Course Number and Name
BME 101 – ENGINEERING GRAPHICS- E
Credits and Contact Hours
4&60
Course Coordinator's Name
Dr.Shabirulla
Text Books and References

TEXT BOOKS:

1. N.D.Bhatt and V.M.Panchal, "Engineering Drawing", Charotar Publishing House, 50th Edition, 2010.
2. K.V.Natarajan "A Text book of Engineering Graphics", Dhanalakshmi Publishers, Chennai, 2009.

REFERENCES:

1. K.R.Gopalakrishna, "Engineering drawing",(Vol-I & II combined) Subhas stores, Bangalore,2007.
2. K.Venugopal and V. Prabhu Raja, "Engineering Graphics", New Age International Private limited,2008.
3. Luzzader, Warren.J., and Duff, John.M.,, "Fundamentals of Engineering Drawing with an introduction to Interactive computer graphics for design and production", Eastern Economy Edition, Prentice Hall of India Pvt Ltd, New Delhi,2005.

Course Description	
To understand techniques of drawings in various fields of engineering	
Prerequisites	Co-requisites
+2 Level Maths & Physical Science	Physics I & Chemistry I
required, elective, or selected elective (as per Table 5-1)	
Required	

Course Outcomes (COs)	
CO1	To know about different types of lines & use of different types of pencils in an Engineering Drawing
CO2	To know how to represents letters & numbers in drawing sheet
CO3	To know about different types of projection
CO4	To know projection of points ,straight lines, solids etc.
CO5	To know development of different types of surfaces.
CO6	To know about isometric projection.

Student Outcomes (SOs) from Criterion 3 covered by this Course

COs/SOs	a	b	c	d	e	f	g	h	i	j	k	l
CO1	H											H
CO2	M	H										M
CO3			L									M
CO4						L		H	H			L
CO5			L						H			L
CO6			L							H		L

List of Topics Covered

UNIT I BASIC CURVES, PROJECTION OF POINTS AND STRAIGHT LINES 6+6

Conics-construction of ellipse, parabola and hyperbola by eccentricity method-construction of cycloids-construction of involutes of square and circle-Drawing of tangent and normal to the above curves-Scales-Basic drawing conventions and standards-Orthographic projection principles- Principal planes-First angle projection- Projection of points. Projection of straight lines (only first angle projections) inclined to both the principal planes- Determination of true lengths and true inclinations by rotating line method and trapezoidal method and traces.

UNIT II PROJECTIONS OF PLANES AND SOLIDS 6+6

Projection of planes (Polygonal and circular surfaces) inclined to both the principal planes. Projection of simple solids like prisms, pyramids, cylinder, cone, tetrahedron and truncated solids when the axis is inclined to one of the principal planes/ both principal planes by rotating object method and auxiliary plane method.

UNITIII ORTHOGRAPHIC PROJECTIONS, ISOMETRIC PROJECTIONS & FREEHANDSKETCHING 6+6

Orthographic projection of Simple parts from 3D diagram-Principles of isometric projection and isometric view-isometric scale- Isometric projections of simple solids and truncated solids-Prisms, pyramids, cylinders, cones- combination of two solid objects in simple vertical positions and miscellaneous problems Free hand sketching of orthographic & Isometric projection

UNITIVPROJECTION OF SECTIONED SOLIDS AND DEVELOPMENT OF SURFACES 6+6

Sectioning of solids in simple vertical position when the cutting plane is inclined to the one of the principal planes and perpendicular to the other-obtaining true shape of section. Development of lateral surfaces of simple and sectioned solids- Prisms, pyramids cylinders and cones. Development of lateral surfaces of solids with cut-outs and holes.

UNIT VPERSPECTIVE PROJECTION, BUILDING DRAWING AND COMPUTER AIDED DRAFTING 6+6

Perspective projection of simple solids-Prisms, Pyramids and cylinders by visual ray method. Introduction-components of simple residential or office building-specifications-plan and elevation of different types of Residential buildings and office buildings. Introduction to drafting packages and basic commands used in AUTO CAD. Demonstration of drafting packages.