

RGPV (DIPLOMA WING) BHOPAL		OBE CURRICULUM FOR THE COURSE		FORMAT- 3	Sheet No. 1/3
Branch	PLASTIC TECHNOLOGY			Semester	III
Course Code	PLASTIC TESTING				
Course Outcome 1	To understand the Identification of plastics & methods of standardization & basic concept of standard : IS/BIS/ASTM etc.			Teach Hrs	Marks
Learning Outcome 1	recognize differences between plastics. Students will sort & identify plastics by their number..				
Contents	<p style="text-align: center;">Identification of plastics</p> <p style="text-align: center;">(A) Physical method</p> <p style="text-align: center;">(i) By simple physical examination</p> <p style="text-align: center;">(ii) By visual inspection</p> <p style="text-align: center;">(iii) By effects of heat</p> <p style="text-align: center;">(iv) By cutting behavior</p> <p style="text-align: center;">(B) Chemical method</p> <p style="text-align: center;">(i) Detection of common constituent elements</p> <p style="text-align: center;">(ii) Density by density – gradient column.</p> <p style="text-align: center;">(iii) Combustion Analysis</p> <p style="text-align: center;">(iv) Solvent Analysis.</p> <p style="text-align: center;">Definition of Additives, Importance of additives Classification of additives.</p>				
Method of Assessment					
Learning Outcome 2	To list out the organizations for standards & purpose of specifications				
Contents	Basic Concept of Testing Specification & standards :- National & International standards.				
Method of Assessment	Tensile Strength test, Stress – strain behavior of polymers, Flexural strength test, Creep & stress relaxation.				
Course Outcome 2	To understand in details about mechanical properties of plastic material & different types of test method like tensile, flexural, impact etc.				
Learning Outcome 1	To Operate Tensile testing machine.				
Contents	<p>To determine strength of plastic materials.</p> <p>Impact properties, Abrasion Resistance Test,</p> <p style="text-align: center;">Hardness test :-</p> <p style="text-align: center;">(a) Rockwell Hardness</p> <p style="text-align: center;">(b) Durometer Hardness</p> <p style="text-align: center;">(c) Barcol Hardness</p>				
Method of Assessment					
Course Outcome 3	To understand in details about thermal properties of plastic material & different types of test methods like HDT, VST, thermal conductivity etc.				
Learning Outcome 1	To understand the basic of compounding.				

Contents	Definition of Compounding, Need of Compounding, Effects of mixing/ Compounding parameters.		
Method of Assessment			
Learning Outcome 2	.To Interpret test results.		
Contents	Heat Deflection Temperature, Vicat Softening Temperature, Thermal Conductivity, Coefficient of Linear thermal expansion, Brittleness Temperature.		
Method of Assessment			
Course Outcome 4	To understand in details about Electrical & optical properties of plastic material.		
Learning Outcome 1	To measure electric properties & classify materials based on electrical properties.		
Contents	Dielectric strength Dielectric constant (Permittivity) Dissipation Factor Electrical resistance test (Volume resistivity & surface resistivity) Arc resistance.		
Method of Assessment			
Learning Outcome 2	To apply optical properties in selection of materials.		
Contents	Refractive Index, Luminous Transmittance, Haze, Glass.		
Method of Assessment			
Course Outcome 5	To understand environment resistance, chemical resistance & standard methods of measuring & relation as well as to analyze & interpret data.		
Learning Outcome 1	To Identify characteristics of polymers with resistance to chemicals or solvents.		
Contents	Immersion Test, Stain – Resistance Test, Solvent stress – cracking Resistance		
Method of Assessment			
Learning Outcome 2	To measure the weather resistance of the material.		
Contents	Environmental stress – cracking resistance, Accelerated Weathering tests, Outdoor weathering of plastics, Resistance of Plastic materials to Fungi, Resistance of Plastic materials to bacteria.		

Method of Assessment	