DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE – RAIGAD -402 103

Winter Semester Examination – December - 2019

Branch: **B. Tech Mechanical** Sem.:- **III**

Subject with Code:- **Machine Drawing and CAD (BTMEC304)** Marks: **60**

Date:- **17/12/2019** Time:- **3 Hr.**

Instructions to the Students

1. Each question carries 12 marks.
2. Attempt **any five** questions of the following.
3. Illustrate your answers with neat sketches, diagram etc., wherever necessary.
4. If some part or parameter is noticed to be missing, you may appropriately Assume it and should mention it clearly

(Marks)

Q.1. Illustrate **any three** with an example **(3×4=12)**

a) Half section
b) Removed section
c) Broken section
d) Auxiliary section

Q.2. Attempt **any two** of the following **(12)**

a) Draw the symbol of the following **(6)**
   1. concave fillet weld
   2. convex double V-butt weld

b) Draw conventional representation for the following **(6)**
   1. Spur gears in mesh
   2. Roller bearing

c) Draw neat sketch in two views of a flanged coupling. **(6)**

Q.3. Attempt **any two** of the following **(12)**

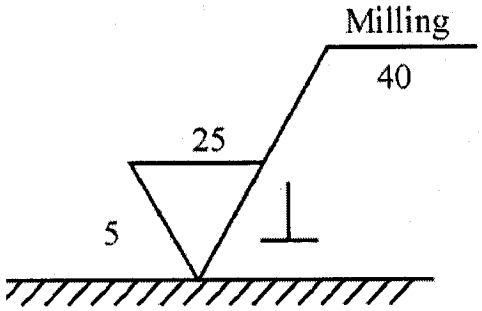
a) A vertical cylinder of 75 mm diameter is penetrated by another cylinder of 50 mm diameter. The axis of which is parallel to both HP & VP. The two axes are 9 mm apart. Draw the projection of two cylinders showing curves of intersection. The length of both cylinders is 100 mm. **(6)**

b) A vertical square prism of side of base 40 mm axis height 75 mm has its faces equally inclined with V.P. A cylinder of diameter 40 mm and length 75 mm intersects the prism horizontally such that its axis is perpendicular bisector to the axis of vertical square prism. The plane containing both the axis is parallel to V.P. Draw the projections of solids showing curve of intersection. **(6)**

c) A cone with base diameter 70 mm & axis height 65 mm is kept on HP on its base. It is penetrated by a horizontal cylinder of diameter 35 mm with its axis parallel to VP & intersecting axis of cone at distance of 20 mm above base of cone. Draw projection of solid and curve of intersection. (6)

Q.4. Attempt any two of the following (12)

a) State the meaning of following symbol as shown in Fig. (6)



b) State the advantages of Computer Aided Design and Drafting. (6)

c) A shaft and hole are given as (6)

$$\text{Shaft } 50^{+0.280}_{+0.120} \qquad \text{Hole} 50^{+0.090}_{+0.000}$$

Determine:

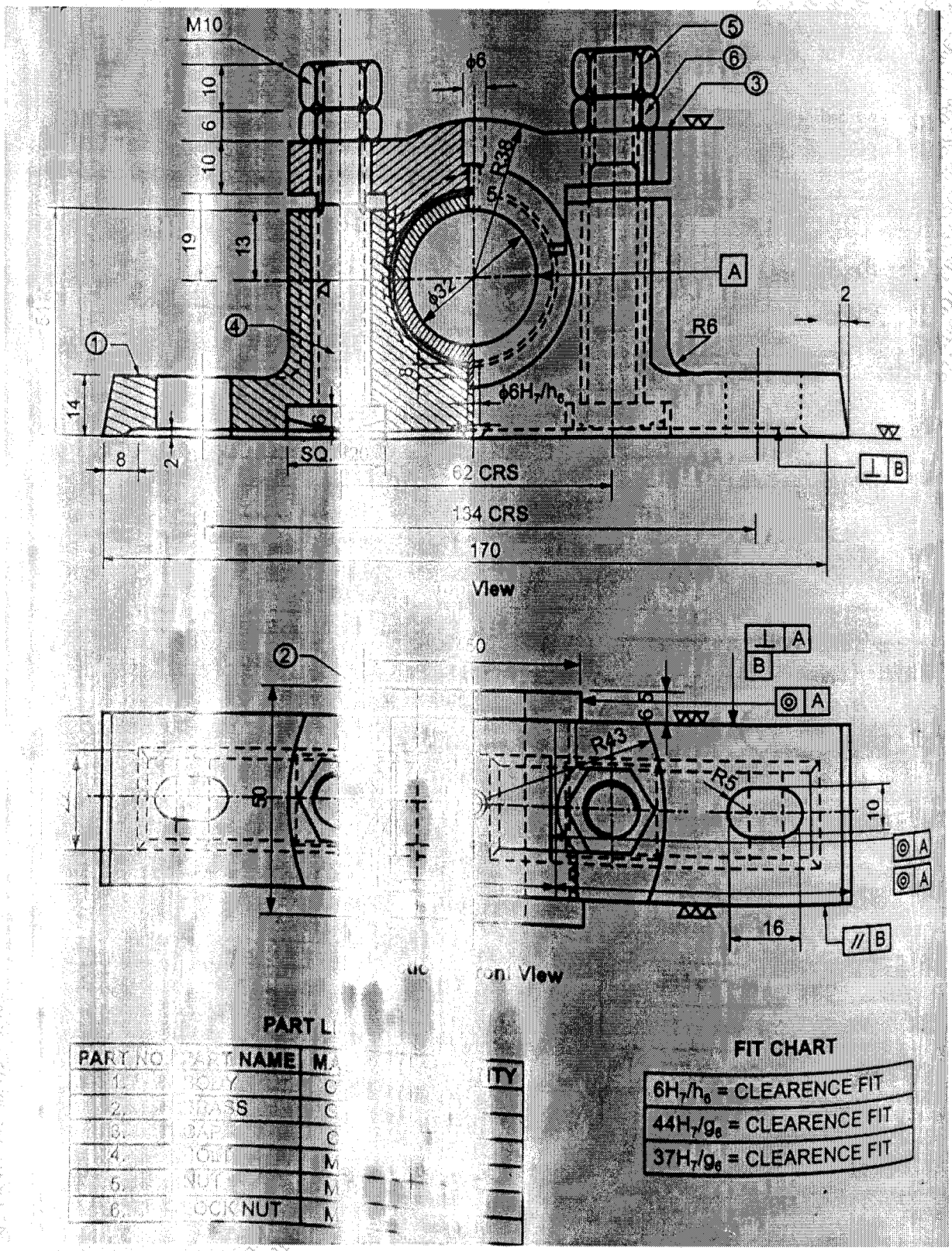
(i) Maximum allowance (ii) Minimum allowance (iii) Type of fit

Q.5. Fig. shows assembly of Pedestal Bearing. Draw detailed drawing of the following.

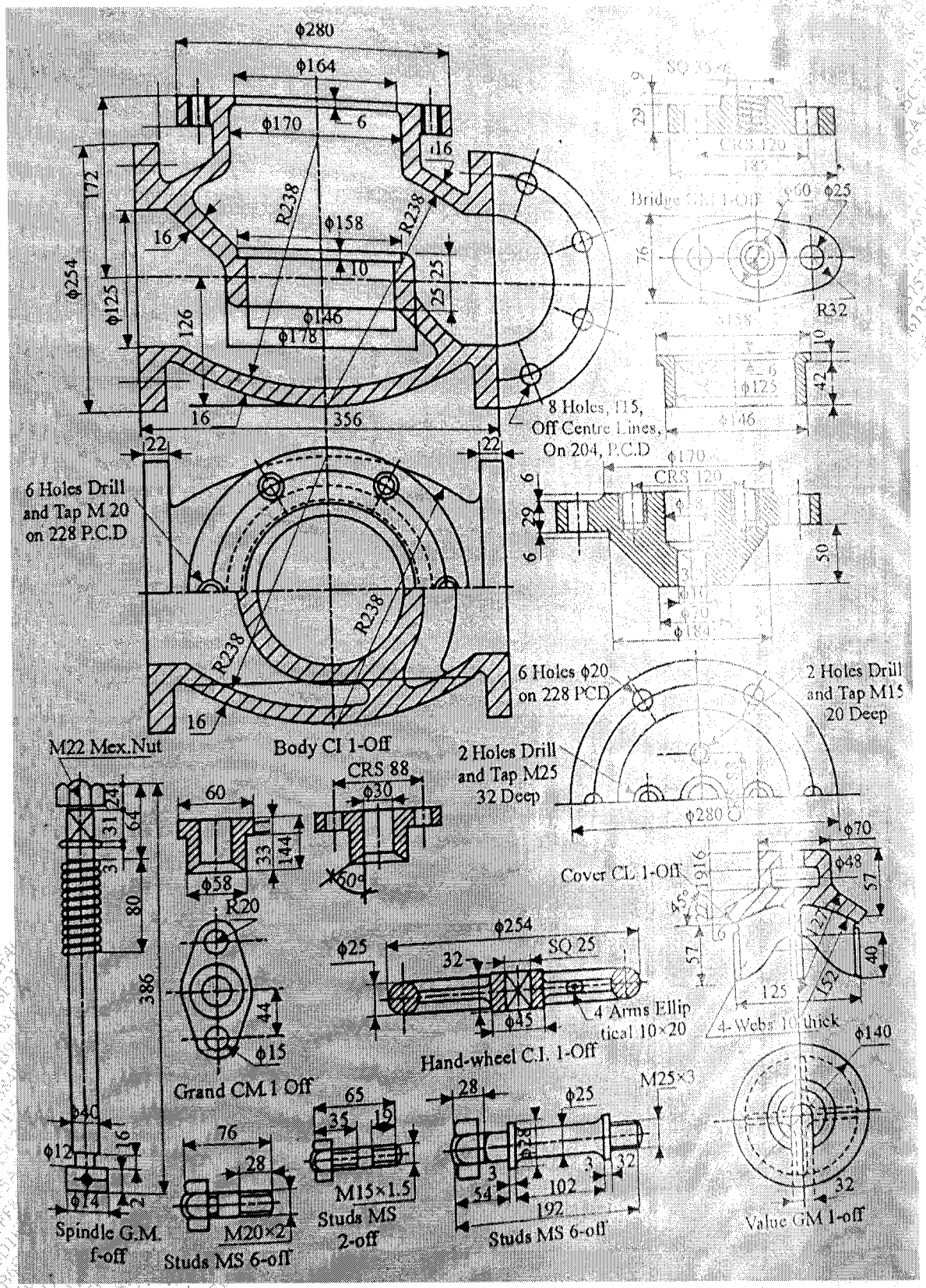
a) Body (4)

b) Brass (4)

c) Cap (4)



Q.6. Figure shows the details of 125 mm Steam Valve. Draw the assembled full sectional elevation. (12)



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