RGPV (DIPLOMA WING)	**PRPC**					FORMAT-3	
III SEM	NAME OF THE COURSE-MATERIAL SCIENCE					HRS	MARKS
COURSE OUTCOME-1	To identify the materials properties, to be used in refinery and petrochemical plant.						
LEARNING OUTCOME-1	To identify the engineering properties of materials.						
CONTENTS	Elasticity, plasticity, hardness, toughness, ductility, malleability, brittleness, creep, machineability, weldability, castability.						
LEARNING OUTCOME-2	chemical bonding, comparision of bonding of solids and there callisification.						
CONTENTS	Crystal structure of metals, unit cell, space lattice, B.C.C. space lattice, F.C.C space lattice, Ionic bond, covalent bond, Coordinate bond, metallic bond.						
ASSESSMENT METHOD							
COURSE OUTCOME-2	To compare the properties of ferrous, Non- ferrous and alloy of materials.						
LEARNING OUTCOME-1	To explain the Iron-Carbon phase diagram.						
CONTENTS	Cooling curve for pure iron, Iron-carbon equilibrium micro constituents of steel and cost iron, alloys of cast iron and its industrial uses, alloys steel and its industrials uses.						
ASSESSMENT METHOD							
LEARNING OUTCOME-2	To explain the Non-ferrous alloys materials and there alloy element.						
CONTENTS	Various alloys of copper and their industrial application, various alloys of aluminium and their industrial applications, various alloys of nickel and their industrial applications.						
ASSESSMENT METHOD							
COURSE OUTCOME-3	To identify the stress-strain response of metals by universal testing machine						
LEARNING OUTCOME-1	To explain the tensit test by universal testing machine						
	Tersion Test by UTM, compression test by UTM, Impact testing, Brinell Hardness Testing.						

ASSESSMENT METHOD			
LEARNING OUTCOME-2	To explain the heat treatmexts processes		
CONTENTS	Annealing, Normalizing, Hardening, Quenching, Tempering.		
COURSE OUTCOME-4	To introduce the basic concepts of organic materials and their uses and application in petroleum Refinary industry.		
LEARNING OUTCOME-1	To explain the plastics and there application in industry		
CONTENTS			
LEARNING OUTCOME-2	To explain the natural rubber synthetic rubber and there uses in industry		
CONTENTS	Plastic – Definition, Types of plastics and various industrial applications, Rubber- Definition, types of rubber and various industrial application wood definition and applications.		
ASSESSEMENT METHOD			
LEARNING OUTCOME-3	To explain the glass.		
	Glass – Definition, various types of glasses and uses, ceramic materials-definition classification of ceramic, materials, abrasives materials.		
COURSE OUTCOME-5	To provide students with a brand knowledge of corrosion, corrosion pereventium methods and material selection criteria for petroleum refinery.		
LEARNING OUTCOME-1	To know now to corrosion by various methods.		
CONTENTS	Definition of corrosion various types of corrosion – Dry corrosion, wet corrosion, Direct Chemical corrosion with mechanism, Electro chemical corrosion with mechanism, uniform corrosion, pitting corrosion, erosion corrosion creative corrosion.		
ASSESSMENT METHOD			
LEARNING OUTCOME-2	To explain the prevention method of corrosion.		
	Factor influencing corrosion, methods of combating corrosion – cathodic protection, coating and linings,		

CONTENTS	proper selection of materials. Material selection for impatient chemical. Acids, alkali and organic solvents.		
ASSESSMENT METHOD			