

### **PROGRAMME OUTCOMES:**

- Students acquire a sound in depth understanding of all fundamental concepts of engineering.
- Acquisition and enhancement of skills in the practical use of technology & scientific techniques.
- Employment at the entry and middle level positions in the industry.
- Building careers as supervisors, foremen, sales engineers, workshop technicians, draughtsman, service station managers, auto engineers and workshop superintendents etc.
- Lateral entry into Bachelor of Technology course after successful completion of diploma.

### **PROGRAMME OUTCOMES:**

#### **Diploma Mechanical Engineering**

- Skill development of the young students from schools to make them able to be absorbed by the industry at the entry level.
- Ability to apply and interpret the acquired mechanical engineering knowledge for advancement in social, economic, and environmental fields.
- Develop and implement new ideas on product design and development with modern tools & technology, while ensuring best manufacturing and engineering practices.
- Create, select, and apply appropriate techniques, resources and modern engineering &IT tools to complex engineering activities with an understanding of their limitations.
- Diploma engineering will enable the students to get entry level positions in both private and public sectors in the domain areas of manufacturing, maintenance, production, and quality assurance.
- The students will be able to get employment in the organizations like Indian Railways, DRDO, BHEL, NTPC, Mahindra, Tata, and Vikas group etc for a bright and successful career.

### **COURSE OUTCOMES:**

#### **Semester III**

##### **Paper: Applied Mechanics**

**Paper Code: DTME 301**

After completion of this course:

- The students will get to know about the various sub branches of mechanics and also learn about the force and its various laws.
- They will learn about moment of forces and its various laws.
- They will learn the basics of friction and its various laws.
- They will learn about the concept of “Centroid” and center of gravity and how to find it for various bodies.
- They will learn about the concept of simple machines and the principle upon which they work.

##### **Paper: Material Science & Metallurgy**

**Paper Code: DTME 302**

After completion of this course the students will know how:

- To study about the importance of material and their properties. And it will help the students about daily life material.
- To study about the ferrous metal and alloy and different heat treatment processes this will be used in engineering material.
- To study about the non ferrous metals and alloys. And also find out the uses of bearing metals.
- To identify and examine the different metals and alloys. And also study about the different insulating material, fabricating material and refractory material.
- To study about the uses of protecting coating material and sealant and adhesives.

**Paper: Workshop Technology-I**

**Paper Code: DTME 303**

After completion of this course the students will:

- Understand applications of hand tools and power tools.
- Understand the operation of machine tools.
- Select the appropriate tools required for specific operations.
- Comprehend the safety measures required to be taken while using the tools.

**Paper: Engineering Thermodynamics**

**Paper Code: DTME 305**

Looking at the needs of various industries and departments, the following topics lay a firm foundation for the advanced knowledge of topics like thermal power plants, internal combustion engines etc.

- This course in Thermodynamics is aimed to provide students with basic theory and practice in the discipline.
- Strong emphasis is placed on problem solving and professional judgment.
- After completing the course, students are expected to be able to apply learned knowledge and skills of this course in order to understand, analyze and design different thermal components, processes and systems.

**Semester IV**

**Paper: Strength of Materials**

**Paper Code: DTME 401**

After completion of this course the students will be able:

- To understand the concept of basic design.
- To understand the use of structural component.
- To have knowledge of different -different material in use.
- To understands the various functions and concepts, effect of shear stress.
- To have knowledge about strength of riveted joints and Stress in thin cylinder

**Paper: Applied Thermal Engineering**

**Paper Code: DTME 402**

After completion of this course:

- Student will come to know about the various types of IC engines and their functions.
- To study about different tests on their variable factor of an IC engine.
- Student will come to know about the Vapors Compression System and refrigerant.

- Student will come to know about the various types of vapour absorption System.
- Student will come to know about the various types Psychometric chart, various lines, psychometric process.

**Paper: Workshop Technology-II**

**Paper Code: DTME 403**

After completion of this course the students will:

- Learn about theory of metal cutting and chip formation.
- Learn about lathe machine and their operations.
- Learn about drilling machine, types of drill and their functions.
- Learn about shaping, planing and slotting machine.
- Learn about cutting fluid and their functions.

**Paper: Hydraulics & Hydraulic Machines**

**Paper Code: DTME 404**

After completion of this course the students will be able:

- To understand the concept of fluid and know the property of fluid.
- To study the pressure exerted by fluid and the instrument of measuring of pressure, study of different type of fluid flow, the energy in the fluid flow and study the how to find out the discharge of different types of channel.
- To study and find out the losses in the fluid flow.
- To study about the hydraulic machine used in the industries

**Paper: Basic Civil Engineering**

**Paper Code: DTME 405**

Mechanical diploma holders need to understand the various concepts of civil engineering. They must have knowledge of various construction materials, concrete, RCC and Foundation system. They need to understand the behavior of foundation when loaded under various machines like heavy, light or vibrating one. They need to understand important concepts of civil engineering so that they can use it while working in industries whenever required. After completion of this course the students will be able:

- To understand various properties of construction materials and their behavior under service.
- To understand the behavior of soil under load and suitability of various foundations.
- To have knowledge of general concrete work, various properties and test of concrete.
- To understand the behavior of RCC.

**Semester V**

**Paper: Production Technology-1**

**Paper Code: DTME 501**

After completion of this course:

- Students will come to know about the various types of manufacturing processes and their tools.
- Students will come to know, how the different part of the any machine produce by the milling process.
- Students will learn to prepare for the industrial manufacturing processes by grinding and gear manufacturing process.

- Students will come to know about the advance technology used in manufacturing processes by press working operations.
- Students will learn about rolling, extrusion and drawing processes

**Paper: Theory of Machine**

**Paper Code: DTME 502**

Diploma holder in Mechanical Engineering comes across many machines. He must have the knowledge of various mechanisms, power transmission devices, balancing of masses, inversion etc. Hence this subject is offered. After completion of this course the students will be able to:

- Determine the kinematic chain and mobility, and perform the kinematic analysis of a given mechanism,
- Apply the fundamental principles of statics and dynamics to machinery
- Identify, analyze, and solve narrowly defined engineering technology problems.

**Paper: Machine Element Design**

**Paper Code: DTME 503**

The paper aims to develop an ability to use the techniques, skill and modern engineering tools necessary for engineering practice. After completion of this course the students will acquire:

- Ability to define the most critically stressed point in a machine component.
- Ability to analyze strains and deflections.
- Ability to analyze and design components with non-uniform cross sections.
- Ability to design and analyze permanent joints (riveted, welded, etc.) under concentric and eccentric loading conditions.

**Paper: Metrology**

**Paper Code: DTME 504**

After completion of this course the students will be able:

- One will get to know about the concept of metrology and terms related to it.
- Students will come to know about the various types of measuring instruments.
- They will get to know about the angular measurements of equipments.
- They will get to know about the measurement of gears and terms related to the same.
- They will know about various fits and tolerances used in machine parts.

**Paper: CNC Machines & Automation**

**Paper Code: DTME 505**

After completion of this course the students will be able to:

- Understand the principle of automation.
- Compare NC & CNC machines.
- Know the constructional features of CNC machines.
- Recognize the use of robotics in the field of manufacturing.

**Semester VI**

**Paper: Production Technology-II**

**Paper Code: DTME 601**

After completion of this course the students will be able to:

- Distinguish between Conventional and Non-conventional processes used in production industries and this will help to understand the current technique of industries.
- Use different types of Jigs and fixtures on their own depending upon the application.

- Use Different coating processes and Metal finishing process required in industries.
- Impart Basic Knowledge of Powder metallurgy and plastic processes.
- To learn and study about press working operations used in sheet metal machining and also get knowledge about forging, rolling, extrusion and drawing.

**Paper: Automobile Engineering**

**Paper Code: DTME 602**

After completion of this course the students will be able to:

- Apply / improve their knowledge in basic sciences for excelling in various disciplines of Automobile Engineering with the emphasis on Design, Thermal and Manufacturing.
- Enhance professional practice to meet the global standards with ethical and social responsibility.
- Solve industrial, social, and environmental problems with modern engineering tools.
- Develop skills to work in teams, think intellectually and pursue life-long learning.

**Paper: Maintenance Engineering**

**Paper Code: DTME 603**

After completion of this course:

- The student will get to know about the importance of repair and maintenance in context of industry.
- They will learn about various plant locations, foundations & installations of machine and machine parts.
- Learn about the importance of lubrication and its types for various machine parts.
- They will learn about repair of various machine parts which are frequently prone to failure.
- The students will get to know about the various types of maintenance procedures.

**Paper: Entrepreneurship Development & Management**

**Paper Code: DTHU 604**

The course aims:

- To impart managerial knowledge and understanding among people.
- To widen the base of entrepreneurship by development, achievement, motivation and entrepreneurial skills among the less privileged sections of the society.
- To provide information about the process, procedure, rules and regulations for setting up a new project.