



Department of Mechanical Engineering
Raajdhani Engineering College, Bhubaneswar, Odisha-751017
LESSON PLAN

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|----------------------------------|-----------------------|----------|---|--------------------------|-----------------------------------|
| Faculty Name | Sadik Iqbal | | | Name of the Program | Diploma in Mechanical Engineering |
| Course Name | Production Technology | | | Course Code/college code | [Th-1]/C201 |
| Course Year | 2 nd year | Semester | 3 rd | Academic Period | 2023-24 |
| No. of Classes allotted per Week | 4 | | Planned Classes Required to Complete the Course | | |

| Sl. No. | Topics to be covered | Module | No. of hours Required | Mode of Teaching | CO | BOOK | CHAPTER (PAGES) | OTHER SOURCE(IM) |
|---------|--|--------|-----------------------|------------------|-----|------|-----------------|---|
| 1 | Extrusion: Definition & Classification | 1 | 1 | LM/ IM | CO1 | T1 | | https://www.youtube.com/@superfaststudyexperiment |
| 2 | Explain direct, indirect and impact extrusion process. | 1 | 1 | LM/ IM | CO2 | T1 | | https://www.youtube.com/@CivilMantraa |
| 3 | Define rolling. Classify it. | 1 | 1 | LM/ IM | CO1 | T1 | | https://www.youtube.com/@Devpriti |
| 4 | Differentiate between cold rolling and hot rolling process. | 1 | 1 | LM/ IM | CO1 | T1 | | https://www.youtube.com/@ifinfotech |
| 5 | List the different types of rolling mills used in Rolling process. | 1 | 1 | LM/ IM | CO2 | T1 | | https://www.youtube.com/@AKAllEducation |
| 6 | Explain about Forging process. | 1 | 1 | LM/ IM | CO2 | T1 | | https://www.youtube.com/@superfaststudyexperiment |
| 7 | Surprize test | 1 | 1 | LM/ IM | CO3 | T1 | | https://www.youtube.com/@ToolingUSME |
| 8 | Quiz test | 1 | 1 | LM/ IM | CO1 | T1 | | https://www.youtube.com/@ToolingUSME |
| 9 | Previous year question discussion. | 1 | 1 | LM/ IM | CO1 | T1 | | https://www.youtube.com/@ToolingUSME |



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| 10 | Define welding and classify various welding processes. | 2 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@Ekeeda |
| 11 | Explain fluxes used in welding. | 2 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@LEARNANDGROW |
| 12 | Explain Oxy-acetylene welding process. | 2 | 1 | LM/ IM | CO4 | T1 | https://www.youtube.com/@gear.institute |
| 13 | Explain various types of flames used in Oxy-acetylene welding process. | 2 | 1 | LM/ IM | CO3 | T1 | https://www.youtube.com/@mechanicalnexus |
| 14 | Explain Arc welding process. | 2 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@AniMechEdu |
| 15 | Specify arc welding electrodes. | 2 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@MECHANICALENGINEERINGSKILLS |
| 16 | Define resistance welding and classify it. | 2 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/redirect?event=video_description&redir_token=https://www.youtube.com/@LEARNANDGROW |
| 17 | Describe various resistance welding processes such as butt welding, spot welding process, flash welding, projection welding and seam welding. | 2 | 1 | LM/ IM | CO3 | T1 | https://www.youtube.com/@studycentral1294 |
| 18 | Describe various resistance welding processes such as flash welding, projection welding and seam welding process. | 2 | 1 | LM/ IM | CO3 | T1 | https://www.youtube.com/@studycentral1294 |



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| 19 | Explain TIG and MIG welding process | 2 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@ANUNIVERSE22 |
| 20 | State different welding defects with causes and remedies. | 2 | 1 | LM/ IM | CO4 | T1 | https://www.youtube.com/@industrialengineering219 |
| 21 | Why welding application is necessary us? | 2 | 1 | LM/ IM | CO3 | T1 | https://www.youtube.com/@npteliitguwahati8283 |
| 22 | Modern welding technique. | 2 | 1 | LM/ IM | CO5 | T1 | https://www.youtube.com/@weldHAGOJIBI |
| 23 | Surprise test | 2 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@WesternWeldingAcademy |
| 24 | Previous year question discussion. | 2 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@WesternWeldingAcademy |
| 25 | Define Casting and Classify the various Casting processes. | 3 | 1 | LM/ IM | CO1 | T1 | https://www.youtube.com/@gear.institute |
| 26 | Explain the procedure of Sand mould casting. | 3 | 1 | LM/ IM | CO3 | T1 | https://www.youtube.com/@SHArPEdgeGlobal |
| 27 | Explain different types of molding sands with their composition and properties. | 3 | 1 | LM/ IM | CO4 | T1 | https://www.youtube.com/@gear.institute |



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| 28 | Classify different pattern and state various pattern allowances. | 3 | 1 | LM/ IM | CO4 | T1 | https://www.youtube.com/@gear.institute |
| 29 | Classify core. | 3 | 1 | LM/ IM | CO4 | T1 | https://www.youtube.com/@LEARNANDGROW |
| 30 | Describe construction and working of cupola and crucible furnace. | 3 | 1 | LM/ IM | CO6 | T1 | https://www.youtube.com/@ifinfotech |
| 31 | Explain die casting method. | 3 | 1 | LM/ IM | CO3 | T1 | https://www.youtube.com/@gear.institute |
| 32 | Explain centrifugal casting such as true centrifugal casting with advantages, limitation and area of application. | 3 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@modimechanicaleengineeringt8780 |
| 33 | Explain centrifugal casting such as centrifuging with advantages, limitation and area of application. | 3 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@modimechanicaleengineeringt8780 |
| 34 | Explain various casting defects with their causes and remedies. | 3 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@pkclasses1649 |
| 35 | Quiz test | 3 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@ifinfotech |
| 36 | Previous year question discussion | 3 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@ifinfotech |



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| 37 | Define powder metallurgy process. | 4 | 1 | LM/ IM | CO1 | T1 | https://www.youtube.com/@pkclasses1649 |
| 38 | State advantages of powder metallurgy technology technique | 4 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@metalpartssupplier3948 |
| 39 | Describe the methods of producing components by powder metallurgy technique. | 4 | 1 | LM/ IM | CO6 | T1 | https://www.youtube.com/@onepointacademy |
| 40 | Explain sintering. | 4 | 1 | LM/ IM | CO1 | T1 | https://www.youtube.com/@LEARNANDGROW |
| 41 | Economics of powder metallurgy. | 4 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@nptel-nociitm9240 |
| 42 | Economics of powder metallurgy. | 4 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@nptel-nociitm9240 |
| 43 | Surprise test | 4 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@ROYALMECH |
| 44 | Previous year question discussion | 4 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@ROYALMECH |
| 45 | Describe Press Works: blanking, piercing and trimming. | 5 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@ifinfotech |



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| 46 | Describe Press Works: blanking, piercing and trimming. | 5 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@ifinfotech |
| 47 | List various types of die and punch | 5 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@ANUNIVERSE22 |
| 48 | Explain simple, Compound & Progressive dies | 5 | 1 | LM/ IM | CO | T1 | https://www.youtube.com/@shailendrasacademy7266 |
| 49 | Describe the various advantages & disadvantages of above dies | 5 | 1 | LM/ IM | CO3 | T1 | https://www.youtube.com/@ttcdaharkionlineacademy4651 |
| 50 | Describe the various advantages & disadvantages of above dies | 5 | 1 | LM/ IM | CO5 | T1 | https://www.youtube.com/@ttcdaharkionlineacademy4651 |
| 51 | Quiz test | 5 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@ifinfotech |
| 52 | Previous year question discussion | 5 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@ifinfotech |
| 53 | Define jigs and fixtures | 6 | 1 | LM/ IM | CO1 | T1 | https://www.youtube.com/@AniMechEdu |
| 54 | State advantages of using jigs and fixtures | 6 | 1 | LM/ IM | CO2 | T1 | https://www.youtube.com/@AKAllEducation |



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| 55 | State the principle of locations | 6 | 1 | LM/ IM | CO1 | T1 | | https://www.youtube.com/@Educationcandle |
| 56 | Describe the methods of location with respect to 3-2-1 point | 6 | 1 | LM/ IM | CO6 | T1 | | https://www.youtube.com/@Educationcandle |
| 57 | location of rectangular jig | 6 | 1 | LM/ IM | CO4 | T1 | | https://www.youtube.com/@don7229 |
| 58 | List various types of jig and fixtures. | 6 | 1 | LM/ IM | CO4 | T1 | | https://www.youtube.com/@gautamvarde |
| 59 | Surprise test | 6 | 1 | LM/ IM | CO2 | T1 | | https://www.youtube.com/@AniMechEdu |
| 60 | Previous year question discussion | 6 | 1 | LM/ IM | CO2 | T1 | | https://www.youtube.com/@AniMechEdu |

LM: Learner Mode: Chalk & Talk, Lecture **IM: Interactive Mode:** PPT, VIDEO and Animation

T1: A textbook of Manufacturing technology by P.N.Rao vol-1

T2: Mechatronics , W. Bolton, Pearson education india

T3: CAD/CAM/CIM, R. RADHAKRISHNA, S,SUBRAMANIAN, NEW AGE INTERNATIONAL PVT.LT

Signature of the Faculty

Signature of the HOD