B.Tech - I SEMESTER - I (ALL BRANCHES)

SUBJECT	TEACHING SCHEME			
	L	T	P	C
CIME 105 ABC ENGINEERING DRAWING	2	0	4	4
CICH 106 ABC BASIC OF CIVIL & ENVIRONMENTAL ENGINEERING	4	0	2	5
AMD 204 DEF ENGINEERING MECHANICS	3	0	2	4

B.TECH. - I (SEM I) (FOR ALL BRANCHES)

CIME 105 ABC ENGINEERING DRAWING

THEORY

1) INTRODUCTION OF ENGINEERING GRAPHICS:
Introduction, Importance and role of Graphics in engineering, graphic equipment and instruments, standard drawing paper, drafting techniques, dimensioning and architectural symbols as per I.S. codes.

2) SCALES AND NOMOGRAMS:
Development of plane, diagonal and vernier scales, functional Scale, Concepts of conversion scales and Nomograms.

3) ENGINEERING CURVES:
Different types of engineering curves, characteristics, construction and drawing of curves Ellipse, Parabola, Hyperbola and Rectangular Hyperbola.

4) ORTHOGRAPHIC PROJECTION:
Types, uses and principles of orthographic projections, projections of points lines and planes. Traces of points, method of rotation, trapezoidal method and auxiliary plane method,

5) TECHNICAL SKETCHING AND DETAILING OF BUILDINGS:
Sketching of building plans, elevations and sections showing the details of building components, foundations etc.

REFERENCE :

1. N.D. Bhatt, “Engineering Drawing”.
2. Venugopal, “Engineering Drawing & Graphics (+ AutoCAD)”.
3. Dhawan and Kumar, “A Text book of Engineering Drawing”.
4. K.R. Gopalkrishna, “Engineering Drawing”.
5. K.L. Narayana, “Engineering Drawing”.
6. Warren J. Luggader, “Graphics for Engineers”.
7. William E.S., “Programmed Graphics”.

B. Tech – I (MECHANICAL & PRODUCTION)	L	T	P	C
ENGINEERING DRAWING **CIME 105 ABC** **CIME 205 DEF**	**2**	**0**	**4**	**4**

THEORY:

- Introduction: Importance of Engineering Drawing, Drawing instruments and materials, B.I.S. and ISO conventions, lines lettering and dimensioning.
- Plane Geometry : Geometrical Construction : line, arc and angle, divisions of straight line and circumference, construction of polygon, Scales : types of scales – plane scale, diagonal scale, vernier scale, functional scale, concept of conversion scale and nomogram
- Conic Sections: Ellipse, conjugate diameters, parabola, hyperbola, rectangular hyperbola.
- Orthographic Projection: Principle of first and third angle projection, projection of points, projection of straight lines, projection of planes.
- Building Drawing: Building components and terminology, building plans, elevation & sections.
- Solid Geometry: Projection of solids : polyhedral, prisms, pyramids, cylinder, cone, auxiliary projection method, one view, two view and three view drawings. Missing view, rules for selection of views.
- Section of Solids: Sectional view, section plane perpendicular to the HP & VP and other various positions, true shape of sections.
- Intersection: Classification, line of interaction, line/generator method and section plane method; intersection of two prisms, two cylinders, interaction of cone and cylinder.
- Development of Surface: Method of development, parallel line development, radial line development, developments of cylinder, cone, prism, pyramid, true length of edges – oblique surface.
- Isometric Projections: Terminology, isometric scale, isometric view and isometric projection, isometric axes and lines, missing view.

PRACTICAL : Based on above theory course.

BOOKS REFERENCES :

1. K.L. Gopal Krishna, “Engineering Drawing”, Subhas Publications, 1995.
2. N.D. Bhatt, “Engineering Drawing”, Chrotar Publishing House, 1989.
3. K. Venugopal, “Engineering Drawing made Easy” Wiley Eastern Ltd., 1993.
4. M.L. Agrawal, R.K. Garg, “Engineering Drawing Vol-I”, Dhanpatrai & Co., 1997.