

**ME : MECHANICAL ENGINEERING
MODULE 7****INDEX****MACHINING AND MACHINE TOOL OPERATIONS**

Contents	Topics	Pg. No.
Notes	Mechanics of Machining	1
	Single Point Cutting Tool (SPCT)	3
	Mechanics of Chip Formation	6
	Tool Life and Tool Wear	10
	Mechanics of Cutting Forces	11
	Economics of Machining	16
	Shaping and Planing	17
	Turning and Boring	18
	Drilling	19
	Milling	21
	Non-Traditional Machining Processes (Unconventional Machining Processes)	22
	List of Formulae	41
LMR (Last Minute Revision)	49	
Assignments	Assignment-1	52
	Assignment-2	54
Test Papers	Test Paper-1	56
	Test Paper-2	58
Practice Problems		60

TOOL ENGINEERING

Notes	Principles of Work Holding Devices	64
	Design of Jigs and Fixtures	64
	Different Elements of Jigs and Fixtures	69
	Types of Jigs	74
	Types of Fixtures	77
	Milling Fixtures	78
	Turning Fixtures	79
	Grinding Fixtures	79
	Broaching Fixtures	80
LMR (Last Minute Revision)	81	
Assignment	Assignment -1	83

METROLOGY AND INSPECTION

Contents	Topics	Pg. No.
Notes	Introduction	85
	Limits, Fits and Tolerances	85
	Linear and Angular Measurements	92
	Comparators	99
	Gauge Design	103
	Interferometry	108
	Finish Measurement	110
	Form Measurement	116
	Gear Measurement	118
	Screw Thread Measurement	122
	Alignment and Testing Methods	127
	List of Formulae	130
LMR (Last Minute Revision)	131	
Assignments	Assignment–1	134
	Assignment–2	136
Test Paper	Test Paper –1	138

SOLUTIONS

MACHINING AND MACHINE TOOL OPERATIONS		
Assignments	Answer Key	141
	Model Solutions	142
Test Papers	Answer Key	144
	Model Solutions	145
Practice Problems	Answer Key	149
TOOL ENGINEERING		
Assignments	Answer Key	150
	Model Solutions	150
METROLOGY AND INSPECTION		
Assignment	Answer Key	151
	Model Solutions	151
Test Paper	Answer Key	152
	Model Solutions	152