**COURSE CODE : CE1C01**

**COURSE TITLE** : **ENGINEERING GRAPHICS**

**UNIVERSITY : DIBRUGARH UNIVERSITY**

**SEMESTER : FIRST SEMESTER**

**CREDIT : 04**

**L:T:P : 1:3:0**

**End sem. Examination for this course will carry 100 marks**

|  |  |  |
| --- | --- | --- |
| Module | Details of module | No. of Lectures |
| 1 | *Introduction to Engineering Drawing*   1. Principles of Engineering Graphics and their significance, usage of Drawing instruments. 2. Lines and Lettering : Different types of line, Single stroke letter – Vertical and inclined capital and small letter 3. Scales: Introduction, Reducing and enlarging scales, representative fraction, types of scale – plain scale, diagonal scale, comparative scale, venier scale, chord scale. 4. Curves: Conic sections – Ellipse, parabola, hyperbola,different methods of construction of conic sections, tangents and normal to conics. cycloid curves – cycloid, trochoid, epicycloids, hypocycloid. Normal and tangents to cycloid curves. Involutes and Archimedean spiral, normal and tangents to involutes and Archimedean spiral | 13 |
| 2 | *Orthographic Projections*   1. Principles of Orthographic Projections- Conventions 2. Projection of points : Introduction of projection, quadrants, 1st , 2nd , 3rd and 4th angle projection of points. 3. Projection of lines (First angle only) : Line parallel to one or both planes, line perpendicular to a plane, line inclined to one plane and parallel to other, line inclined to both plane. traces of lines 4. Projections of planes (First angle only): Plane perpendicular to one plane and parallel to other, plane perpendicular to both plane, plane inclined to one plane and perpendicular to other, oblique plane. 5. Projection of solids (First angle only) : Axis perpendicular to one plane and parallel to other, axis parallel to both plane, axis inclined to one plane and parallel to other, axis inclined to both plane. | 15 |
| 3 | *Sections and Sectional Views of Right Angular Solids*  Section of solids : Section plane parallel to one plane and perpendicular to other, section plane inclined to one plane and perpendicular to other. | 4 |
| 4 | *Isometric Projections*  Principles of Isometric projection – Isometric Scale, Isometric Views, Conventions; Isometric Views of lines, Planes, Simple and compound Solids; Conversion of Isometric Views to Orthographic Views and Vice-versa, Conventions. | 4 |

***Text/Reference Books:***

1. Bhat, N.D.& M. Panchal (2008), *Engineering Drawing,* Charotar Publishing House

2. Shah, M.B. & B.C. Rana (2008), *Engineering Drawing and Computer Graphics,* Pearson *Education*

3. Dhawan, R.K. (2007), *A Text Book of Engineering Drawing,* S. Chand Publications

4. Narayana, K.L. & P Kannaiah (2008), *Text book on Engineering Drawing,* Scitech Publishers.