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| <b>Module Name (Mechanical Engineering)</b>                               | <b>Total Hours</b> |
| <b>Proficiency in quality production system in mechanical engineering</b> | <b>50</b>          |

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| <b>1</b> | <b>Introduction to 2D drawing and layout</b>   | <b>5 Hrs</b>  |
|          | (a) Basics of engineering drawing i.e. types of projection methods, Use of templates, various drafting symbols.<br>(b) Interpretation of engineering drawing<br>(c) Practice to interpret industrial drawing.  |               |
| <b>2</b> | <b>PROCESS PLANNING</b>  | <b>15 Hrs</b> |
|          | (a) Types of manufacturing process<br>(b) Types of machines and their operations<br>(c) Types of machine tools<br>(d) Selection of manufacturing process<br>(e) How to decide sequence of operations?<br>(f) Factors affecting the quality of product while processing.  |               |
| <b>3</b> | <b>ACTUAL MANUFACTURING ON MACHINE (TURNING, MILLING, WELDING, ASSEMBLY &amp; FINISHING PROCESSES)</b>   | <b>15 Hrs</b> |
|          | (a) Specifications of manufacturing machines<br>(b) Hands on practice on various machines<br>(c) Basic working of various machines and attachment used.<br>(d) Hands on practice to use welding machine.<br>(e) Assemble the assigned assembly problem.<br>(f) Types of surface finishing processes. Requirement of surface finishing processes.<br>(g) Use of surface finishing processes for different material. |               |
| <b>4</b> | <b>USE OF PRECISION MEASURING INSTRUMENTS FOR QUALITY CONTROL</b>  | <b>10 Hrs</b> |
|          | (a) Types, major parts and their functions, least count , measuring methods and measurement illustration of Verniercaliper, Micrometer, Telescopic gauge, Height gauge, Depth gauge, sine bar etc.<br>(b) Quality control methods.<br>(c) Basics of plant layout.<br>(d) Basics of Inspection practice.  |               |
| <b>5</b> | <b>SAFETY MEASURES</b>   | <b>5 Hrs</b>  |
|          | (a) Accident - causes, types, results and control.<br>(b) Mechanical and electrical hazards types, causes and preventive steps/procedure.<br>(c) Safety colour codes<br>(d) Demonstrate use of fire fighting and safety related equipments.  |               |