

***B. Tech Degree III Semester Examination in  
Marine Engineering December 2010***

**MRE 306 MACHINE DRAWING**

Time : 4 Hours

Maximum Marks : 100

- I. Isometric view of an End Bracket is shown in the Figure 1. Draw the front view and Top view. (20)
- OR**
- II. A rectangular port of width 30mm and height 20mm is drilled radially in a solid cylinder of diameter 50mm and height 75mm resting on the ground. Draw the plan, Elevation and Sectional End View. (20)
- III. (a) Sketch the following types of threads. (15)  
(i) Metric thread  
(ii) Square thread
- (b) Sketch the following types of Nuts. (15)  
(i) Wing Nut  
(ii) Capstan Nut
- OR**
- IV. An Isometric view of a Flanged Coupling (Protected type) is shown in the Figure 2. Draw the Top half sectional elevation and end view. (30)
- V. Figure 3 shows the details of a steam stop valve. Assemble and draw the following views. (50)  
(i) Right half sectional elevation  
(ii) Top half sectional plan, taking section along the centre line of outlet valve.
- OR**
- VI. Draw the assembled view of Boiler blow down valve given in the Figure 4. (50)  
(i) Right half sectional elevation  
(ii) Full plan.

*(Figures overleaf)*

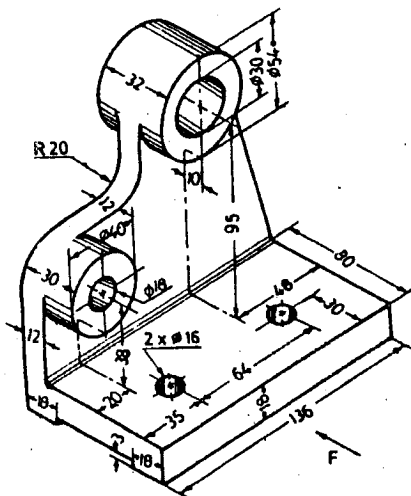


Figure 1

Flanged Coupling (Protected type)

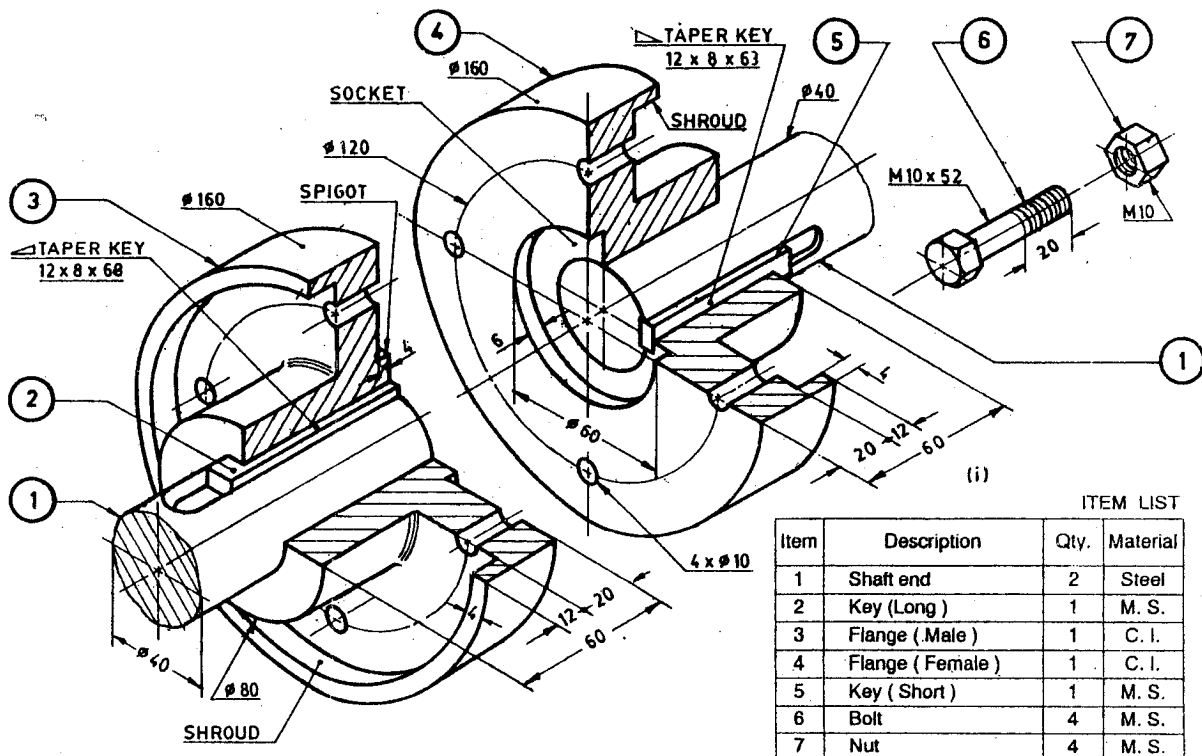
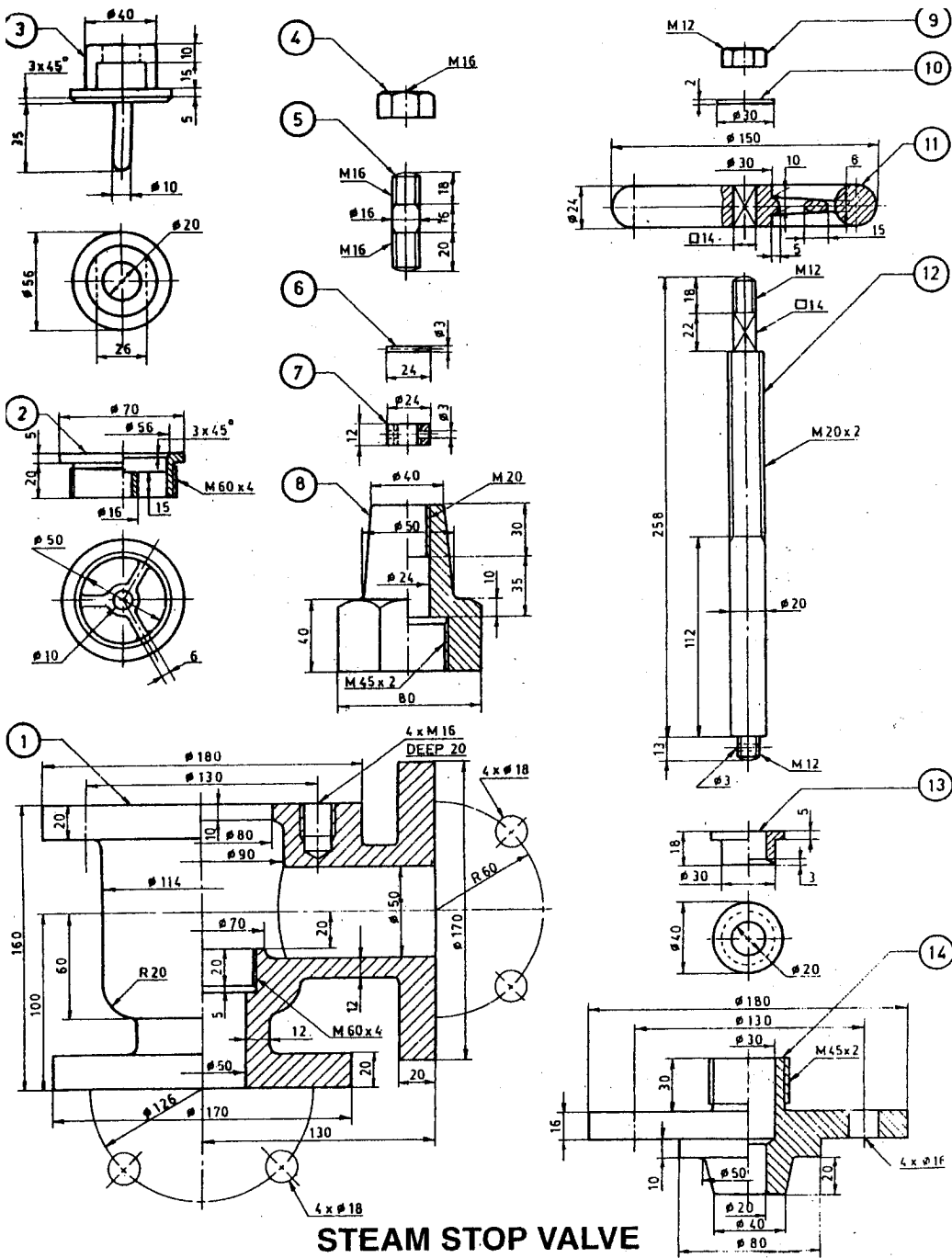


Figure 2

ITEM LIST

| Item | Description     | Qty. | Material |
|------|-----------------|------|----------|
| 1    | Shaft end       | 2    | Steel    |
| 2    | Key (Long)      | 1    | M. S.    |
| 3    | Flange (Male)   | 1    | C. I.    |
| 4    | Flange (Female) | 1    | C. I.    |
| 5    | Key (Short)     | 1    | M. S.    |
| 6    | Bolt            | 4    | M. S.    |
| 7    | Nut             | 4    | M. S.    |



### STEAM STOP VALVE

#### ITEM LIST

| Item | Description     | Qty. | Material |
|------|-----------------|------|----------|
| 1    | Body            | 1    | C.I.     |
| 2    | Valve Seat      | 1    | G.M.     |
| 3    | Valve           | 1    | G.M.     |
| 4    | Nut for stud    | 4    | M.S.     |
| 5    | Stud            | 4    | M.S.     |
| 6    | Pin for collar  | 1    | G.M.     |
| 7    | Collar nut      | 1    | G.M.     |
| 8    | Gland nut       | 1    | M.S.     |
| 9    | Nut for spindle | 1    | M.S.     |
| 10   | Washer          | 1    | M.S.     |
| 11   | Hand wheel      | 1    | C.I.     |
| 12   | Spindle         | 1    | M.S.     |
| 13   | Gland bush      | 1    | G.M.     |
| 14   | Cover           | 1    | C.I.     |

Figure 3

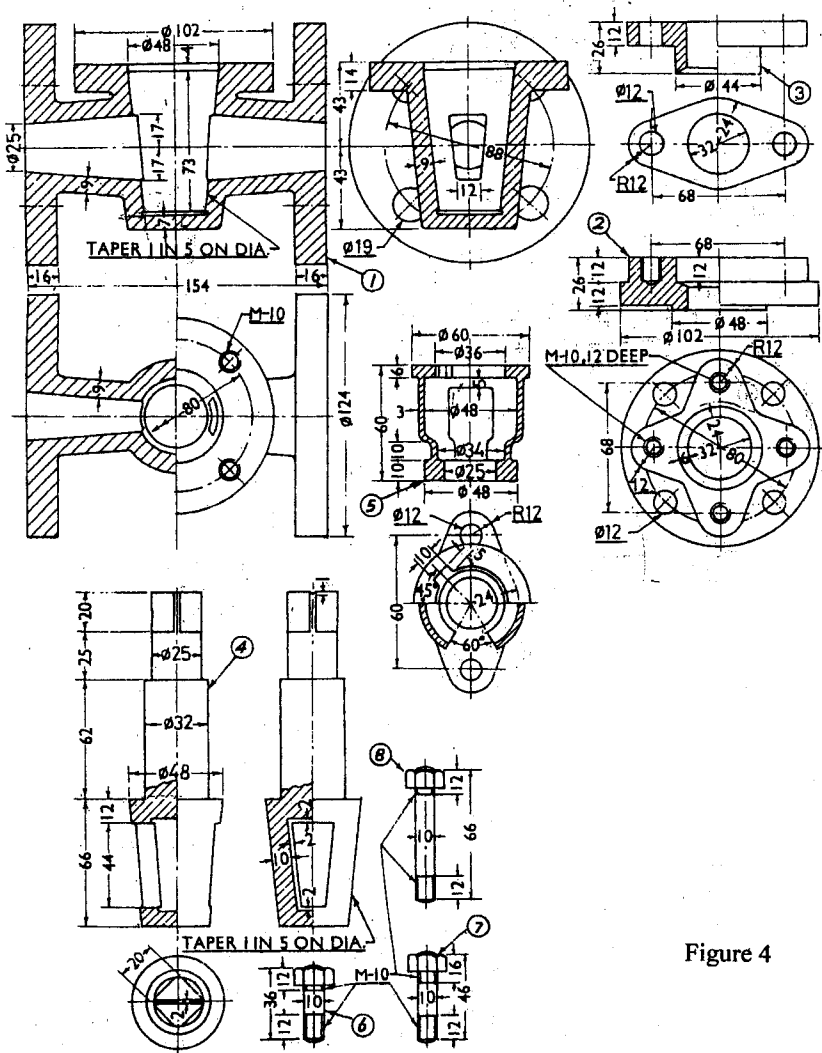


Figure 4

| 8.  | Stud (guard) | C-30     | 2       |        |
|-----|--------------|----------|---------|--------|
| 7.  | Stud (gland) | C-30     | 2       |        |
| 6.  | Stud (cover) | C-30     | 4       |        |
| 5.  | Guard        | G.M.     | 1       |        |
| 4.  | Plug         | G.M.     | 1       |        |
| 3.  | Gland        | G.M.     | 1       |        |
| 2.  | Cover        | G.M.     | 1       |        |
| 1.  | Body         | G.M.     | 1       |        |
| No. | Name of part | Material | No. off | Remark |