

Subject Code: 01ME0303
Subject Name: Manufacturing Processes-I
B.Tech. (II Year) Sem- III : Mechanical & Automobile Engineering
Type of course: Engineering

Prerequisite:---
Rationale: Understanding of basic application of machine tools for metal removing processes.

Teaching and Examination Scheme:

| Teaching | | | Credits | Examination Marks | | Total Marks |
|----------|----|---|---------|-----------------------|--|-------------|
| L | T | P | | Continuous Evaluation | | |
| 4 | -- | 2 | 5 | 100 | | |
| | | | | | | 150 |

Content

| No | Module | Sub Module | Topics | Weightage | Duration |
|---|---------------------------------|-------------------------|---|-----------|----------|
| 1 | Lathe, Milling, Grinding | Introduction | Various components of lathe, milling, grinding | 15 | 12 |
| | | | Function of components of machine | | |
| | | | Working Principle of components of lathe, milling, grinding machine | | |
| | | Tooling | Various attachment and accessories used in lathe machine | 15 | 12 |
| | | | Function of various attachment and accessories | | |
| | | | Working Principle of attachment and accessories | | |
| | | Operations | Various tools used in lathe, milling, grinding machine | 15 | 12 |
| | | | preparation required for operation | | |
| | | | Various operation used in lathe, milling, grinding machine | | |
| | | Specification/Selection | Important specification of lathe, milling, grinding machine | 15 | 12 |
| Quotation of lathe, milling, grinding machine | | | | | |
| Analysis of quotation | | | | | |
| Important Parameter and Economy | Important parameter and economy | 15 | 12 | | |
| 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 | 4 | | |
| | | | preparation required for operation | | | | |
| | | | Various operation used in Shaper machine | | | | |
| | | Specification/Selection | Important specification of Shaper machine | 3 | 2 | | |
| | | | Quotation of Shaper machine | | | | |
| | | | Analysis of quotation | | | | |
| | | Important Parameter and Economy | Total time calculation of machining time on Shaper machine and cost analysis | 3 | 2 | | |
| | | 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 | 4 | | |
| | preparation required for operation | | | | | | |
| | Various operation used in drilling machine | | | | | | |
| Specification/Selection | Important specification of drilling machine | | | 2 | 2 | | |
| | Quotation of drilling machine | | | | | | |
| | Analysis of quotation | | | | | | |
| Important Parameter and Economy | Important parameter and economy | 2 | 2 | | | | |

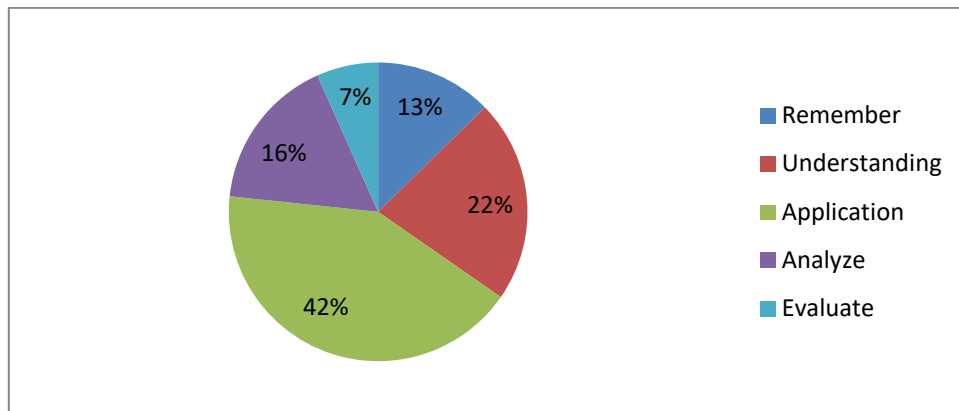
Final Exam of MP-1

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 | |
| Total | 50 | 6 |

| | | | | |
|----------------|----------------|----------------|----------------|----------------|
| R Level | U Level | A Level | N Level | E Level |
|----------------|----------------|----------------|----------------|----------------|

| | | | | |
|-----------|-----------|-----------|-----------|-----------|
| 10 | 33 | 63 | 25 | 10 |
|-----------|-----------|-----------|-----------|-----------|



Reference Books:

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
2. <https://www.youtube.com/watch?v=mZ8I9MPAoyk>