Lesson Plan

Department of Metallurgical Engineering UGIE Rourkela

Session- 2021-22

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| UTKALMANI GOPABANDHU INSTITUTE OF ENGINEERING, ROURKELA  Session: 2021-22 | | | |
| Discipline: **Metallurgical Engineering** | Semester-**6th** | Name of the Teaching Faculty: **SUMEETA RANI SARAP** | |
| Subject: **Industrial Metallurgy(TH-03)** | No. of days/per week class allotted:**4** | Semester from Date: **10. 03. 2022** to Date: **10.06.2022**  No. of weeks: 13 | |
| **Week** | **Class No.** | **Module** | **Lecture Topics** |
| 1 | 1 | Chapter -1: Classification of Welding Processes | Classification of different  welding process |
| 2 | -do- |
| 3 | Pressure Welding Processes |
| 4 | Non-Pressure Welding Processes |
| 2 | 5 | Chapter -2: Gas Welding | Different types of flames in gas welding |
| 6 | Gas Welding Equipment’s |
| 7 | -do- |
| 8 | Advantages of Gas Welding, Disadvantage of Gas Welding |
| 3 | 9 | Application of Gas Welding |
| 10 | Chapter-3: Arc Welding | Metallic Arc Welding Process |
| 11 | Submerged Arc Welding Process |
| 12 | TIG Welding Process |
| 4 | 13 | MIG Welding Process |
| 14 | Chapter-4: Thermit Welding | Principle of Thermit Welding |
| 15 | Advantages of Thermit Welding, disadvantages of Thermit Welding |
| 16 | Chapter-5:Resistance Welding | Principle of Resistance Welding |

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| 5 | 17 |  | Types of Resistance Welding |
| 18 | Chapter-6: Welding of Steel C.I & Cu. Alloys | Precaution required for welding of steel |
| 19 | Joint design and techniques required for C.I Welding |
| 20 | Describe the welding of copper and its alloys |
| 6 | 21 | Chapter-7: Metallurgy of Welding | Temperature distribution in welding of steel |
| 22 | -do- |
| 23 | Structural changes in weld metal |
| 24 |  | -do- |
| 7 | 25 | Weldability |
| 26 | Welding defects |
| 27 | -do- |
| 28 | Methods for testing Welding joints |
| 8 | 29 | Chapter-8: Brazing & soldering | Brazing principle and procedure |
| 30 | Various brazing methods |
| 31 | Soldering steps |
| 32 | various types of solders |
| 9 | 33 |  | Revision |
| 34 | Revision |
| 35 | Important question discussion |