Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA ENGINEERING – SEMESTER – VI • EXAMINATION – SUMMER 2016

Subject Code: 3355502 **Date: 11/05/2016**

Subject Name: Process Piping Fabrication

Time: 02:30 PM to 05:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make Suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Use of programmable & Communication aids are strictly prohibited.**
5. **Use of only simple calculator is permitted in Mathematics.**
6. **English version is authentic.**

Q.1	(a)	Draw a neat sketch / Figure of any five piping fitting and state their application for piping engineering.	**07**
	(b)	List out the various Types Piping specialty ? Define the term ‘ gasket’ ? Classify the gasket on various basis ? State / give its Application / Function ?	**07**
Q.2	(a)	Define the term pipe W. R to piping engineering , Classify the pipe /Piping based on various criteria	**07**
	(b)	Described in brief : Duties & responsibilities of piping field engineer	**07**
		OR	
	(b)	Classify the pipe based on end connection ? And draw it neat sketch and state their typical application	**07**
Q.3	(a)	Describe role of ASME B 31 codes in pipe fabrication?	**07**
	(b)	List out the various Types strainer. Described in brief with neat sketch :- Pipe Strainer **OR**	**07**
Q.3	(a)	Described in brief with neat sketch : pipe welding position	**07**
	(b)	Define the pipe support and restraint. Described in brief with neat sketch : - pipe racks / restraint	**07**

Q.4 (a) List out the various phases / stages of life cycle of process plant . **07**
Describe in brief : - Construction phases

(b) Describe in brief : 7 properties of fluid **07**

OR

Q.4 (a) Described in brief with tabulated form : **07**

MTO used for pipe fabrications

(b) Calculate the diameter of pipe to carry, **07**
Q = Discharge = 200 lit/min of water
V = Maximum velocity = 5 M/sec
Also find the losses due to friction [Losses of pressure due to friction in pipe]
if, Assume Length of pipe = L = 2 km
Co efficient of friction = f = 0.015
Gravitational constant = g = 9.81M/sec².

Q.5 (a) Classify the 'Coating' and 'insulation'. State their need / function OF IT. **07**

(b) Described in brief : pipe bending method **07**

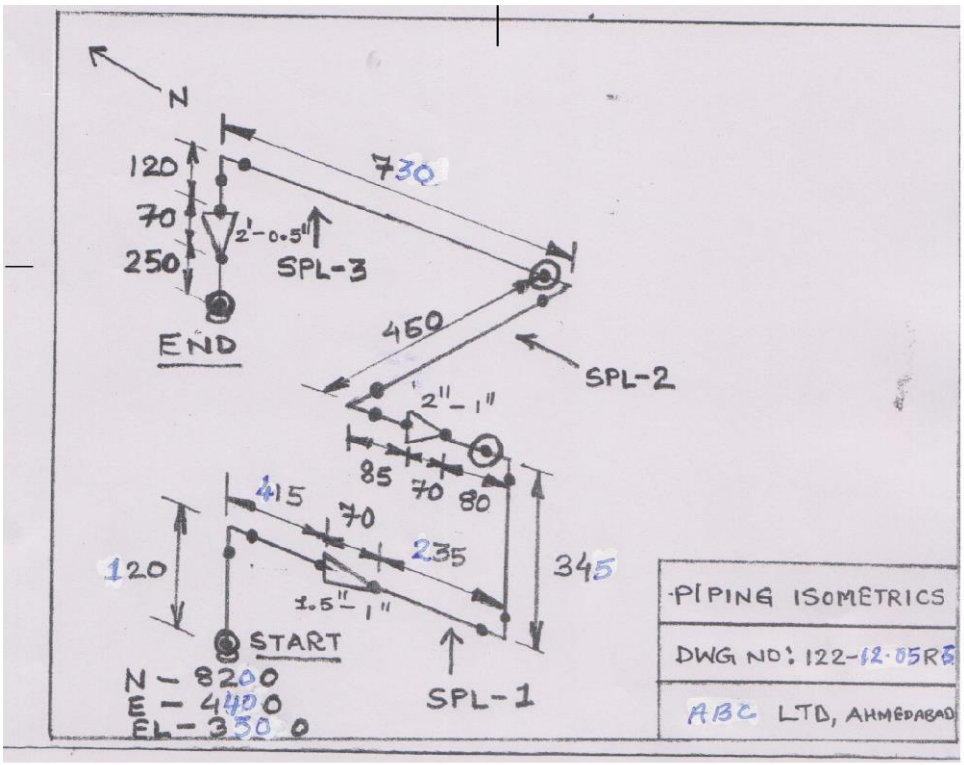
OR

Q.5 (a) Answer the following questions from the given piping isometrics drawing **14**
In Fig No. (I) Write/state
1. Drawing No. And Revision
2. No. of spools in this Isometrics.
3. No. Of Bends / Elbows with size.
4. No. of reducers with size
5. State the Start pt. co-ordinates (N, E, EL)

II Calculate and Show all necessary calculations for it.
(a) No. Of Site/Field Joint (b) No. Of Shop/Spool Joint
(c) Total No. Of Joints (d) End point co-ordinates (N, E, EL)

III Calculate total Amount of (a) Inch-Meter Erection In Piping Isometrics.
(b) Inch-Dia. Welding In Piping Isometrics.

Cont ….3


N
120
70
250
2'-0.5"
SPL-3
730
END
460
SPL-2
2"-1"
85
70
80
415
70
235
120
345
1.5"-1"
START
N - 8200
E - 4400
EL - 3500
SPL-1
PIPING ISOMETRICS
DWG NO: 122-12-05R5
ABC LTD, AHMEDABAD

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