Machine Drawing

S.E. Sem. III [MECH/AUTO]

EVALUATION SYSTEM

	Time	Marks
Theory Exam	4 Hrs.	100
Practical Exam	3 Hrs.	50
Oral Exam	–	–
Term Work	–	25

SYLLABUS

1. **Solid Geometry :** Intersection of surfaces and interpretation of solids. Intersection of prism or cylinder with prism cylinder or cone both solids in simple position only. Primary auxiliary views and auxiliary projections of simple machine parts.

   Machine Elements : Free hand sketches of machine elements such as bolts, nuts, washers, studs, tapped holes. Conventional representation of assembly Threaded parts in external and sectional. Views.

2. **Details and Assembly Drawing :** Introduction to unit assembly drawing steps involved in preparing assembly drawing from details and vice versa.

   Preparation of details & assembly drawings of Clapper block, single tool post, Lathe and milling tail stock, Cotter, knuckle joint, Keys and coupling : keys-sunk, parallel, woodruff, saddle, feather, etc.

   Coupling - simple, muff, Flanged, protected flange coupling. Oldham's coupling universal coupling.

3. **Preparation of Details and Assembly Drawings of Bearings -** simple, solid, bushes, pedestal, footstep, I.S. conventional representation of ball and bearings.

4. **Preparation of Details and Assembly Drawings of** Pulleys-flat belt, V-belt, rope belts fast and loose pulleys, pipe joints, flanged joints - spigot and gland and stuffing box, expansion joint.

5. **Preparation of details & assembly drawings of** Valves - Air cock, Blow off cock, steam stop valve, gates valve, globe valve, non-return valve. I.C. Engine parts piston, connecting rod, cross head and crankshaft.

6. **Preparation of details & assembly drawings of** jigs and fixtures.
   Limits fits and tolerances dimensioning with tolerances indicating various types of fit in details and assembly drawings.

AutoCAD :

Computer aided drawing and designing of Assembly, Joints, Gears, Spring, Shaft, Pipe fittings, Bearings Jigs and fixtures, I.C. engine parts, Pulleys and Belts, Limits, fits and tolerances, Rivets, Preparation of 2-D drawings for machine components (bolts, nuts, flange coupling, connecting rod), 3-D modeling – solid, surface, wire frame using standard CAD packages, creation of 2-D drawings from 3-D models using CAD packages, different views, sections, isometric view and dimensioning them. Paramatric modeling, creating standard machine parts, connecting rod, flange coupling

Reference :

1. Machine Drawing (*N.D. Bhatt*).
2. A text book of Machine drawing (*Lakshminarayan & M.L. Mathur*) Jain Brother, Delhi.
3. Machine Drawing (*Kamat & Rao*).
4. Machine Drawing (*M.B. Shah*).
5. A Text book of Machine Drawing (*R.B. Gupta*) Satya Prakashan Tech Publication.
6. Machine Drawing (*K.I. Narayana, P. Kannaiah, K. Venkata Reddy*).
7. Machine Drawing with AutoCAD (*Gautam Pohit and Gautam Ghosh*) Pearson Educaiton.
8. Machine Drawing (*Ajeet Singh*) Tata McGraw Hill.

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