

**Subject Code: 01ME1303**
**Subject Name: Manufacturing Processes-I**
**B.Tech. (II Year) Semester-III: Mechanical & Automobile Engineering**
**Type of course: Engineering**
**Prerequisite: Workshop**
**Rationale:** Understanding of basic application of machine tools for metal removing processes.

**Teaching and Examination Scheme:**

Teaching Scheme			Credits	Examination Marks					Total Marks
L	T	P		Theory Marks			Practical Marks		
			ESE	IA	CSE	VIVA	TW		
3	--	2	4	50	30	20	25	25	150

**Content**

No	Module	Sub Module	Topics	Weightage	Duration
1	Lathe, Milling, Grinding	Introduction	Various components of lathe, milling, grinding	15	6
			Function of components of machine		
			Working Principle of components of lathe, milling, grinding machine		
		Tooling	Various attachment and accessories used in lathe machine	15	6
			Function of various attachment and accessories		
			Working Principle of attachment and accessories		
		Operations	Various tools used in lathe, milling, grinding machine	15	6
			preparation required for operation		
			Various operation used in lathe, milling, grinding machine		
		Specification/Selection	Important specification of lathe, milling, grinding machine	15	5
Quotation of lathe, milling, grinding machine					
Analysis of quotation					
Important Parameter and Economy	Important parameter and economy	15	3		
2	Shaper	Introduction	Study about various components of Shaper	3	2
			Function of components of machine		
			Working Principle of components of Shaper machine		

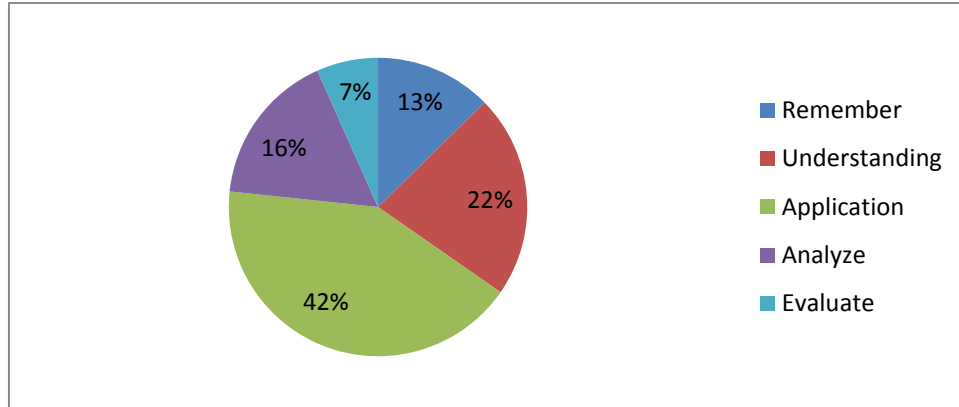
		Tooling	Various attachment and accessories used in lathe machine	3	2		
			Function of various attachment and accessories				
			Working Principle of attachment and accessories				
		Operations	Various tools used in Shaper machine	3	2		
			preparation required for operation				
			Various operation used in Shaper machine				
		Specification/Selection	Important specification of Shaper machine	3	1		
			Quotation of Shaper machine				
			Analysis of quotation				
		Important Parameter and Economy	Total time calculation of machining time on Shaper machine and cost analysis	3	1		
		3	Drilling	Introduction	Study about various components of drilling	2	2
					Function of components of machine		
Working Principle of components of drilling machine							
Tooling	Various attachment and accessories used in lathe machine			2	2		
	Function of various attachment and accessories						
	Working Principle of attachment and accessories						
Operations	Various tools used in drilling machine			2	2		
	preparation required for operation						
	Various operation used in drilling machine						
Specification/Selection	Important specification of drilling machine			2	1		
	Quotation of drilling machine						
	Analysis of quotation						
Important Parameter and Economy	Important parameter and economy	2	1				

### Final Exam of MP-1

#### Making a component which require minimum two machine

Detail	Marks	Hours
List of tool and machine	5	6
Process Sequence	5	
Operation	25	
Inspection	5	
Assembly	10	
<b>Total</b>	<b>50</b>	<b>6</b>

R Level	U Level	A Level	N Level	E Level
10	33	63	25	10



### ReferenceBooks:

1. Workshop Technology Vol. I, II & III, WAJ Chapman.
2. Workshop Technology Vol. II, Hajra&Choudhari.
3. Production Technology, R. K. Jain.
4. Production Technology - H.M.T. By HMT
5. Workshop Technology Vol. II by Raghuvanshi, Dhanpat rai Pub

### Course Outcome:

After learning the course the students should be able to:

1. Understand the characteristics of different machine tools.
2. Ability to compare among the different machine tools.
3. Selection of machine tools according to requirements.
4. Analyze any conventional machining operations.
5. Develop the sequence of machining operation to produce the end product.

### List of Open Source Software/learning website:

1. [https://www.youtube.com/watch?v=A0dTvf\\_Q8BA&list=PL82E9A8429ED7BB27](https://www.youtube.com/watch?v=A0dTvf_Q8BA&list=PL82E9A8429ED7BB27)
2. <https://www.youtube.com/watch?v=mZ8I9MPAoyk>