National Institute of Technology Meghalaya

An Institute of National Importance

Depar	mme			Technolog		anical En	gineering			·····	Regulatio			2018	
	tment	Mechanical Engineering					Semester						V		
Course Code ME 321		Course Name										Marks Distribution			
							L	T	Р	С	INT	MID	END	Tota	
		Tribology					3	0	0	3	50	50	100	200	
Course Objectives		To understand basic principles of friction and tribology and able to classify various tribological properties of lubricants and their application.							CO1 CO2	To understand the properties of lubricant and select prop lubricant for a given application. (Understanding) Determine tribological performance parameters of slidir					
		To develop the skills to analyze and design methods to analyse various lubricant properties and use them for the practical application.						Course Outcomes		contact in different lubrication regimes. (Applying) Design and select appropriate bearings for a given					
									CO3	application. (Applying)					
									CO4	Predict the type of wear and volume of wear in metallic an polymer surfaces. (Analyzing)					
	COs	Mapping with Program Outo					comes (POs)					Mapping	with PSO	5	
No.		PO1	PO2	PO3	PO4	PO5	PO6 F	PO7 PO8	POS	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	CO1	3	2	0	0	2	2	2 0	0	0	0	2	3	0	0
2	CO2	3	2	0	0	2	2	2 0	0	0	0	2	3	2	0
3	CO3	3	0	2	0	2	2	2 0	0	0	0	2	2	3	0
4	CO4	2	0	2	2	2	2	2 0	0	0	0	2	2	3	0
								SYLLABUS							
No.		Contents												Hours	COs
		duction rview of the course, history, Tribology definition, Tribology in design-bearing material, Tribology in industry (Maintenance), basic concept of friction, wear, and Lubrication.													
							, Tribology in	design-bearir	ng materia	al, Tribology	in indust	ry (Mainte	enance),	06	CO1
11	and b Lubrica Lubric EP lul bearin	asic conce ants cation-De bricants, I ngs. Com	ept of frid finition, t Recycling aparison b	ypes of lub	r, and Lub pricants, o pil, Oil con liding and	rication. bjectives servation rolling co	of lubricant, pl n, oil emulsion ontact bearing,	nysical proper , Bearing Ter	ties of lub minology-	pricants, selection to the selection of sele	ction of lu ing conta	bricant, ac ct, rolling	ditives, contact	06	
11	and b Lubrica Lubric EP lul bearin engin Modes Hydro hydro	asic conce ants cation-De bricants, l ngs. Com eering for s of Lubric dynamic, dynamic es, Theor	ept of frid finition, t Recycling aparison b r wear an cation Hydrost lubricatio	ypes of lub of used c between s id corrosic catic, Elas	r, and Lub pricants, o bil, Oil con liding and on resistan to-hydrod - Journal	rication. bjectives iservation rolling co ice-diffusi lynamic, bearing	of lubricant, pl n, oil emulsion ontact bearing,	nysical proper , Bearing Terr , Lubrication i poundary lub thrust pad b	ties of lub minology- in rolling, prication, earing, H	ricants, selec types of slid forging, drav Reynolds' ydrodynamic	ction of lu ing conta wing and equation	bricant, ac ct, rolling extrusion, , Applicat	dditives, contact Surface ions of ghened		CO2
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111	and b Lubricz Lubric EP lul bearin engin Modes Hydro hydro surfac lubricz Frictio Origin	asic conce ants cation-De bricants, I ngs. Com eering for s of Lubric dynamic dynamic dynamic ees, Theor ation. n and We of sliding	ept of frid finition, t Recycling parison b r wear an Hydrost lubrication cation Hydrost lubrication ear g friction,	ypes of luk of used co between s ad corrosic tatic, Elas on theory ternally p	r, and Lub pricants, o bil, Oil con liding and in resistan to-hydrod - Journal ressurized petween t	rication. bjectives iservatior rolling co ice-diffusi lynamic, bearing l lubricati	of lubricant, pl a, oil emulsion antact bearing ion. mixed and b and Inclined on, Squeeze-f	nysical proper , Bearing Terri , Lubrication i boundary lub thrust pad b ilm lubricatio notion, Types cal reactions,	ties of lub minology- n rolling, prication, earing, H n, Elasto- of wear	ricants, selec types of slid forging, drav Reynolds' ydrodynamic hydrodynami and their me	ction of lu ing conta wing and equation : lubricat ic lubrica	bricant, ac ct, rolling extrusion, , Applicat ion of rou ition and g	dditives, contact Surface ions of ghened gas (air) re wear,	12	CO2 CO2 CO3 CO4
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