

22BEAS107 ENGINEERING DRAWING

Hours Per Week :

L	T	P	C
0	0	3	2

PREREQUISITE KNOWLEDGE:

COURSE DESCRIPTION AND OBJECTIVES:

The goal of this course is to enable the students for making technical drawings of different engineering objects, to equip with knowledge and skills on visualization of machine components and objects, and to impart knowledge and skills to the students in CAD involving graphics and machine drawing.

MODULE-1

PRACTICES:

0L+0T+24P=24 HOURS

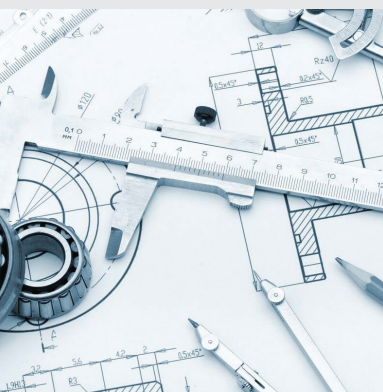
- Introduction of drawing scales;
- First and third angle methods of projection.
- Principles of orthographic projections; References planes; Points and lines in space and traces of lines and planes;
- Auxiliary planes and true shapes of oblique plain surface;
- True length and inclination of lines;
- Projections of solids (Change of position method, alteration of ground lines);
- Section of solids and Interpenetration of solid surfaces;
- Development of surfaces of geometrical solids;
- Isometric projection of geometrical solids.
- Preparation of working drawing from models and isometric views.
- Drawing of missing views.
- Different methods of dimensioning.
- Concept of sectioning, Revolved and oblique sections and Sectional drawing of simple machine parts.

MODULE-2

PRACTICES:

0L+0T+24P=24 HOURS

- Types of rivet heads and riveted joints.
- Processes for producing leak proof joints.
- Symbols for different types of welded joints.
- Nomenclature, thread profiles, multi start threads, left and right hand threads.
- Square headed and hexagonal nuts and bolts.
- Conventional representation of threads.
- Different types of lock nuts, studs, machine screws, cap screws and wood screws.
- Foundation bolts. Forms of screw threads, representation of threads, Bolts- headed center, study of screws, set of screws, hexagonal and square, keys-types, taper, rank taper and hollow saddle.



Source: <https://www.3erp.com/blog/everything-you-need-to-know-about-technical-drawings/>

COURSE OUTCOMES:

Upon successful completion of this course, students will have the ability to:

CO No.	Course Outcomes	Blooms Level	Module No.	Mapping with POs
1	Students will develop good communication skills and team work	Apply	2	1,2,3,4,6
2	Draw orthographic projections of lines, planes and solids	Analyze	1	1,2,3,4,7
3	Draw sections of solids including cylinders, cones, prisms and pyramids.	Analyze	2	1,2,6,7,9
4	Students' ability to produce engineered drawing of any newly designed object will be improved	Evaluate	2	1,2,3,4,6
5	Construct isometric scale, isometric projections and views	Evaluate	1	1,2,3,4,6

SKILLS:

- ✓ Understand projections of lines, planes, and solids.
- ✓ Read any Engineering drawing.
- ✓ Understand different types of scales.

TEXT BOOKS:

1. Bhat N D. "Elementary Engineering Drawing" Charotar Publishing House Pvt. Ltd., Anand, 2005.

REFERENCE BOOKS:

1. Bhatt N D and Panchal V M. "Machine Drawing" Charotar Publishing House Pvt. Ltd., Anand, 2008.
2. Narayana K L and Kannaiah P. "Machine Drawing" Scitech Publications (India) Pvt. Ltd., Chennai, 2010.