

**Bachelor of Mechanical Engineering (Evening) 1<sup>st</sup> Year 1<sup>st</sup> Semester Supplementary Examination, 2017**  
**MACHINE DRAWING I**

Time: Four hours

Full Marks: 100

**Answer for maximum 100 marks**

Missing data, if any, are to be reasonably chosen. All dimensions are in mm.

1. Draw the sectional front view (with local section, if necessary) and side view of the Socket and Spigot Cotter Joint using following data: Rod diameter: 25 mm, Outer diameter of the socket: 45 mm, Inner diameter of the socket: 32 mm, Mean width of the cotter: 32 mm, Taper in the cotter: 1:30 (Taper in one side of the cotter only), Length of the cotter: 100 mm, Thickness of the cotter: 6 mm, Spigot collar diameter: 45 mm, Spigot collar thickness: 12 mm, Socket collar diameter: 63 mm, Socket collar thickness: 25 mm, Distance from cotter to the end of spigot: 23 mm, Distance from cotter to the end of socket: 25 mm, Clearance: 3 mm 30
2. Fig. Q2 shows the half-sectional elevation of a flexible shaft coupling. Make detailed drawing of the components with two views of each of them. 50

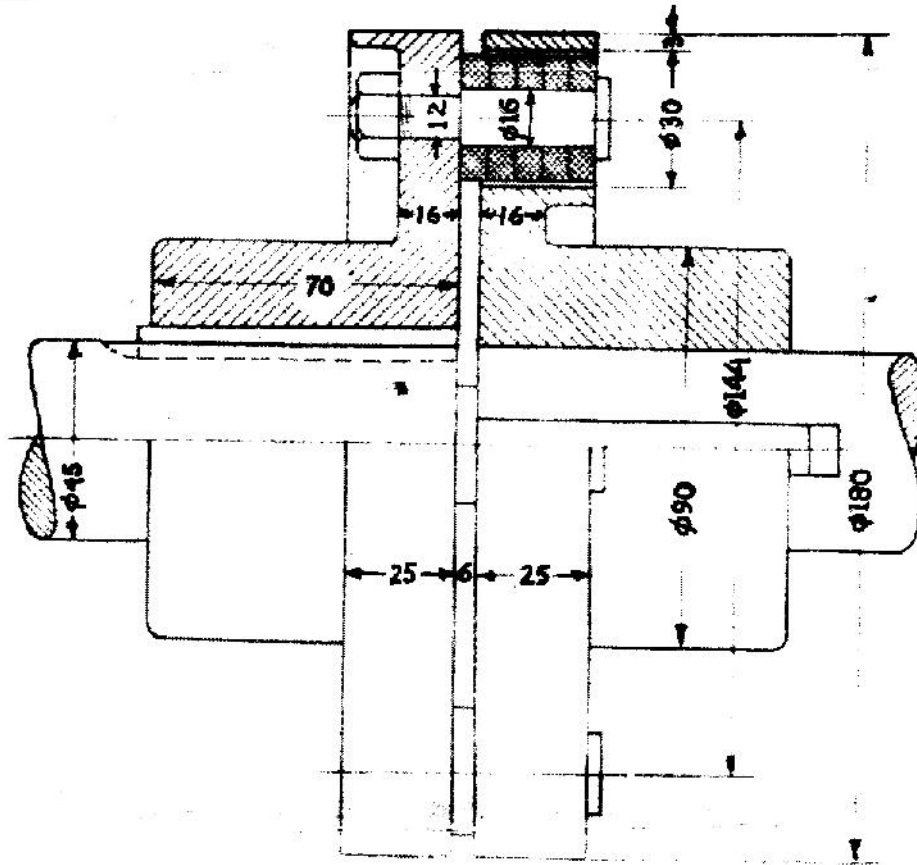


Fig. Q2

3. Details of a stuffing box are given in Fig. Q3 Draw the following views of the stuffing box with all parts assembled together and showing the piston rod in position: i) Sectional front view and ii) Top view. 70

5	Studs with Two Nuts	3	C-30	Equally spaced at 120°
4	Neck Bush	1	Brass	
3	Stuffing Box	1	Cast Iron	
2	Gland Bush	1	Brass	
1	Gland	1	Cast Iron	
Sl. No	Name of the Part	No. Off	Material	Remarks

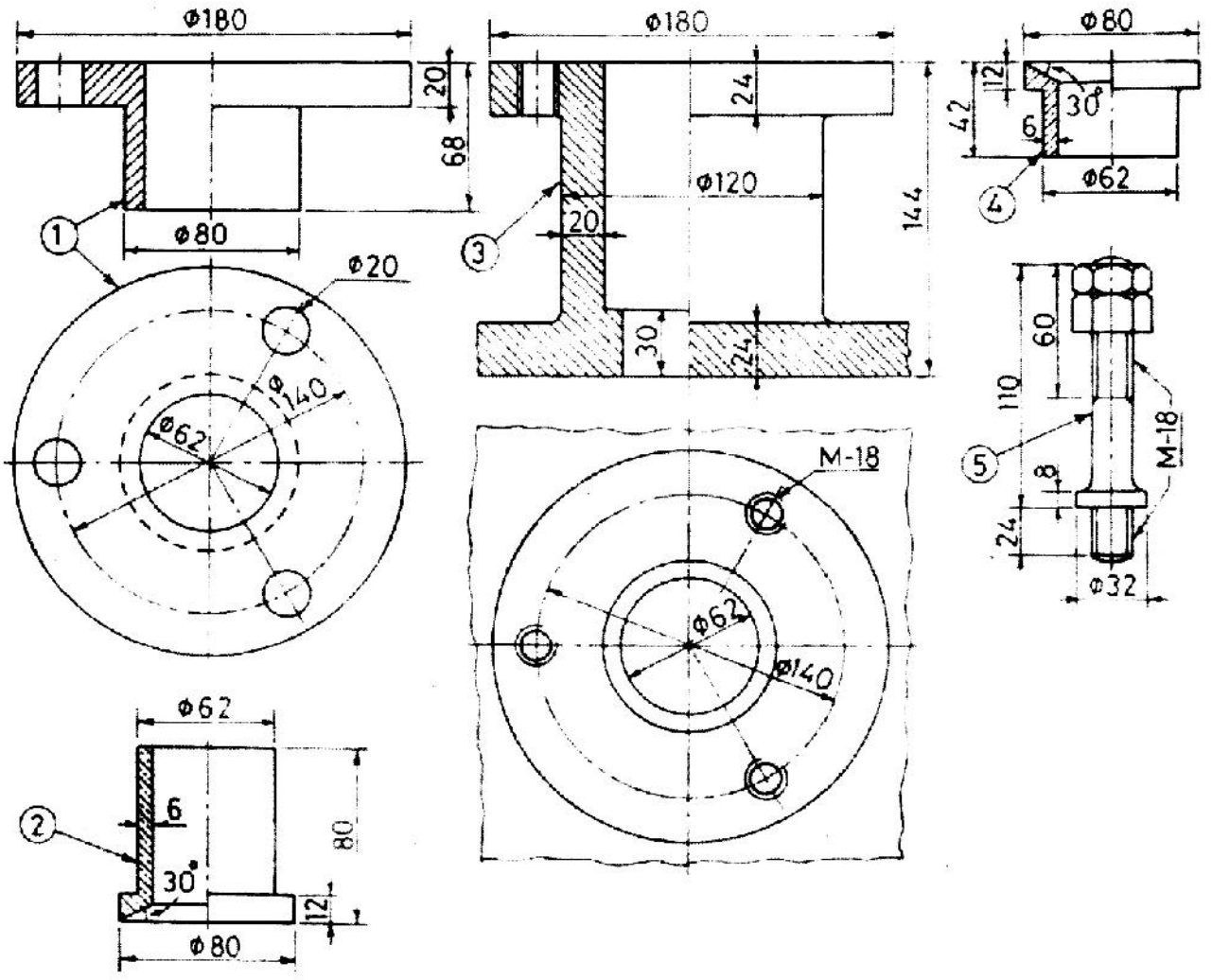


Fig. Q3