

| <b>C. V. RAMAN POLYTECHNIC, BHUBANESWAR</b>  |   |  |
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| <b>LESSON PLAN</b>   |   |  |
| <b>Session (2025-2026)</b>   |   |  |
| <b>Discipline:</b><br>Mechanical Engineering   | <b>Semester:</b><br>6th Semester, Summer-2026 | <b>Name of the Faculty:</b> Dr. Soumya Dash, Assistant Professor                                     |
|  |   | <b>Email ID:</b> soumya.dash@cvrp.edu.in   |
| <b>Subject:</b> Industrial Engineering & Management, <b>Theory-1, Course code:</b> <del>TK-1</del> 1 | <b>No. of Days/week:</b><br>04                | <b>Start Date:</b> 22.12.2025  |
|  |   | <b>End Date:</b> 18.04.2026  |
| <b>Week</b>  | <b>Class Day</b>                              | <b>Theory Topics</b>   |
| 1st  | 1st   | <b>PLANT ENGINEERING:</b> Define plant layout, Describe the objective and principles of plant layout |
|  | 2nd   | Describe the objective and principles of plant layout  |
|  | 3rd   | Explain Process Layout, Product Layout and Combination Layout  |
|  | 4th   | Techniques to improve layout   |
| 2nd  | 1st   | Principles of material handling equipment, Plant maintenance   |
|  | 2nd   | Importance of plant maintenance, Break down maintenance  |
|  | 3rd   | Preventive maintenance, Scheduled maintenance  |
|  | 4th   | <b>OPERATIONS RESEARCH:</b> Introduction to Operations Research and its applications                 |
| 3rd  | 1st   | Define Linear Programming Problem  |
|  | 2nd   | Solution of L.P.P. by graphical method.  |
|  | 3rd   | Evaluation of Project completion time by Critical Path Method and PERT (Simple problems)             |
|  | 4th   | Evaluation of Project completion time by Critical Path Method and PERT (Simple problems)             |
| 4th  | 1st   | Evaluation of Project completion time by Critical Path Method and PERT (Simple problems)             |
|  | 2nd   | Evaluation of Project completion time by Critical Path Method and PERT (Simple problems)             |
|  | 3rd   | Explain distinct features of PERT with respect to CPM.   |
|  | 4th   | Explain distinct features of PERT with respect to CPM.   |

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| 5th  | 1st | <b>INVENTORY CONTROL:</b><br>Classification of inventory.<br>Objective of inventory control.<br>Describe the functions of inventories. |
|      | 2nd | Benefits of inventory control, Costs associated with inventory, Terminology in inventory control                                       |
|      | 3rd | Explain and derive economic order quantity for Basic model. (Solve numerical)  |
|      | 4th | Explain and derive economic order quantity for Basic model. (Solve numerical)  |
| 6th  | 1st | Explain and derive economic order quantity for Basic model. (Solve numerical)  |
|      | 2nd | Define and Explain ABC analysis  |
|      | 3rd | Define and Explain ABC analysis  |
|      | 4th | <b>INSPECTION AND QUALITY CONTROL</b> -Define Inspection and Quality control   |
| 7th  | 1st | <b>INSPECTION AND QUALITY CONTROL</b> -Define Inspection and Quality control   |
|      | 2nd | Describe planning of inspection, Describe types of inspection.<br>Advantages and disadvantages of quality control                      |
|      | 3rd | Describe planning of inspection, Describe types of inspection.<br>Advantages and disadvantages of quality control                      |
|      | 4th | Explain the Concept of statistical quality control, Control charts (X, R, P and C - charts)  |
| 8th  | 1st | Explain the Concept of statistical quality control, Control charts (X, R, P and C - charts)  |
|      | 2nd | REVISION   |
|      | 3rd | Study of factors influencing the quality of manufacture  |
|      | 4th | Study of factors influencing the quality of manufacture  |
| 9th  | 1st | Explain the Concept of statistical quality control, Control charts (X, R, P and C - charts)  |
|      | 2nd | Explain the Concept of statistical quality control, Control charts (X, R, P and C - charts)  |
|      | 3rd | Explain the Concept of statistical quality control, Control charts (X, R, P and C - charts)  |
|      | 4th | Explain the Concept of statistical quality control, Control charts (X, R, P and C - charts)  |
| 10th | 1st | Explain the Concept of statistical quality control, Control charts (X, R, P and C - charts)  |
|      | 2nd | Explain the Concept of statistical quality control, Control charts (X, R, P and C - charts)  |

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| 11th | 3rd | Methods of attributes, Concept of ISO 9001-2008                    |
|      | 4th | Quality management system, Registration /certification procedure   |
|      | 1st | Benefits of ISO to the organization                                |
|      | 2nd | Methods of attributes, Concept of ISO 9001-2009                    |
| 12th | 3rd | Quality management system, Registration /certification procedure   |
|      | 4th | Benefits of ISO to the organization                                |
|      | 1st | JIT, Six sigma, 7S, Lean manufacturing                             |
|      | 2nd | JIT, Six sigma, 7S, Lean Manufacturing-Solve related problems      |
| 13th | 3rd | <b>PRODUCTION PLANNING AND CONTROL-</b><br>Introduction            |
|      | 4th | Major functions of production planning and control                 |
|      | 1st | Introduction<br>Major functions of production planning and control |
|      | 2nd | Introduction<br>Major functions of production planning and control |
| 14th | 3rd | Methods of forecasting   |
|      | 4th | Routing  |
|      | 1st | Scheduling, Dispatching, Controlling                               |
|      | 2nd | Types of production  |
| 15th | 3rd | Scheduling, Dispatching, Controlling                               |
|      | 4th | Types of production  |
|      | 1st | Mass production, Batch production                                  |
|      | 2nd | Job order production, Principles of product and process planning   |
| 15th | 3rd | Mass production, Batch production                                  |
|      | 4th | Job order production, Principles of product and process planning   |

*Perth*

Concerned Faculty

*Paul*  
HOD