C195

B. Tech. EXAMINATION, 2020

(Third Semester)

(B Scheme) (Re-appear Only)

(AE)

AE209B

AUTOMOBILE ENGINEERING DRAWING

Time : 2½ Hours]   [*Maximum Marks :* 60

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

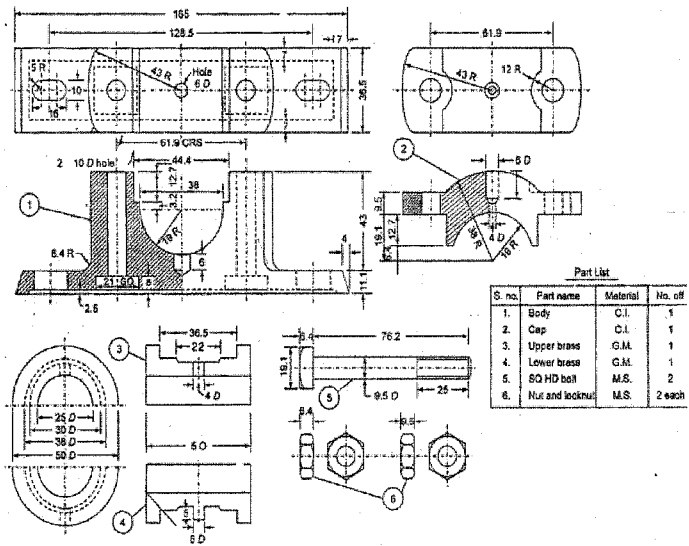**Note** : Attempt *Four* questions in all. All questions carry equal marks.

1. (a) Sketch neatly, giving main dimensions, a built-up pulley 600 mm diameter, mounted on a shaft of 60 mm diameter.

   (b) Show by means by sketches, any *three* method of fixing a pulley on a shaft.

2. Figure (attached) gives the part drawing of Plumber block. Assemble all parts and draw the following assembled views :

   (a) Sectional front view

   (b) Top view.

3. (a) Sketch in two views, an over hanged crank of 100 mm radius mounted on a crankshaft of 45 mm diameter. Give important dimensions.

   (b) Draw a neat and dimensioned sketch, in two views of strap-end of connecting rod of 40 mm diameter, with two gibs and a cotter. Take diameter of the crank pin as 50 mm.

4. Prepare a sketch of a complete eccentric, suitable for driving a slide valve of steam engine. Diameter of the crankshaft 100 mm, travel of the valve 100 mm. Give main dimensions.

5. A pair of gear wheels in mesh have 20 teeth and 60 teeth respectively and the C.P. is 50 mm. The pressure angle is 15° and teeth are involute. Draw one tooth of the pinion and two of the wheel and dimension them. State the base-cricle diameter for each gear. Scale, one half full size.

6. Draw the profile of a cam operating a knife edge follower having a lift of 30 mm. The cam raises the follower with simple harmonic motion for 150° of the rotation followed by a period of dwell for 60°. The follower descends for the next 100° rotation of the cam with uniform velocity, again followed by dwell period. The cam rotates at uniform speed of 120 rpm and has a least radius of 20 mm.

Part List			
S. no.	Part name	Material	No. off
1.	Body	C.I.	1
2.	Cap	C.I.	1
3.	Upper brass	G.M.	1
4.	Lower brass	G.M.	1
5.	SQ HD bolt	M.S.	2
6.	Nut and locknut	M.S.	2 each