

**Bachelor of Mechanical Engineering 2<sup>nd</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 sectional front views and top views of double riveted butt joints (both chain and zig-zag arrangement) considering the following dimensions: Plate thickness= 10 mm, Rivet diameter= 20 mm, Pitch= 50 mm, Back Pitch (for zig-zag arrangement)= 40 mm, Back Pitch (for chain arrangement)= 46 mm and Margin= 30 mm. 40
2. Draw two principal views (one view in section) of a flat belt pulley. Use the following data: Overall diameter of the pulley= 600 mm, Face width of the rim= 250 mm, Shaft diameter= 56 mm, Rim thickness of the pulley= 12 mm, Rim crowning= 4 mm, Hub/boss diameter of the pulley= 112 mm, Hub length= Length of the key= Length of the bore=170 mm, No of arms=6, Thickness of the arm near hub (major diameter) = 54 mm (Use tapered elliptical cross section of the arm with major diameter twice the minor diameter), Thickness of the arm near rim= 36 mm; Use square key. 40
3. The isometric view of the plummer block is shown in Fig. Q3. Draw detailed drawings of the individual components shown in Fig. Q3. 60

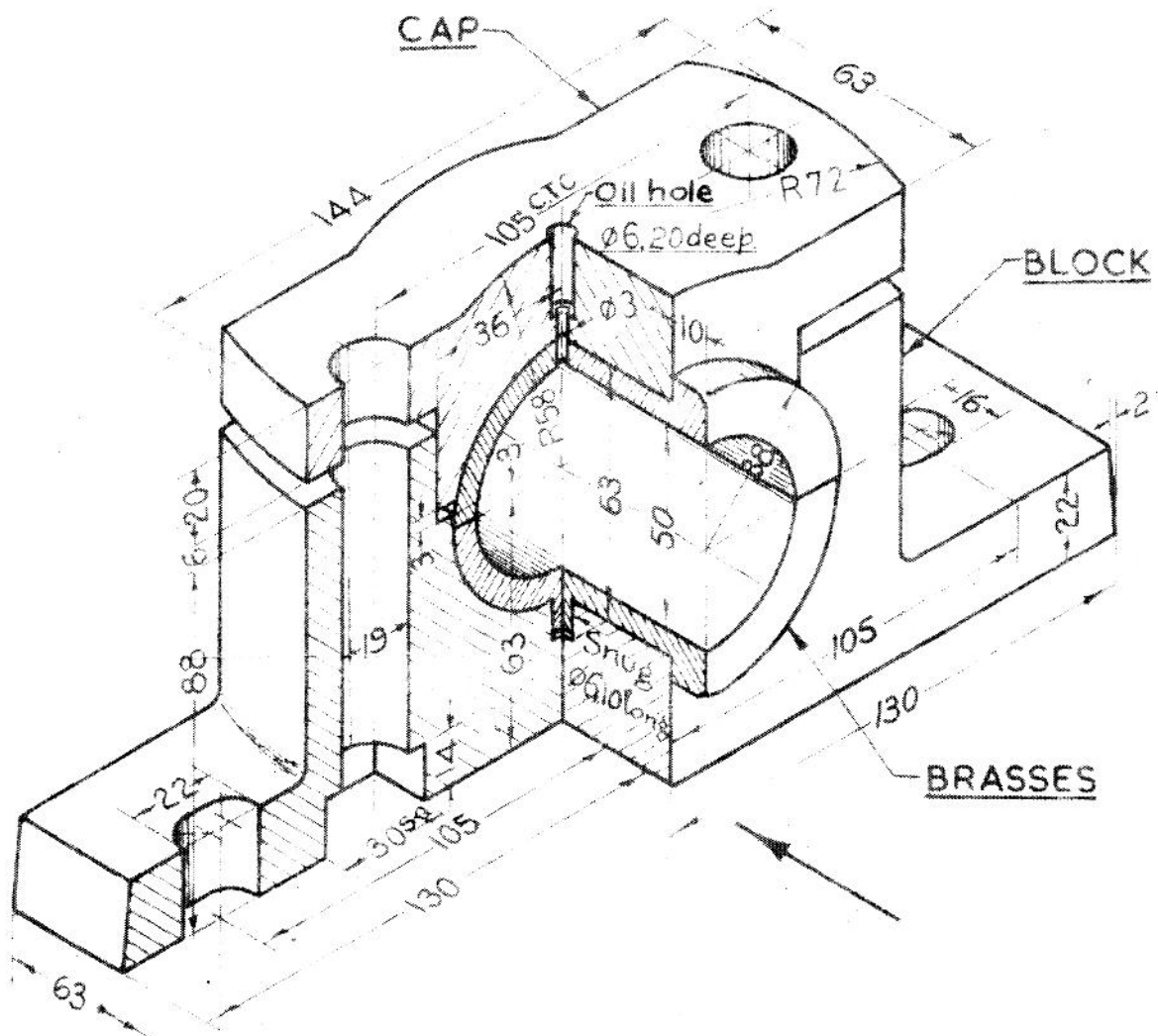


Fig. Q3