



MARRI LAXMAN REDDY INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act, 1956

DEPARTMENT OF MECHANICAL ENGINEERING

2010371 ENGINEERING DRAWING PRACTISE

B.Tech.I Year-I Sem

L/T/P/C
1/0/4/3

VISION

The Mechanical Engineering Department strives for immense success in the field of education, research and development by nurturing the budding minds of young engineers inventing sets of new designs and new products which may be envisaged as the modalities to bring about a green future for humanity”

MISSION

Equipping the students with manifold technical knowledge to make them efficient and independent thinkers and designers in national and international arena. Encouraging students and faculties to be creative and to develop analytical abilities and efficiency in applying theories into practice, to develop and to disseminate new knowledge. Pursuing collaborative work in research and development organizations, industrial enterprises, research and academic institutions of national and international standards, to introduce new knowledge and methods in engineering teaching and research in order to orient young minds towards industrial development.

COURSE OUTCOMES

CO	Course outcome
ME 371.1	Familiarize with BIS standards and conventions used in engineering graphics.
ME 371.2	Draw various engineering curves and construct various reduced scales.
ME 371.3	Develop the lateral surfaces of simple solids.
ME 371.4	Ability to draw orthographic projections and isometric projections of given components.
ME 371.5	Visualize different views like elevation and plan for a given plane or solid objects.
ME 371.6	Apply drafting techniques and use 2D software e.g., AutoCAD.

PROGRAM EDUCATIONAL OBJECTIVES

PEO1	Graduates shall emerge as successful Mechanical engineer's as their career progress
PEO2	Graduates apply fundamentals of engineering, in practical applications and engage in active research.
PEO3	Mechanical Graduates shall have the ability to design products with interdisciplinary skills.
PEO4	Graduates will serve the society with their professional skills

PROGRAM SPECIFIC OUTCOMES

PSO1- Students acquire necessary technical skills in mechanical engineering that make them employable graduate.

PSO2- An ability to impart technological inputs towards development of society by becoming an entrepreneur



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LIST OF EXPERIMENTS

UNIT – I

Introduction To Engineering Drawing

Principles of Engineering Graphics and their Significance-Drawing Instruments and their Uses- Conventions in Drawing-BIS -Lettering and Dimensioning.

Geometrical Constructions: Bisecting a Line, Arc. Dividing A Line into 'N' Equal Parts,

Construction of Polygons, Division of Circle into Equal Parts (8 And 12)

Construction of Scales: Plain, Diagonal and Vernier Scale.

Conic Sections: Ellipse, Parabola, Hyperbola and Rectangular Hyperbola- General Methods only.

Engineering Curves: Cycloid, Epicycloid, Hypocycloid

Involutes: For Circle, Triangle, Square, Pentagon and Hexagon.

UNIT – II

Orthographic Projections

Principles- Assumptions- Different Angles of Projection.

Projections of Points- orientation in all the quadrants

Projections of Lines- Parallel, Perpendicular, Inclined to one plane and Inclined to both planes.

Projections of Planes: Surface Parallel, Perpendicular, Inclined to one plane and Inclined to both planes.

UNIT – III

Projections Of Solids

Classification of solids- Axis- Parallel, Perpendicular, Inclined to one plane and Inclined to both planes- Prisms, Pyramids, Cylinder and Cone.

UNIT – IV

Section Of Solids And Development Of Surfaces

Types of Section Planes, Sectioning Prisms, Pyramids, Cylinders and Cones using various planes. Development of surfaces of right Regular Solids- Parallel Line Method, Radial Line Method

UNIT – V

Isometric Projections And Perspective Projections

Principles, Isometric Views of Planes, Solids- Box Method, Offset Method, Compound solids, Sectioned Solids.

Conversion of Isometric to Multi view projection. And vice versa.



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Do's

- Enter laboratory with appropriate laboratory uniform and shoes.
- Keep all your belongings in the book rack or at the place suggested by lab instructor.
- Bring the laboratory manual, observation and record without fail.
- Eliminate drawing materials can be cause physical injury by inhalation or by skin contact.
- Hands should be kept clean at all times during work.
- Make sure that all drawing sheets is clean after performing experiments.
- Provide caps to harmful instruments when not in use.
- Wear disposable gloves, as provided in the laboratory, when handling hazardous materials.
- Remove the gloves before exiting the laboratory.

Don'ts

- Don't place glassware near edge of laboratory bench.
- Don't let water drip onto drawing sheets.
- Never point the open end of a drawing instruments containing a sharp edge at yourself or others.
- Don't use mobile phones during laboratory hours.
- Don't fool around in the laboratory.
- Don't come with long hair, dangling jewelry and loose or baggy clothing which are a hazard in the laboratory.