slip in the belt drive. Gear drive, simple gear drive, compound gear drive, worm and worm wheel, bevel gear, velocity ratio in gear drive, its merits and demerits.		
<b>Method of Assessment</b>	Theory exam		
<b>Learning Outcome 2</b>	Solve a given numerical problem of belt drive, gear drive.	08	10
<b>Contents</b>	Simple numerical problems on belt drive and gear drive.		
<b>Method of Assessment</b>	Theory exam		