COMPUTER AIDED MACHINE DRAWING

Sub Code	**: 10ME36A / 10ME46A**	**IA Marks**	**: 25**
Hrs/week	**: 04(1 Hrs. Theory & 2 Hrs Practical)**	**Exam Hours**	**: 03**
Total Lecture Hrs	**: 52**	**Exam Marks**	**: 100**

Introduction:

Review of graphic interface of the software. Review of basic sketching commands and navigational commands. Starting a new drawing sheet. Sheet sizes. Naming a drawing, Drawing units, grid and snap.

02 Hours

PART-A

UNIT 1:

Sections of Solids: Sections of Pyramids, Prisms, Cubes, Tetrahedrons, Cones and Cylinders resting only on their bases (No problems on, axis inclinations, spheres and hollow solids). True shape of sections.

Orthographic Views: Conversion of pictorial views into orthographic projections. of **simple machine parts** with or without section. (Bureau of Indian Standards conventions are to be followed for the drawings) Hidden line conventions. Precedence of lines.

08 Hours

UNIT 2:

Thread Forms: Thread terminology, sectional views of threads. ISO Metric (Internal & External) BSW (Internal & External) square and Acme. Sellers thread, American Standard thread.

Fasteners: Hexagonal headed bolt and nut with washer (assembly), square headed bolt and nut with washer (assembly) simple assembly using stud bolts with nut and lock nut. Flanged nut, slotted nut, taper and split pin for locking, counter sunk head screw, grub screw, Allen screw.

08 Hours

PART-B

UNIT 3:

Keys & Joints :

Parallel key, Taper key, Feather key, Gibhead key and Woodruff key

Riveted Joints: Single and double riveted lap joints, butt joints with single/double cover straps (Chain and Zigzag, using snap head rivets). cotter joint (socket and spigot), knuckle joint (pin joint) for two rods.

08 Hours

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UNIT 4:

Couplings:
Split Muff coupling, Protected type flanged coupling, pin (bush) type flexible coupling, Oldham's coupling and universal coupling (Hooks' Joint)

08 Hours

PART - C
Assembly Drawings
(Part drawings should be given)

1. Plummer block (Pedestal Bearing)
2. Rams Bottom Safety Valve
3. I.C. Engine connecting rod
4. Screw jack (Bottle type)
5. Tailstock of lathe
6. Machine vice
7. Tool Head of a shaper

18 Hours

TEXT BOOKS:

1. **'A Primer on Computer Aided Machine Drawing-2007'**, Published by VTU, Belgaum.
2. **'Machine Drawing'**, N.D.Bhat & V.M.Panchal

REFERENCE BOOKS:

1. **'A Text Book of Computer Aided Machine Drawing'**, S. Trymbaka Murthy, CBS Publishers, New Delhi, 2007
2. **'Machine Drawing'**, K.R. Gopala Krishna, Subhash Publication.
3. **'Machine Drawing with Auto CAD'**, Goutam Pohit & Goutham Ghosh, 1st Indian print Pearson Education, 2005
4. **'Auto CAD 2006, for engineers and designers'**, Sham Tickoo. Dream tech 2005
5. **'Machine Drawing'**, N. Siddeshwar, P. Kanniah, V.V.S. Sastri, published by Tata McGraw Hill,2006

NOTE:

Internal assessment: 25 Marks

All the sheets should be drawn in the class using software. Sheet sizes should be A3/A4. All sheets must be submitted at the end of the class by taking printouts.

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Scheme of Examination:

Two questions to be set from each Part-A, Part-B and Part-C
Student has to answer one question each from Part-A and Part-B for 20 marks each. And one question from Part-C for 60 marks.

i.e.	**PART-A 1 x 20**	**= 20 Marks**
	PART-B 1 x 20	**= 20 Marks**
	PART-C 1 x 60	**= 60 Marks**
	Total	**= 100 Marks**

FLUID MECHANICS

Sub Code	**: 10ME 36B / 46B**	**IA Marks**	**: 25**
Hrs/week	**: 04**	**Exam Hours**	**: 03**
Total Lecture Hrs	**: 52**	**Exam Marks**	**: 100**

PART – A

UNIT-1

Properties of Fluids: Introduction, Types of fluid, Properties of fluids, viscosity, thermodynamic properties, surface tension, capillarity, vapour pressure and cavitation

06 Hours

UNIT-2

Fluid Statistics : Fluid pressure at a point, Pascal's law, pressure variation in a static fluid, absolute, gauge, atmospheric and vacuum pressures, simple manometers and differential manometers. Total pressure and center of pressure on submerged plane surfaces; horizontal, vertical and inclined plane surfaces, curved surface submerged in liquid.

07 Hours

UNIT-3

Buoyancy and Fluid Kinematics:
Buoyancy, center of buoyancy, metacentre and metacentric height, conditions of equilibrium of floating and submerged bodies, determination of Metacentric height experimentally and theoretically.
Kinematics: Types of fluid flow, continuity equation in 2D and 3D (Carversian Co-ordinates only, velocity and acceleration, velocity potential function and stream function.

07 Hours

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