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END SEMESTER EXAMINATION – 2022

Semester : 4th

Branch : Chemical Engineering

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.

Instruction :

- *All* questions of PART – A are compulsory.

PART - A

Marks – 25

[Turn over

(b) A flange with no opening is called a

- (i) Reducer
- (ii) Blind
- (iii) Union
- (iv) Couple

(c) The valve used to control the flow of a fluid in a pipeline is

- (i) Globe
- (ii) Gate
- (iii) Check
- (iv) Needle

(d) Welded joints are now extensively used in place of

- (i) Flanged joints
- (ii) Sleeve Joints
- (iii) Union joints
- (iv) Riveted joints

(e) A small piece of pipe having threads on the outer side is called a

- (i) Nipple
- (ii) Plug
- (iii) Tubing
- (iv) Socket

2. Fill in the blanks:

$$1 \times 5 = 5$$

(a) With the help of an _____ the direction of the flow can be changed.

(b) When two ends of pipes are joined, the pipe fitting used is called _____.

(c) _____ joints are used when there is a high chance of leakage in the joints.

(d) The valve used for starting or stopping the flow is the _____ valve.

(e) Pressure vessels are effectively fabricated by _____.

3. Write direct answers :

10

(a) Name the fitting used to connect four pipes. 1

(b) Mention the use of Bell and Spigot Joint. 1

(c) What is the junction of a check valve ? 1

(d) Name two process variables controlled by an automatic control valve. 2

(e) Name two types of welded joints. 2

(f) For sewers, the pipes are made of which material ? 1

(g) Give one use of an expansion joint. 1

(h) Name the commonly used joint for cast iron pipes. 1

4. Match the following :

$1 \times 5 = 5$

(a) Double lap	(i) Bell and spigot joint
(b) Lead	(ii) Closes the line
(c) Stainless steel	(iii) Joins pipes of different diameters
(d) Plug	(iv) Example of welded joint
(e) Reducer	(v) Corrosion resistance

PART – B

Marks – 45

Instruction :

- From PART-B Question No. 5 is *compulsory* and answer any *five* questions from Question No. 6 :

5. Draw a labeled diagram either of a Gate or of a Globe valve. 15

6. Draw any *five* of the following : 6 \times 5=30

- (a) A Check valve
- (b) A fitting for changing the direction.

- (c) Double Lap Joint
- (d) Screwed socket joint
- (e) Union joint
- (f) Automatic control valve.