

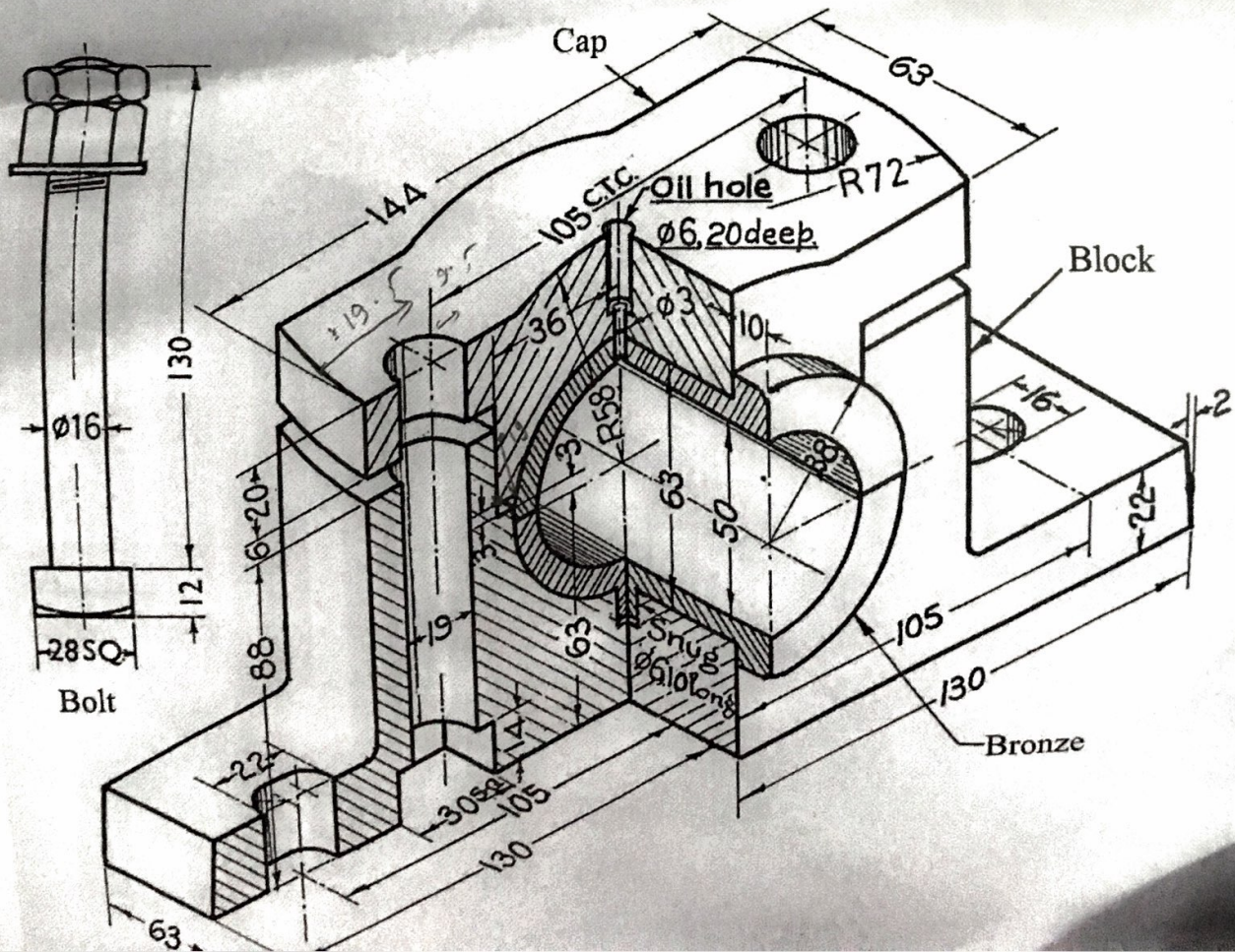
Part-II (Test duration: 95 minutes, Marks: 48)

Instruction: If no indication is provided in the problem, assume the third angle projection system for drawing the views. All dimensions are in mm. Missing dimensions may be assumed suitably.

Problem: A pedestal bearing (or Plummer block) is used for providing support to long shafts especially when the shaft cannot be introduced in the bearing end-wise. It consists of a pedestal or base (made of cast iron), a cap (made of cast iron) and bush (made of bronze) split into two halves and called 'half bearings'. The split bush used in the assembly facilitate easy assembly and periodical replacement of the worn-out bush. After placing the journal on the lower half of the bush, kept in the base, the upper half of the bush is placed and the cap is then fixed to the pedestal using two bolts (made of mild steel) as shown in the Fig. 1. Flanges are provided at either end of the bush to prevent its axial motion. The rotary motion of the bush is prevented by a snug provided at the bottom of the lower bronze, fitting into a corresponding hole in the base.

From the assembly details of Plummer block provided in Fig.1, draw the followings employing **SolidWorks 3D CAD software**:

- (i) All components' drawings of Plummer block assigning fits and tolerances on each as per necessity. (35 Marks)
- (ii) Exploded view of assembly. (10 Marks)
- (iii) Provide bill of materials with parts list. (3 Marks).



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