

B.Tech. Degree III Semester Examination, November 2008**SE 306 MACHINE DRAWING***(Common for 1999 & 2002 Schemes)*

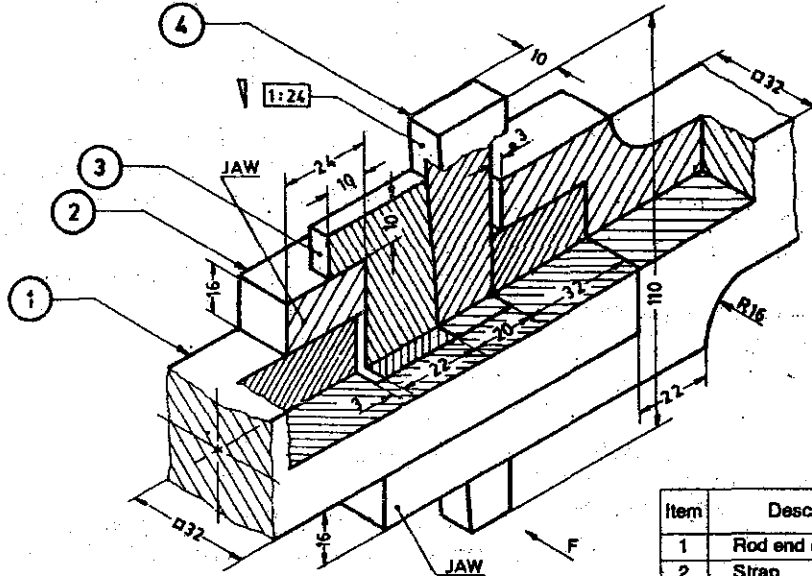
Time: 3 Hours

Maximum Marks: 100

- I With the help of sketches show how the geometrical tolerances are indicated for the following.
- i) Cylindricity
 - ii) Parallelism
 - iii) Flatness
 - iv) Coaxiality
 - v) Circularity
- (20)
- OR**
- II Determine the limit dimensions for an interference fit on the hole basis system, Given,
- | | | |
|------------------------|---|--------------|
| Basic size | = | ϕ 40 mm |
| Maximum interference | = | 0.045 mm |
| Tolerance on the hole | = | 0.025 mm |
| Tolerance on the shaft | = | 0.015 mm |
- Check the calculated dimensions and represent them on a schematic drawing.
- (20)
- III a) Symbolically represent the following butt joints as per B.I.S. Also, make neat sketches showing their cross sectional views.
- i) A square butt weld (4 mm thick plates) welded from one side.
 - ii) Double V-butt weld (16 mm thick plates)
 - iii) Double bevel butt weld. Thickness of plates 16 mm
 - iv) Single V-butt weld with a root face of 3 mm for joining 16 mm plates. The depth of penetration is 13 mm.
- (10)
- b) A fillet weld is to be made by joining two M.S. plates of each 12 mm thick at an angle of 90° . The weld size is 8mm. Make full size cross sectional drawing of the joint and dimension it incorporating symbols.
- (15)
- OR**
- IV Draw top half sectional elevation of an integral flanged joint for the following specifications:
- | | | |
|--------------------------------|---|-----------|
| Size of the pipe to be joined | = | ϕ 80 |
| Outside diameter of the pipe | = | 100 |
| Outside diameter of the flange | = | 176 |
| Pitch circle diameter of bolts | = | 140 |
| Size of the bolt | = | M12 |
| Number of bolts | = | 6 |
| Thickness of the flange | = | 20 |
| Thickness of the gasket | = | 3 |
- Also draw an end view.
- All dimensions are in mm.
- (25)

(Turn over)

- V a) Sketch the following
- British Association thread
 - American National (Sellers) thread.
 - Square thread
 - Acme thread
 - Knuckle thread
- (20)
- b) An isometric view of a Gib and cottor joint is shown in Fig. (1). Draw a top half sectional elevation and an end view.
- (35)



ITEM LIST

Item	Description	Qty.	Material
1	Rod end (Square)	1	M. S.
2	Strap	1	M. S.
3	Gib	1	M. S.
4	Cottor	1	M. S.

OR

- VI Draw front view with top half in section, top view and end view of a sleeve and Cottor joint joining two shafts of 32 mm diameter.
- (55)

