Total No. of printed pages = 3

ME 181305

2024

B.Tech 3rd Semester End-Term Examination

Mechanical Engineering

MACHINE AND ASSEMBLY DRAWING

Full Marks – 70 Time – Three hours

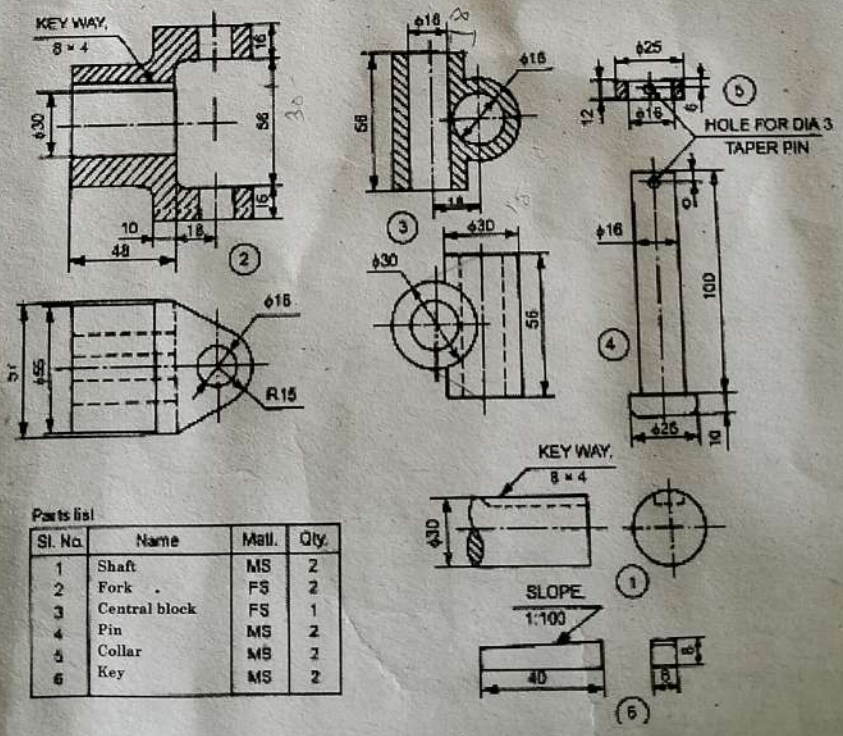
The figures in the margin indicate full marks for the questions.

Answer question No. 1 and any *four* from the rest.

1. Assemble the parts of universal coupling and, shown in Fig. below and draw, (Compulsory Question) 22

   (a) sectional view from the front and

   (b) view from the right



Parts list

Sl. No.	Name	Matl.	Qty.
1	Shaft	MS	2
2	Fork	FS	2
3	Central block	FS	1
4	Pin	MS	2
5	Collar	MS	2
6	Key	MS	2

2. Draw the three views of a hexagonal headed bolt of nominal diameter 25 mm and length 100 mm; with a hexagonal nut and washer. 6 + 6

[Turn over

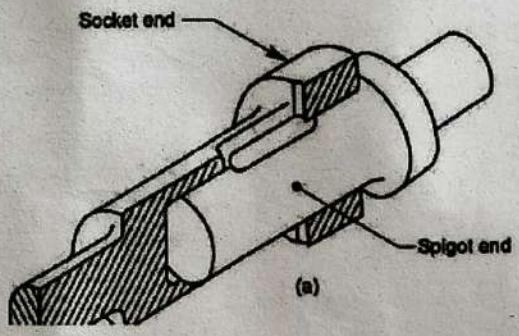
3. (a) Sketch neatly, giving proportionate dimensions; eye foundation bolt of diameter 25 mm.

(b) Sketch the following thread profiles for a nominal diameter of 25 mm and pitch 3 mm; 6 + 6

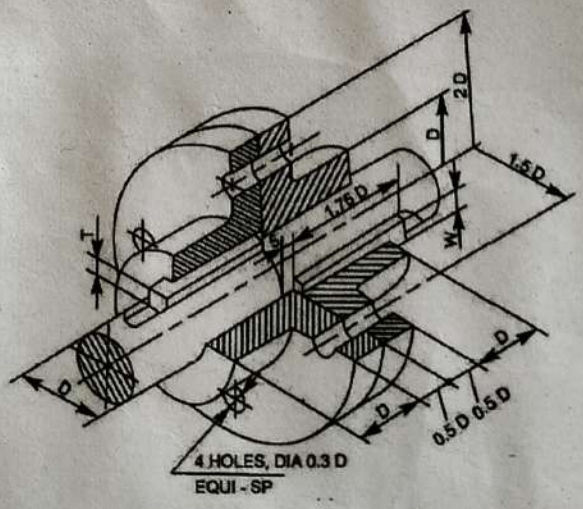
(i) BSW thread,

(ii) Buttress thread

4. Draw the half sectional view from the front, with top half in section and the view from the side of a cotter joint with socket and spigot ends, to connect two rods of 50 mm diameter each. 12



5. Draw (a) half sectional view from the front, top half in section and (b) view from the side of a rigid flange coupling to connect two shafts, each of diameter 30 mm. 12



6. (a) Giving proportionate dimensions, sketch any two forms of commonly used rivet heads, choosing the rivet diameter as 10 mm.

(b) Draw (i) sectional view from the front and (ii) view from above, of single riveted, double strap butt joints, to join plates of thickness 10 mm. 5 + 7

7. Sketch the required views of Oldham coupling indicating proportions, used to connect two shafts, each of diameter 30 mm. 12