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 SEMESTER - II (ALL BRANCHES)

CICH 106 BASIC OF CIVIL & ENVIRONMENTAL ENGINEERING

THEORY:

1. Introduction to civil Engineering, relation of civil engineering to other branches of engineering.
2. Principles of Surveying Linear Measurement, Compass Surveying, Principles of Levelling
3. Basic building materials, properties of building materials, different types of building materials like stone, brick, cement, lime, mortar, cement concrete etc.
4. Different building components, their types and construction techniques – foundation, masonary (Stone/brick), floors, roofs, staircase, doors / windows etc.
5. Different types of road, bridges, dams etc.
6. Importance of Environmental Engineering, component of environment and their interaction, man & the biosphere, impact of development on environment, natural resources, environmental Pollution (air, water, soil, noise).

REFERENCES:

1. G.S. Birdi, “Basic Civil Engineering”, Dhanpat Rai & Sons Publication (1994).
2. Dr. J. N. Patel & Dr. M. B. Gohil, “Basic Civil Engineering”, Atul Prakashan, Ahmedabad, Gujarat (1999).
3. Shamnugam and Palaniswamy, “Basic Civil Engineering”, TMG Publication (1995).
4. Basak, “Surveying and Levelling”, TMG Publications (1994).
5. S.C. Rangwala, “Engineering Materials”, Charotar Publishers, Anand, Gujarat. (1999).
6. Benny Joseph, “Environmental Studies”, Tata McGrow Hill Publication Co. Ltd., New Delhi (2005).
7. Dr. Suresh K. Dhameja, “Environmental Studies”, S.K. Kataria & Sons, New Delhi (2006).

B.TECH – I (ALL BRANCHES)

AMD 204 DEF and 104 ABC ENGINEERING MECHANICS

THEORY:

1. Introduction, Force, Particle, Rigid Body, Systems of Forces.
2. Coplanar Concurrent Forces, Determination of Resultant, Equilibrium, Equilibrant, Forces in Space and their Equilibrium.
3. Coplanar Non-concurrent Force Systems, Moments about Points & Axes. Equilibrium, Non-coplanar Non-concurrent Forces.
4. Determination of Reaction of Beams for Points Loads, Uniformly distributed Loads and Uniformly Varying Loads.
5. Centroids and Moment of Inertia.
6. Method of Joints and Method of Sections of Truss Analysis.
7. Friction, Wedge, Ladder and Belt Friction.
8. Work Energy Principle, D'Alembert's Principle, Impulse Momentum, Impact of Elastic Bodies.
9. Vibrations, Equation of Motion of Single Degree of Freedom, Introduction to Free and Forced Vibrations, Earthquake Induced Waves.

PRACTICALS:

Based on the theory course prescribed above.

REFERENCES:

1. Bear F. P. and Johnston E. R., Vector Mechanics forEngineers, Tata McGraw-Hill In. Delhi.
2. Desai J. A. and Mistry B. B., Engineering Mechanics- Statics & Dynamics, Popular Prakashan, Surat
3. Shah H. J. and Junarkar S. B., Applied Mechanics, Charotar Publication, Anand.
4. Bhavikatti S. S. and Rajashekarappa K. G., Engineering Mechanics, Wiley Eastern Ltd.
5. Hibbeler R. C., Engineering Mechanics- Statics & Dynamics, Macmillan Publication Co.