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| **Discipline: MECHANICAL** | **Semester: 3rd** | **Name of the Teaching Faculty: ER. BIKASH MURMU**  **Sr.Lecturer Mechanical** |
| **Subject**: TH-1 PRODUCTION TECHNOLOGY | **No. of days/per week class allotted:**  **4** | **Semester From date: 01/07/2024 To date:08-11-2024**  **No of weeks: 15** |
| **Week** | **Class Day** | **Theory Topics:** |
| **1st** | **1st** | **Metal Forming Processes:**  Extrusion: Definition & Classification |
| **2nd** | Explain direct, indirect and impact extrusion process. |
| **3rd** | Explain direct, indirect and impact extrusion process. |
| **4th** | Define rolling. Classify it. |
| **2nd** | **1st** | Differentiate between cold rolling and hot rolling process. |
| **2nd** | List the different types of rolling mills used in Rolling process. |
| **3rd** | **Welding**  Define welding and classify various welding processes. |
| **4th** | Explain fluxes used in welding. |
| **3rd** | **1st** | Explain Oxy-acetylene welding process. |
| **2nd** | Explain various types of flames used in Oxy-acetylene welding process. |
| **3rd** | Explain Arc welding process. |
| **4th** | Specify arc welding electrodes. |
| **4th** | **1st** | Define resistance welding and classify it. |
| **2nd** | Describe various resistance welding processes such as butt welding, spot welding, flash welding, projection welding and seam welding. |
| **3rd** | Describe various resistance welding processes such as butt welding, spot welding, flash welding, projection welding and seam welding. |
| **4th** | Describe various resistance welding processes such as butt welding, spot welding, flash welding, projection welding and seam welding. |
| **5th** | **1st** | Explain TIG and MIG welding process |
| **2nd** | Explain TIG and MIG welding process |
| **3rd** | State different welding defects with causes and remedies. |
| **4th** | State different welding defects with causes and remedies. |

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| **6th** | **1st** | **Casting**  Define Casting and Classify the various Casting processes. |
| **2nd** | Explain the procedure of Sand mould casting. |
| **3rd** | Explain the procedure of Sand mould casting. |
| **4th** | Explain different types of molding sands with their composition and properties. |
| **7th** | **1st** | Explain different types of molding sands with their composition and properties. |
| **2nd** | Classify different pattern and state various pattern allowances. |
| **3rd** | Classify core. |
| **4th** | Describe construction and working of cupola and crucible furnace. |
| **8th** | **1st** | Describe construction and working of cupola and crucible furnace. |
| **2nd** | Explain die casting method. |
| **3rd** | Explain centrifugal casting such as true centrifugal casting, centrifuging with advantages, limitation and area of application. |
| **4th** | Explain centrifugal casting such as true centrifugal casting, centrifuging with advantages, limitation and area of application. |
| **9th** | **1st** | Explain various casting defects with their causes and remedies. |
| **2nd** | Explain various casting defects with their causes and remedies. |
| **3rd** | **Powder Metallurgy**  Define powder metallurgy process. |
| **4th** | State advantages of powder metallurgy technology technique |
| **10th** | **1st** | Describe the methods of producing components by powder metallurgy technique. |
| **2nd** | Describe the methods of producing components by powder metallurgy technique. |
| **3rd** | Explain sintering. |
| **4th** | Economics of powder metallurgy. |

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| **11th** | **1st** | **Press Work**  Describe Press Works: blanking, piercing and trimming. |
| **2nd** | Describe Press Works: blanking, piercing and trimming. |
| **3rd** | List various types of die and punch |
| **4th** | Explain simple, Compound & Progressive dies |
| **12th** | **1st** | Explain simple, Compound & Progressive dies |
| **2nd** | Explain simple, Compound & Progressive dies |
| **3rd** | Describe the various advantages & disadvantages of above dies |
| **4th** | **Jigs and fixtures**  Define jigs and fixtures |
| **13th** | **1st** | State advantages of using jigs and fixtures |
| **2nd** | State advantages of using jigs and fixtures |
| **3rd** | State the principle of locations |
| **4th** | State the principle of locations |
| **14th** | **1st** | Describe the methods of location with respect to 3-2-1 point location of rectangular jig |
| **2nd** | Describe the methods of location with respect to 3-2-1 point location of rectangular jig |
| **3rd** | Describe the methods of location with respect to 3-2-1 point location of rectangular jig |
| **4th** | List various types of jig and fixtures. |
| **15th** | **1st** | List various types of jig and fixtures. |
| **2nd** | Discuss the previous year question |
| **3rd** | Discuss the previous year question |
| **4th** | Discuss the previous year question |