

Badriprasad Institute of Technology, Sambalpur

Lesson plan for Theory -2, Manufacturing Technology

Semester & Branch: 4th Sem. Mechanical Engineering

Name of the Faculty: Mr. Paresh Pradhan

Total Periods- 60

No of periods /week- 4

| Week | Class days | Theory/Practical |
|------|------------|--|
| 1st | 1st | Tool Materials-Composition of various tool materials |
| | 2nd | various tool materials |
| | 3rd | Physical properties& uses of such tool materials |
| | 4th | uses of tool materials |
| 2nd | 5th | Cutting Tools - Cutting action of various and tools |
| | 6th | Chisel, hacksaw blade, dies and reamer |
| | 7th | Turning tool geometry and purpose of tool angle |
| | 8th | Machining process parameters |
| 3rd | 9th | Speed, feed and depth of cut |
| | 10th | Coolants and lubricants in machining and purpose |
| | 11th | Lathe Machine -Construction and working of lathe and CNC lathe |
| | 12th | Major components of a lathe and their function |
| 4th | 13th | Operations carried out in a lathe(Turning, thread cutting, taper turning, internal machining, parting off, facing, knurling) |
| | 14th | Safety measures during machining |
| | 15th | Capstan lathe-Difference with respect to engine lathe |
| | 16th | Major components and their function |
| 5th | 17th | Define multiple tool holders |
| | 18th | Turret Lathe -Difference with respect to capstan lathe |
| | 19th | Major components and their function |
| | 20th | Draw the tooling layout for preparation of a hexagonal bolt &bush |
| 6th | 21st | Shaper -Potential application areas of a shaper machine |
| | 22nd | Major components and their function |
| | 23rd | Explain the automatic able feed mechanism |
| | 24th | Explain the construction &working of tool head |
| 7th | 25th | Explain the quick return mechanism through sketch |
| | 26th | State the specification of a shaping machine |
| | 27th | Planing Machine - Application area of a planer and its difference with respect to shaper |
| | 28th | Major components and their functions |
| 8th | 29th | The table drive mechanism |
| | 30th | Working of tool and tool support |
| | 31st | Clamping of work through sketch |
| | 32nd | Milling Machine -Types of milling machine and operations performed by them and also same for CNC milling machine |
| 9th | 33rd | Explain work holding attachment |
| | 34th | Construction & working of simple dividing head, universal dividing head |
| | 35th | Procedure of simple and compound indexing |

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| | | |
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| | 36th | Illustration of different indexing methods |
| 10th | 37th | Slotter -Major components and their function |
| | 38th | Construction and working of slotter machine |
| | 39th | Tools used in slotter |
| | 40th | Grinding- Significance of grinding operations |
| 11th | 41st | Manufacturing of grinding wheels |
| | 42nd | Criteria for selecting of grinding wheels |
| | 43rd | Specification of grinding wheels with example Working of |
| | 44th | Cylindrical Grinder |
| 12th | 45th | Surface Grinder |
| | 46th | Centreless Grinder |
| | 47th | Classification of drilling machines |
| | 48th | Working Bench drilling machine |
| 13th | 49th | Pillar drilling machine |
| | 50th | Radial drilling machine |
| | 51st | Boring |
| | 52nd | Basic Principle of Boring |
| 14th | 53rd | Different between Boring and drilling |
| | 54th | Broaching |
| | 55th | Types of Broaching(pull type, push type) |
| | 56th | Advantages of Broaching and applications |
| 15th | 57th | Surface finish, lapping |
| | 58th | Definition of Surface finish |
| | 59th | Description of lapping& explain their specific cutting |
| | 60th | DOUBT CLASS |

Sign of Faculty

Sign of HOD