**BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK**

**DEPARTMENT OF MECHANICAL ENGINEERING**



**LESSON PLAN**

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| SUBJECT: Manufacturing Technology | ACCADEMIC SESSION: 2022-23 |
| FACULTY: MR. S.P.B.B BHATTA | SEMESTER: 4th |
|  | SEC: B |

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| Sd/- |
| HOD (MechEngg.) |

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| **Discipline:**  **Mechanical Engineering** | **Semester: 4rd B** | | **Name of the teaching faculty:**  **S.P.B.B Bhatta** |
| **Subject:**  **Manufacturing Technology** | **No. of Days/ per week class allotted: 04periods per week**  **Mon-2 period, wed-1 period,Thu-1 period)** | | **Semester From Date: 15-02-2023 To Date: 22-05-2023**  **No. of weeks: 15 weeks** |
| **Week** | **Class Day** | **No of period available** | **Theory Topics** |
| 1ST | 15/02/2023 | 1 | 1.CUTTING TOOL  Types of tools  1.1Composition of various tool material  1.2 Physical properties & uses of tool materials |
| 16/02/2023 | 1 | 2. Cutting tools  Types of cutting tools |
| 2nd | 20/02/2023 | 2 | 2.1 Cutting action of various tools such as Hacksaw blades,chisel,Dies,reamers  2.2 Turning tool geometry and purpose of tool angles |
| 22/02/2023 | 1 | 2.2 Turning tool geometry and purpose of tool angles |
| 23/02/2023 | 1 | 2.2 Turning tool geometry and purpose of tool angles |
| 3rd | 27/02/2023 | 2 | 2.1 Cutting action of various tools such as Hacksaw blades,chisel,Dies,reamers |
| 01/03/2023 | 1 | 2.2 Turning tool geometry and purpose of tool angles |
| 02/03/2023 | 1 | 2.3 Machining process parameter(speed, feed,depth of cut)  2.4 Coolants and lubricants in machining process |
| 4th | 06/03/2023 | 2 | 3.Lathe machine  3.1 Construction & working of lathe machine. |
| 09/03/2023 | 1 | 3.1Major components of lathe machine  3.1.1 operation carried out in lathe machine |
| 5th | 13/03/2023 | 2 | 3.1.1 operation carried out in lathe machine  Machining paramerter. |
| 15/03/2023 | 1 | 3.1.2 safety measures during machining |
| 16/03/2023 | 1 | 3.2 Major components of  Capstan lathe  3.2 Difference with respect to engine lathe. |
| 6th | 20/03/2023 | 2 | 3.3 Turret Lathe  Difference with respect to capstan lathe |
| 22/03/2023 | 1 | 3.4 Draw he tooling layout for preparation of a hexagon bolt & bush |
| 23/03/2023 | 1 | 4.Shaper machine  4.1 Potential application areas of shaper machine |
| 7th | 27/03/2023 | 2 | 4.2 Major components &their function of shaper machine  4.3Explain the automatic table feed mechanism |
| 29/03/2023 | 1 | 4 Explain the construction & working of tool head. |
| 8th | 03/04/2023 | 2 | 4.3Explain the automatic table feed mechanism |
| 05/04/2023 | 1 | 4 Explain the construction& working of tool head. |
| 06/04/2023 | 1 | 4.5 Explain the quick return mechanism |
| 9TH | 10/04/2023 | 12 | 4.6 State the specification of shaper machine |
| 12/04/2023 | 1 | Class Test 1 |
| 13/04/2023 | 1 | 5.1 Application area of a planer and its difference with respect to shaper |
| 10TH | 17/04/2023 | 2 | 5.2 Major components and their functions |
| 19/04/2023 | 1 | 5.3 The table drive mechanism |
| 20/04/2023 | 1 | 5.4 Working of tool and tool support |
| 11TH | 24/04/2023 | 2 | 5.5 Clamping of work through sketch. |
| 26/04/2023 | 1 | 5.5 Clamping of work through sketch. |
| 27/04/2023 | 1 | Milling Machine  6.1 Types of milling machine and operations performed by them and also same for CNC milling machine |
| 12TH | 01/05/2023 | 2 | 6.1 Types of milling machine and operations performed by them and also same for CNC milling machine  6.2 Explain work holding attachment |
| 03/05/2023 | 1 | 6.3 Construction & working of simple dividing head, |
| 04/05/2023 | 1 | 6.4 Procedure of simple indexing |
| 13TH | 08/05/2023 | 2 | 6.5 Illustration of different indexing methods |
| 10/05/2023 | 1 | Slotter Machine 7.1 Major components and their function7.1 Major components and their function |
| 11/05/2023 | 1 | 7.2 Construction and working of slotter machine  7.3 Tools used in slotter  Slotter Machine  8.1 Significance of grinding operations  8.2 Manufacturing of grinding wheels  8.4 Specification of grinding wheels with example  Working of Cylindrical Grinder |
| 14TH | 15/05/2023 | 2 | 9.Internal Machining operations Classification of drilling machines  9.1 Working of Bench drilling machine  9.1 Pillar drilling machine  Radial drilling machine |
| 17/05/2023 | 1 | 9.2 Boring Basic Principle of Boring  Different between Boring and drilling  9.3 Broaching Types of Broaching(pull type, push type)  Advantages of Broaching and applications |
| 18/05/2023 | 1 | 10 Surface finish, lapping  10.1 Definition of Surface finish  10.2 Description of lapping& explain their specific cutting.Radial drilling machine |
| 15TH | 22/05/2023 | 2 | Internal Assesment |