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| Discipline: Metallurgy | | Semester: 6th semester | Name of the Teaching Faculty:Mr Subrat Kumar Behera , Lecturer |
| Subject:INDUSTRIAL METALLURGY Sub code- TH 3 | | No of days /week class allotted:05 | Semester from Date:10-03-2022to10-06-2022 No. Of weeks:15 |
| Month | week | Class Day | Theory topics |
| MAR | 3 rd | 1 st | Classify different welding process such as pressure welding processes and non-pressure welding process |
| | | 2 nd | Classify different welding process such as pressure welding processes and non-pressure welding process |
| | | 3 rd | Explain different flames, equipments, steps, advantages, disadvantages and application of gas welding. |
| | | 4 th | Explain different flames, equipments, steps, advantages, disadvantages and application of gas welding. |
| | | 5 th | Explain different flames, equipments, steps, advantages, disadvantages and application of gas welding. |
| | 4 th | 1 st | Explain different flames, equipments, steps, advantages, disadvantages and application of gas welding. |
| | | 2 nd | Arc Welding |
| | | 3 rd | Arc Welding |
| | | 4 th | Metallic Arc. Submerged Arc TIG Welding MIG Welding. |
| | | 5 th | Metallic Arc. Submerged Arc TIG Welding MIG Welding. |
| | 5 th | 1 st | Discuss the principle, procedure, advantages and disadvantages of Thermit welding |
| | | 2 nd | Discuss the principle, procedure, advantages and disadvantages of Thermit welding |
| | | 3 rd | Revision |
| | | 4 th | Explain the principle and various types of resistance welding |
| APRIL | 1 st | 1 st | Explain the joint design and techniques required for C.I. welding. |
| | 2 nd | 1 st | Explain the joint design and techniques required for C.I. welding. |
| | | 2 nd | Explain the joint design and techniques required for C.I. welding. |
| | | 3 rd | Explain the temperature distribution in welding of steel. |
| | | 4 th | Discuss the structural changes in weld metal and parent metal after welding |
| | | 5 th | Mention different welding defects |

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| | 3rd | 1 st | Mention different welding defects |
| | | 2 nd | Discuss various methods for testing welding joints |
| | | 3 rd | Discuss various methods for testing welding joints |
| | | 4 th | Define brazing and explain its principle and procedure. |
| | | 5 th | Define soldering and explain various types of solders. |
| | 4 th | 1st | Describe the basic steps of soldering of common metals. |
| | | 2nd | powder metallurgy |
| | | 3rd | powder metallurgy |
| | | 4th | Mention advantages disadvantages and applications of P/M |
| | | 5 th | Mention advantages disadvantages and applications of P/M |
| | 5 th | 1st | Briefly describe primary and secondary characteristics of powders |
| | | 2nd | Name different methods of powder production |
| | | 3rd | Describe the mechanical, physical, chemical and electro chemical methods |
| | | 4th | Describe the mechanical, physical, chemical and electro chemical methods |
| | | 5 th | Revision |
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| MAY | 1 st | 1 st | Revision |
| | 2nd | 1st | Give the significance and different methods of conditioning. |
| | | 2 nd | Give the significance and different methods of conditioning. |
| | | 3rd | Give the significance and different methods of conditioning |
| | | 4th | Give the significance and different methods of conditioning |
| | | 5 th | Explain different die-compaction techniques |
| | 3rd | 1 st | Explain different die-compaction techniques |
| | | 2 nd | Explain different die-compaction techniques |
| | | 3 rd | Explain different die-compaction techniques |
| | | 4th | Describe isostatic pressing with advantages, limitation applications. |
| | | 5 th | Describe isostatic pressing with advantages, limitation applications. |
| | 4th | 1 st | Give brief outline on continuous compaction |
| | | 2 nd | Give brief outline on continuous compaction |
| | | 3 rd | Define sintering and Explain its various stages. |
| | | 4 th | Explain the process variables and furnaces used for sintering |
| | | 5 th | Explain the process variables and furnaces used for sintering |
| | 5th | 1 st | Explain the process variables and furnaces used |

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| JUNE | | | for sintering |
| | | 2 nd | Explain the process variables and furnaces used for sintering |
| | 1 st | 1 st | Revision |
| | | 2 nd | Revision |
| | | 3 rd | Give a note on liquid phase sintering |
| | | 4 th | Porous bearingSintered friction materials |
| | | 5 th | Sintered carbides |
| | 2 nd | 1 st | Magnetic Materials |
| | | 2 nd | Dispersion strengthened materials |
| | | 3 rd | Revision |
| | | 4 th | Revision |