

THE INSTITUTION OF ENGINEERS, SRI LANKA

PART I EXAMINATION – NOVEMBER 2010

102 – PRESENTATION OF ENGINEERING INFORMATION – PAPER II

Time Allowed : Four (04) Hours

BEFORE ATTEMPTING THE QUESTION PAPER, READ THE INSTRUCTIONS GIVEN BELOW AND ADHERE TO THESE INSTRUCTIONS.

- This question paper has only one question. Answer the question completely.
- Before answering the question read and understand it carefully.
- Sketch the solution on a blank paper before drawing it on the given drawing sheet. If you wish, you could attach the sketch to your answer script.
- It is necessary that all views relevant to the solution are projected simultaneously.
- Draw standard cage, title block, symbols etc.
- All construction details, centre lines etc. should be visible.
- It is extremely important that the Index No. is written at the relevant place on the answer paper.
- Assume any missing dimensions suitably.
- Marks will be deducted if the above instructions are not adhered to.

Figure given shows exploded orthographic views of a GATE VALVE. It consists of the following components.

1. Valve Body
2. Valve Body Cap
3. Stuffing Box
4. Gland
5. Gland Nut
6. Sleeve Nut
7. Right Hand (R.H.) Valve Seat
8. Right Hand (R.H.) Valve
9. Valve Spindle
10. Left Hand (L.H.) Valve
11. Left Hand (L.H.) Valve Seat

Assemble the above components placing them correctly. You may follow the following guide lines to assemble the given components.

The Left Hand Valve Seat (11) and the Right Hand Valve Seat(7) are first fitted to the Valve Body (1) and then the assembly consisting of the Valve Spindle (9), Left Hand Valve (10) and the Right Hand Valve (8) with the Spring in position between the valves is inserted into the body so that the valve spindle occupies the bottommost position. Sleeve Nut (6) is retained in the Valve Body Cap (2) by surface 'P' of the collar on the sleeve nut and the underside of the Stuffing Box (3).

Draw the following views to a scale of **full size** in the **first angle** projection.

- (a) Sectional front elevation corresponding to the given front elevation of the valve body.
- (b) End elevation projected to the right of view (a).
- (c) Plan projected from view (a).

Take radii of casting curves suitably. Do not present hidden details.

- Note :
1. Give a minimum of five dimensions of the assembly.
 2. Indicate the symbol of projection.
 3. Print the main title, sub titles and scale.
 4. Take radii of casting curves suitably. Do not present hidden details.

