

02

SE-Mechanical.
Sem III (Old)
Machine Drawing

12.12.2014.

QP Code : 12337

(OLD COURSE)
(4 Hours)

[Total Marks : 100

- N.B :** (1) Question 1 is **compulsory**. Solve any **four** questions from remaining **six** questions.
(2) Use **first** angle method of projections for answering.
(3) **Figure** to the **right** indicate **full** marks.
(4) Assume **suitable** dimensions if **necessary**.
(5) Use **only** drawing sheets for answering.

1. (a) Draw free hand sketches for any two of the following (in two views):- 10
(i) Union joints for the pipes
(ii) Universal Coupling
(iii) 'V' belt pulley mounted on shaft.
- (b) Draw conventional representation of assembly of threaded parts in external and sectional views. 4
- (c) Define fundamental deviation, limit and fit. 3
- (d) Clearly specify the condition to obtain the following :- 3
(i) Clearance fit
(ii) Interference fit
(iii) Transition fit
2. (a) A vertical cone of diameter 100 mm and axis 100 mm is penetrated by a vertical square prism, having edges of base 45mm. The axis of the square prism is 10 mm away from the axis of the cone and the plane containing both the axes is perpendicular to the V.P. The rectangular face of the square prism makes 30 degrees with V.P. Draw the front view and the top view showing the curves of intersections. 10
- (b) A square prism with side of base 40 mm and height 70 mm is kept on the H.P. on its base, with two vertical faces making 20° with V.P..A cylinder of diameter 40 mm penetrates completely through the prism, in such a way that the axis of the cylinder is parallel to V.P. and bisects the axis of the prism at right angle. Draw the projections showing curves of intersection. 10
3. (a) Draw free hand sketches for any two of the following (in two views):- 10
(i) Fast and loose pulley
(ii) Indexing drilling jig
(iii) Plummer block
- (b) Define terminology of limit system. 10

4. (a) Fig. 1 shows two views of the object. Draw the given views and add an 12 auxiliary view from the direction of arrow 'X' . 12
- (b) Explain in general steps required to be followed in preparing assembly drawing 8 from details and vice versa.

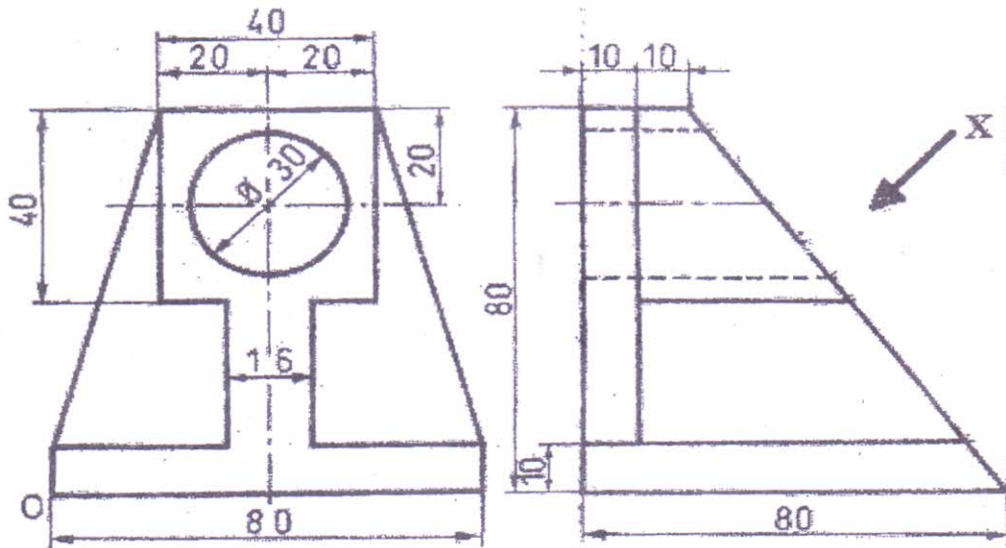


Fig.1

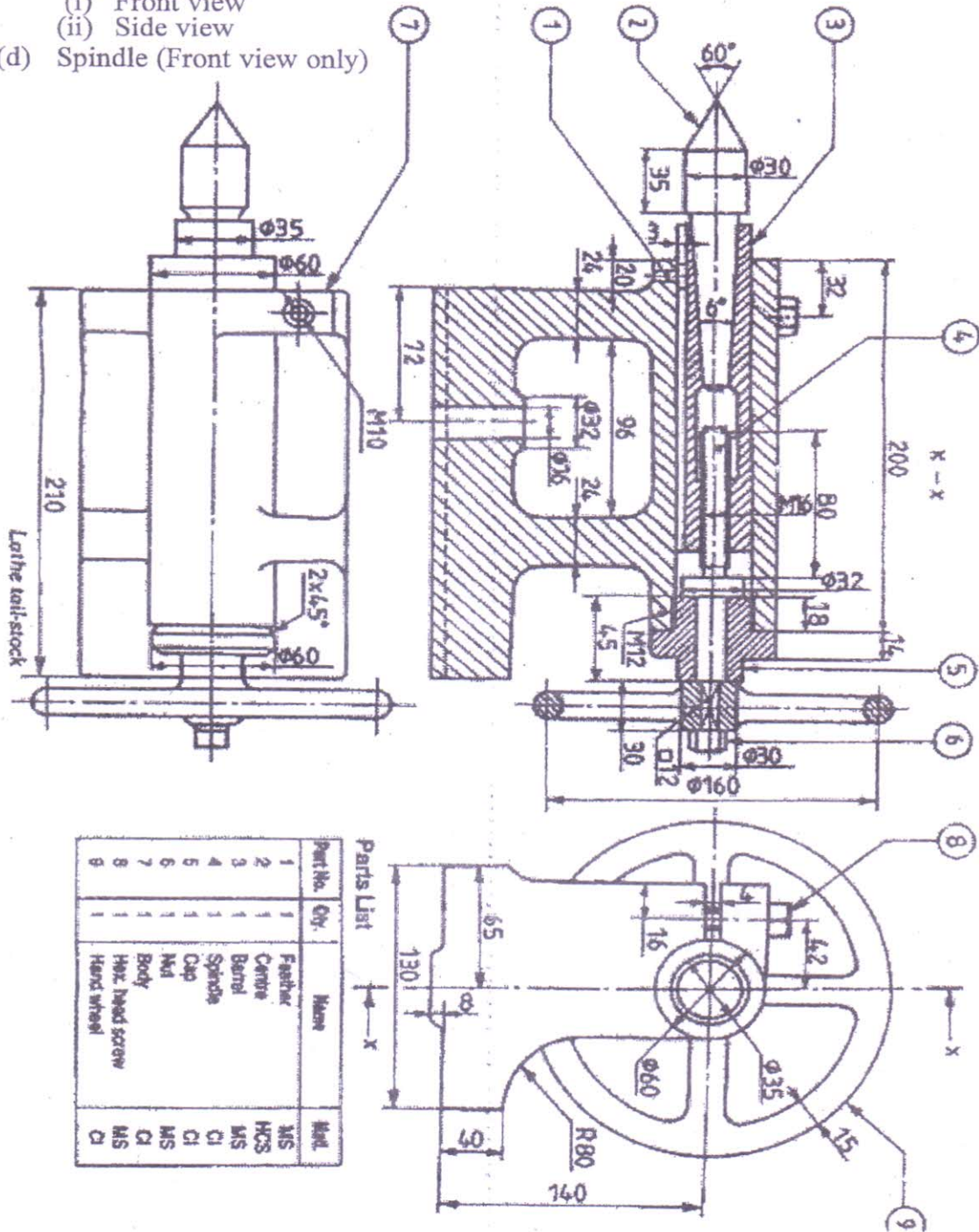
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5. Fig.2 shows two views of assembly of Lathe Tail Stock. Draw the following:

- (a) Body
 - (i) Front View
 - (ii) Side view
- (b) Barrel
 - (i) Front view
 - (ii) Side view
- (c) Cap
 - (i) Front view
 - (ii) Side view
- (d) Spindle (Front view only)

- 4
- 3
- 3
- 2
- 3
- 2
- 3



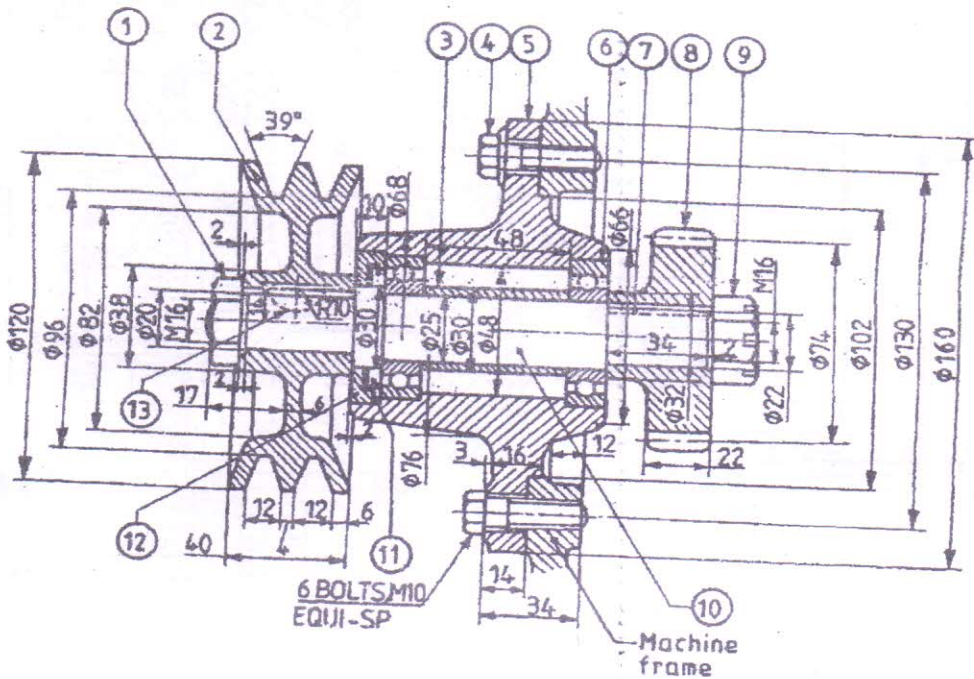
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Fig.2

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6. Fig.3 shows assembly of V Belt Drive. Draw the following :

- (a) Body
 - (i) Sectional Front View. 5
 - (ii) Right side View 4
- (b) V- Pulley
 - (i) Half sectional Front View 4
 - (ii) Side View 3
- (c) Shaft
 - (i) Front View 3
- (d) Woodruff Key
 - (i) Front View 1



Parts List

Part No.	Qty.	Name	Matl.
1	1	Hex.nut	—
2	1	V-Pulley	CI
3	1	Sleeve	MS
4	6	Hex.hd cap screws	—
5	1	Body	GI
6	2	Bearings	—
7	1	Sunk key	MS
8	1	Gear	MCS
9	1	Hex. slotted nut	—
10	1	Shaft	MS
11	1	Grease seal	—
12	1	Bearing retainer	MS
13	1	Woodruff key	—

Fig.3 V Belt Drive

