INSTITUTE OF AERONAUTICAL ENGINEERING

Dundigal, Hyderabad -500 043

MECHANICAL ENGINEERING

ASSIGNMENT

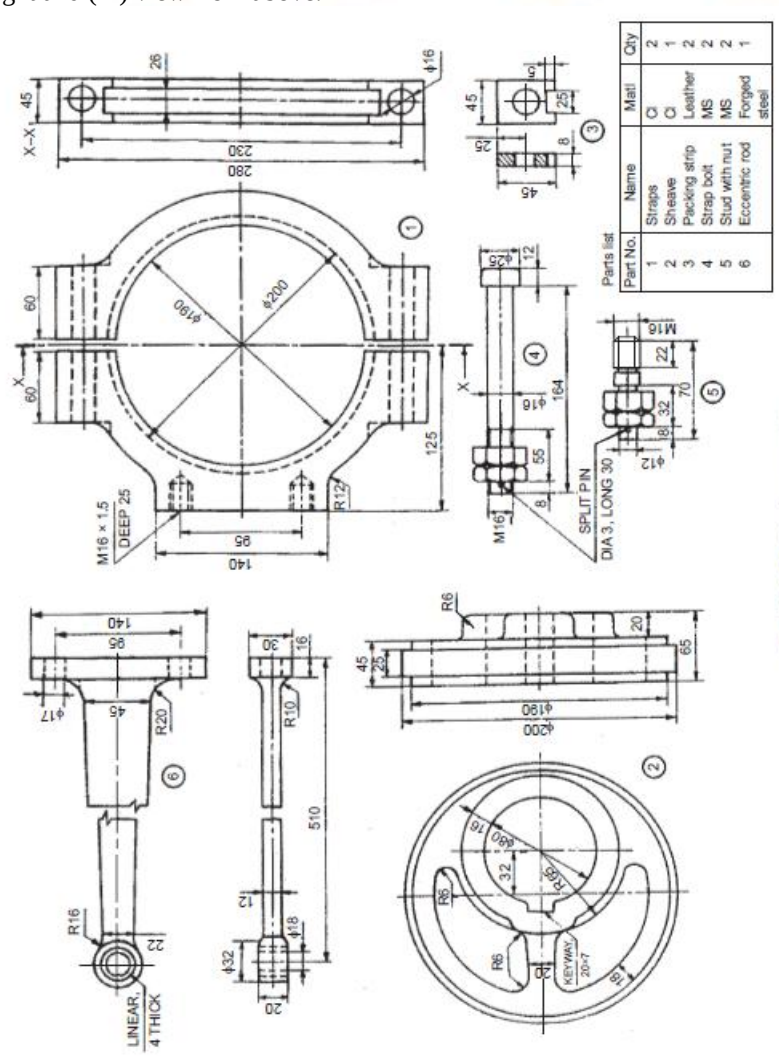
Course Name	:	**MACHINE DRAWING**
Course Code	:	A40310
Class	:	II B. Tech II Semester
Branch	:	Mechanical Engineering
Year	:	2016 – 2017
Course Faculty	:	Mr. B.V. S. N. RAO, Professor, Mr. Mahidhar Reddy Assistant Professor, Mr. M. Sunil Kumar, Assistant Professor, Ms. E. SANJANA Assistant Professor.

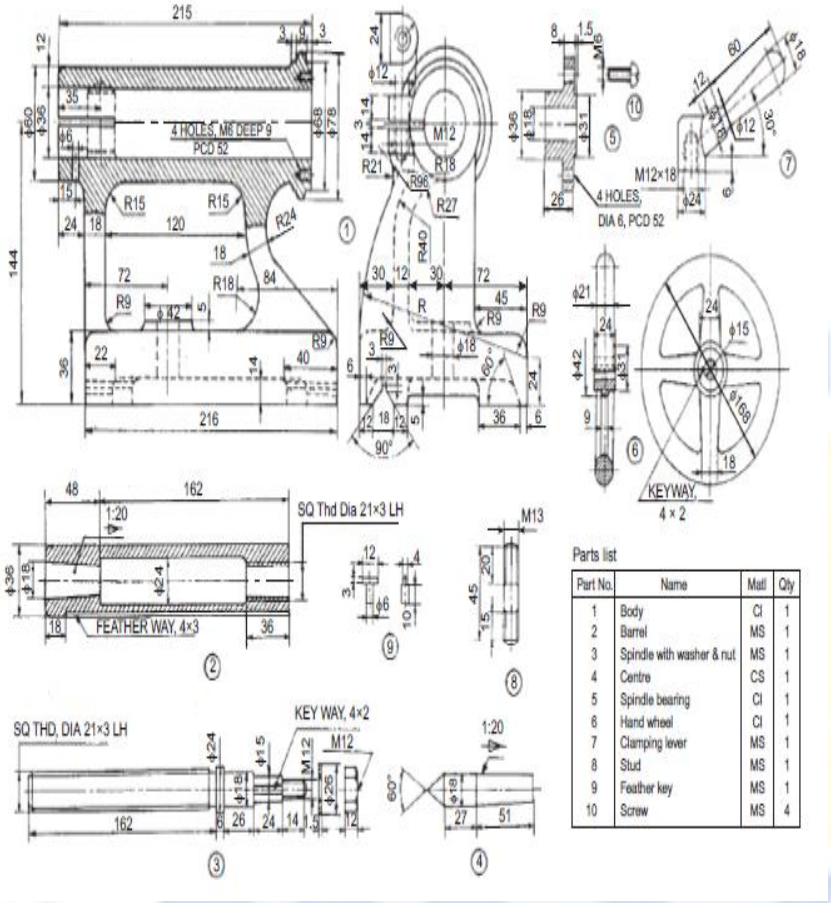
OBJECTIVES:

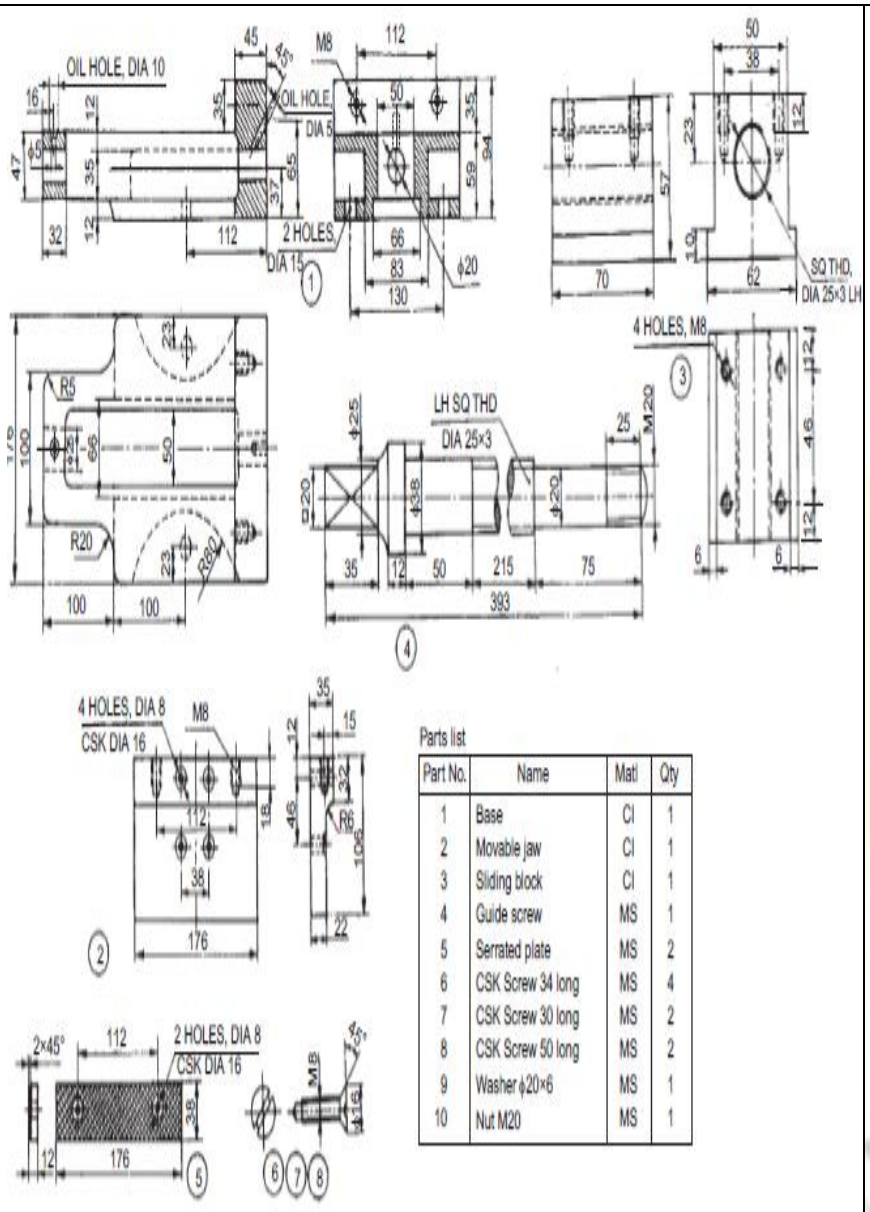
To meet the challenges of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited.

In line with this, faculty of Institute of Aeronautical Engineering, Hyderabad has taken a lead in incorporating philosophy of outcome based education in the process of problem solving and career development. So, all students of the institute should understand the depth and approach of course to be taught through this question bank, which will enhance learner's learning process.

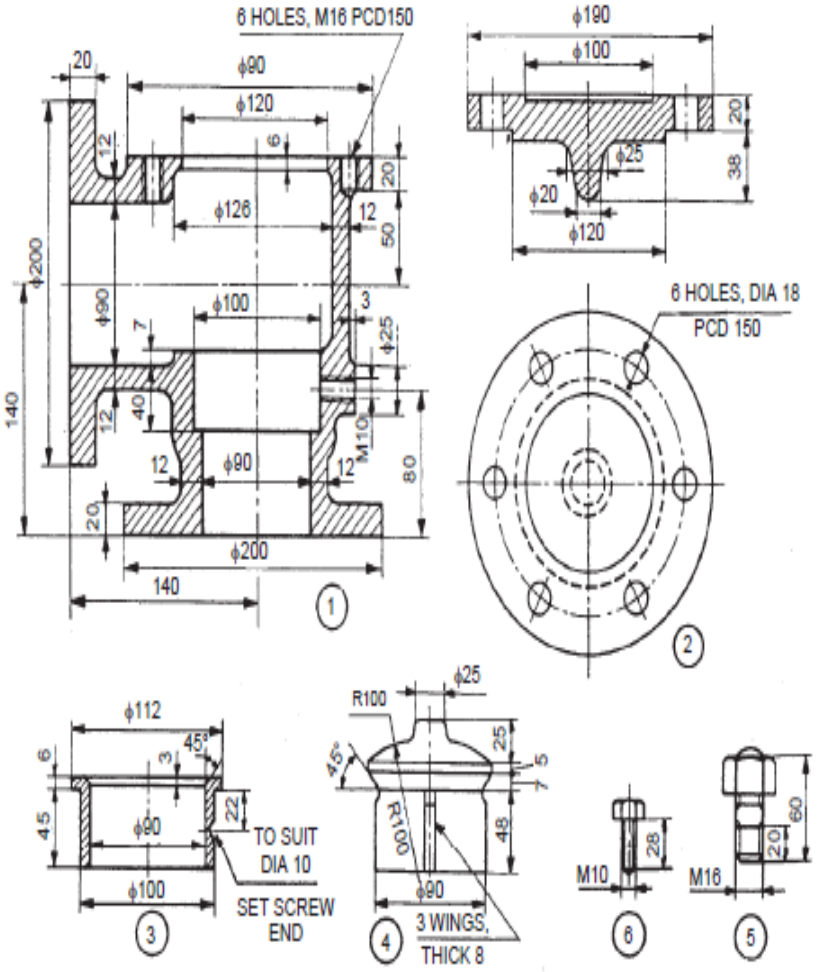
S. No	QUESTION	Blooms Taxonomy Level	Course Outcome
	ASSIGNMENT-I		
1	Sketch the conventional representation of the following materials: (a)Metals, (*b*)Glass, (c) Packing (*d*)Insulating material (e)Liquids, (*f*) Wood, (g)Concrete	**Understand**	1
2	Sketch the following thread profiles for a pitch 30 mm and give their applications: (a)BSW thread, (*b*) Buttress thread (*c*) Square thread,(*d*) ACME thread and (*e*) Worm thread.	**Understand**	1
3	Give the proportions of a hexagonal nut, in terms of the nominal diameter of the bolt of 20 mm.	**Remember**	1
4	Draw the following foundation bolts of diameter 25 mm: (a)eye foundation bolt, **(b)** Bent foundation bolt, (c) Rag foundation bolt and (*d*) Lewis foundation bolt.	**Remember**	1
5	Draw the sectional view from the front, and view from the side of a cotter joint with sleeve used to connect two rods of 30 mm diameter each.	**Understand**	1
6	Draw the half sectional view from the front, with top view of a knuckle joint , to connect two rods of 30 mm diameter each.	**Understand**	1
7	Draw (*a*) sectional view from the front and (*b*) view from the side of a universal coupling, indicating proportions, to connect two shafts, each of diameter 30 mm.	**Understand**	1
8	Draw (*a*) sectional view from the front and (*b*) view from above, of the following riveted joints, to join plates of thickness 10 mm: (i).Single riveted	**Understand**	1

	lap joint, (*ii*) double riveted chain lap joint, (*iii*) double riveted zig-zag lap joint.		
9	Draw (*a*) sectional view from the front and (*b*) view from above, of the following riveted joints, to join plates of thickness 10 mm: (*i*) single riveted, single strap butt joint, (*ii*) single riveted, double strap butt joint (iii) double riveted, double strap, chain butt joint and (iv) double riveted, double strap, zig-zag butt joint.	**Understand**	1
	Assignment – II		
1.	The details of an eccentric are shown in Fig. 4. Assemble the parts and draw, (*i*) half sectional view from the front, with top half in section, (*ii*) view from the right and (*iii*) view from above.  FIG.4: ECCENTRIC	**Remember**	3
2.	Figure 6, shows the details of a lathe tail-stock. Assemble the parts and draw to a suitable scale, (*i*) sectional view from the front and (*ii*) view from the left. .	**Remember**	3

	 Fig 6: LATHE TAIL-STOCK		
3.	Fig.7 shows the details of a machine vice. Assemble the parts and draw, (*i*) sectional view from the front, (*ii*) view from above and (*iii*) view from the left. Use suitable scale.	**Remember**	3

	 Fig.7:MACHINE VICE		
4.	The part drawings of a non-return valve are shown in Fig.8.Assemble the parts and draw, (*i*) half sectional view from the front, (*ii*) view from the left and (*iii*) view from above.	**Remember**	3

Part No.	Name	Mati	Qty
1	Base	CI	1
2	Movable jaw	CI	1
3	Sliding block	CI	1
4	Guide screw	MS	1
5	Serrated plate	MS	2
6	CSK Screw 34 long	MS	4
7	CSK Screw 30 long	MS	2
8	CSK Screw 50 long	MS	2
9	Washer ϕ20×6	MS	1
10	Nut M20	MS	1



Parts list

No.	Name	Matl	Qty
1	Body	Brass	1
2	Cover	Brass	1
3	Valve seat	Bronze	1
4	Valve	Brass	1
5	Stud with nut	MS	6
6	Set screw	MS	1

Fig.8: NON-RETURN VALVE

5.	.Assemble the parts of the feed check valve, shown in Fig. 10 and draw, (*i*) sectional view from the front, (*ii*) view from the right and (*iii*) view from above.	**Remember**	3

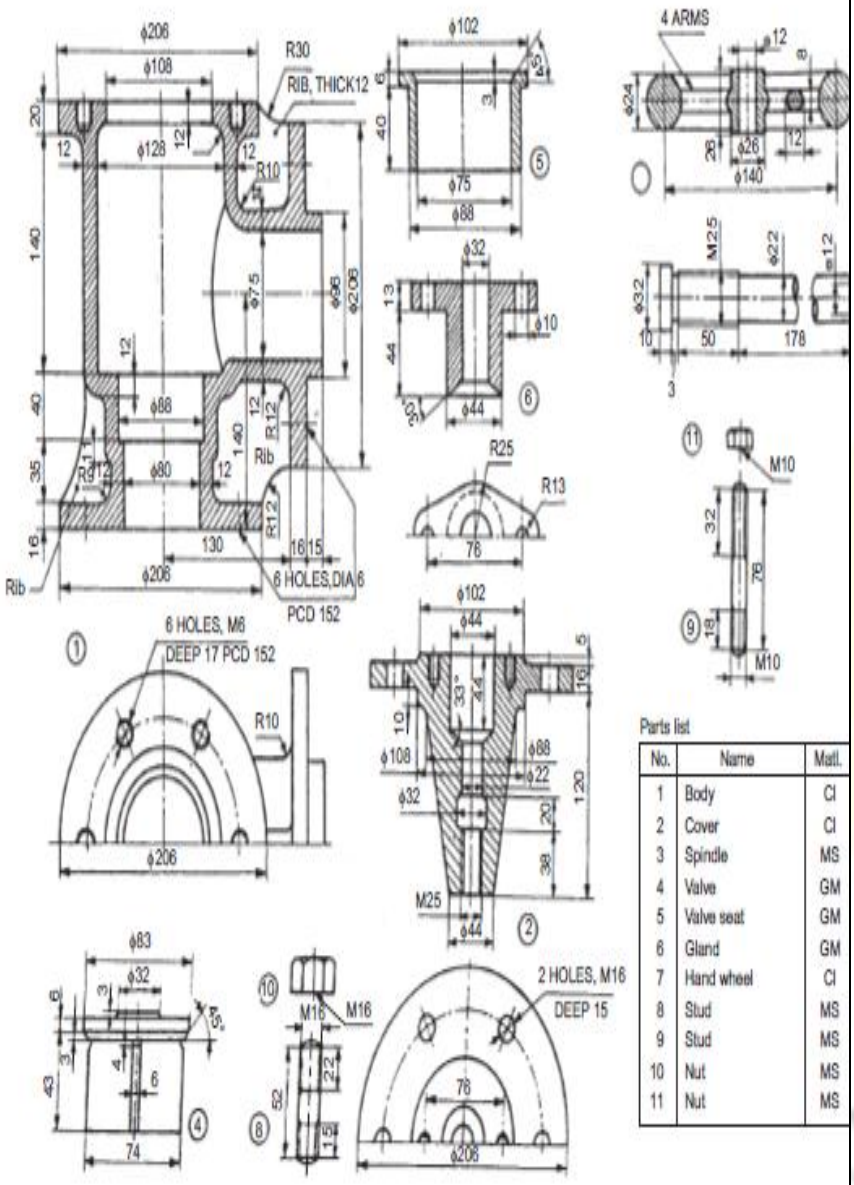


Fig.10: FEED CHECK

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