

Total No. of printed pages = 5

**END SEMESTER EXAMINATION – 2019**

Subject Code : Ch-406.

**CHEMICAL ENGINEERING DRAWING – I**

Full Marks – 70

Time – Four hours

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

**PART – A**

Marks – 25

All questions of PART – A are compulsory.

1. Fill in the blanks : 1×5=5
- (a) An \_\_\_\_\_ is normally used to change the direction of flow in a pipeline.
- (b) In \_\_\_\_\_, no holes are required to be made as in the case of riveting.
- (c) A flange with no opening, used to close a pipe is called a \_\_\_\_\_ flange.

[Turn over

- (d) A \_\_\_\_\_ valve is used to control the flow of a fluid in a pipeline.
- (e) For pipes that must be broken at intervals for maintenance, the connector used should be a \_\_\_\_\_.

2. Tick the right answer :  $1 \times 5 = 5$

- (a) A tube is specified by its
- (i) Thickness only
  - (ii) Outer diameter only
  - (iii) Thickness and outer diameter both
  - (iv) Inner diameter
- (b) If more than two branches of pipes are to be connected at the same point, then we use
- (i) Elbow
  - (ii) Union
  - (iii) Tee
  - (iv) Reducer
- (c) The most economical valve for use with large diameter pipes is
- (i) Butterfly valve
  - (ii) Globe valve
  - (iii) Needle valve
  - (iv) Gate valve

- (d) Identification of pipelines carrying different liquids and gases is done by
- (i) Diameter of the pipe
  - (ii) Colour of the pipe
  - (iii) The altitude at which the pipe is located
  - (iv) None of the above.

3. State true or false :  $1 \times 5 = 5$

- (a) Stoneware and concrete pipes are mostly used in the form of sewers.
- (b) Automatic controller does not have a feedback.
- (c) Butt joint is an example of welded joint.
- (d) Thin-walled tubings are joined by soldering or by compression.
- (e) Plugs are not used to close a flow line.

4. Give direct answer :  $1 \times 10 = 10$

- (a) Name a fitting to introduce a branch line.
- (b) Name the fitting to change the diameter of a flow line.



- (c) What is the most commonly used method for joining sections of small size pipe ?
- (d) What metals are preferred when there has to be resistance to corrosion ?
- (e) What is used to control the flow of fluids ?
- (f) Name the valve that has a bulbous shape of the valve body.
- (g) What is used for simple open-and-shut control ?
- (h) Glass pipes can be joined by which joint ?
- (i) Give the full form of BWG.
- (j) What is the function of Check valves ?

PART – B

Marks – 45

Question No.5 is compulsory and attempt any five questions from question No.6.

- 5. Draw any *one* of the following : 10
  - (a) Gate Valve
  - (b) Globe Valve
  - (c) Union Joint.

- 6. Draw any *five* of the following :  $7 \times 5 = 35$ 
  - (a) A fitting for connecting branch lines.
  - (b) A fitting for changing the diameter of the line.
  - (c) A Check valve.
  - (d) A Screwed joint.
  - (e) A Bell and spigot joint.
  - (f) Double U Butt joint and Single Fillet Lap joint.

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(4)

400(B)

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(5)

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