

Kerala Technological university KTU First year B.tech Syllabus
for **BE110ENGINEERING GRAPHICS**

Course No. : BE110

Course Name: ENGINEERING GRAPHICS

L-T-P-Credits: 1-1-2-3

Year of Introduction: 2015

Course Objectives:

To enable the student to be able to effectively communicate basic designs through graphical representations as per standards.

Syllabus:

Introduction to Engineering Graphics; Construction of Conic sections and special curves; Orthographic projections of points and lines; Traces of lines; Orthographic projections of solids. Sections of solids; Development of Surfaces; Intersection of surfaces; Isometric Projections; Perspective projections; Introduction to computer aided drafting.

Expected outcome:

Upon successful completion of this course, the student would have accomplished the following abilities and skills:

1. Fundamental Engineering Drawing Standards.
2. Dimensioning and preparation of neat drawings and drawing sheets.
3. Interpretation of engineering drawings
4. The features of CADD software

Text Book:

1. [Engineering Graphics - P. I. Varghese, V I P Publishers](#)
2. [Engineering Graphics - J Benjamin, Pentex Publishers](#)

References:

1. Engineering Drawing - N D Bhatt, Charotar Publishing House Pvt Ltd.
2. Engineering Drawing & Graphics - Venugopal K, New age International Publishers
3. Engineering Graphics - John K C, Prentice Hall India Pubilshers
4. Engineering Graphics - Anil Kumar K. N., Adhyuth Narayan Publishers
5. Engineering Drawing - Basant Agrawal & C M Agrawal, Tata McGraw Hill Publishers

Module 1 Contents

Introduction to Engineering Graphics: Drawing instruments; BIS code of practice for general engineering drawing; Construction of Conic sections by eccentricity method; Construction of Cycloids, Involute, Spirals and Helix.

Module 2 Contents

Orthographic projections of points and lines:-Projections of points in different quadrants; Projections of straight lines inclined to one or both of the reference planes; True length and inclination of lines with reference planes; Traces of lines.

Module 3 Contents

Orthographic projections of solids:-Projections of simple solids* in simple positions, axis inclined to one of the reference planes and axis inclined to both the

reference planes-use change of position method OR auxiliary projection method.

Module 4 Contents

Sections of solids:-Sections of simple solids* in simple vertical positions with section plane perpendicular/inclined to one of the reference planes – True shapes of sections.

Module 5 Contents

Development of surfaces of simple solids and cut regular solids;

Intersection of surfaces:-Intersection of prism in prism & cylinder in cylinder-axis bisecting at right angles only.

Module 6 Contents

Isometric Projections:-Isometric projections and views of simple and truncated simple solids, sphere, hemisphere and their combinations in simple position.

Conversion of Pictorial views to Orthographic views by free hand sketching.

Introduction to Computer Aided Drafting - Preparation of engineering drawings by using any software capable of drafting and modeling. (For internal work assessment only, not for University Examination)