Total Marks: 70

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA ENGG.- Vth SEMESTER–EXAMINATION – JUNE- 2012 Subject code: 355502 Date: 05/06/2012

Subject Name: Piping Engineering Time: 10:30 am – 01:00 pm

Instructions:

- 1. Attempt all questions.
- 2. Make suitable assumptions wherever necessary.
- **3.** Figures to the right indicate full marks.
- 4. English version is considered to be Authentic
- Q.1 (a) Define the term 'pipe'? Explain the classification of pipes / piping based on various criteria.
 - (b) 1. Determine the size of pipe dia. to carry. 04 Discharge = Q = 3200 lit / min. of waterMaximum velocity =V = 5 M/Sec 2. Water flow through a pipe having a following data: 03
 - Dia = d = 20 cmLength = L = 100 mVelocity = V = 3.0 m/secCo-efficient of friction = f = 0.01Gravitationnels constant g = (Assume) 9.81 m / sec

Find out the head loss (Pressure drop) due to friction?

Q.2

Q.3

Prepare PQR with help of following data. 07 (a) (Assume suitable addition data, if necessary) I) As per ASME SEC IX prepare WPS in a standard format for given data Matériel SA 516 GR 60 1. : 2. Pipe dia : 10" N.B (100mm) Electrode : 7018 of O 3.15 × 350 mm 3. Thickness of pipe : 4. 10 mm 5. Welding process : **SMAW** Position 6 : 5G / 6G (b) Define the term 'pressure drop' (head losses) in piping ? 07 Explain the phenomena of pressure drop and their causes In piping system. OR List out the following types of piping elements state its functions ? 07 (b) (1) Various types of Pipe fittings (2) Various types Fasteners (3) Various types of valves (4) Various types Piping specialties Classify the various types of supports ? Explain in brief the various factors 07 (a) affecting selection of pipe supports? 07 (b) Classify the pipe based on end connection and draw its neat sketch and state their typical application.

Q.3	(a)	Explain in brief with neat sketch : -1. Siphoned in water pipe with neat sketch.2. Pipe bending method.	07
	(b)	State role of ASME B.31.3 Code in piping fabrication industry.	07
Q.4	(a)	State the functions of Gaskets. Classify the gasket based on various criteria.	07
	(b)	Explain in brief :- preliminary criteria of piping design. OR	07
Q.4	(a)	List out the various types of piping drawings ?	07
	(b)	 Explain Any one typical piping isometric drawing. Explain in brief with neat sketch. 1 Down hill welding of pipe 2 Up- hill welding of pipe 	07
Q.5	(a)	Define the term pipe 'coating' ? Classify the 'coating' based on various criteria ? State factor affecting selection of paint and coating	07
	(b)	Define the term pipe ' insulation '? List out the types of the 'insulation'? State its properties and importance. ?	07
Q.5	(a)	Explain in brief with neat sketch : - Purging in pipe welding.	07
	(b)	Defines the pressure and vacuum and state its units ? State function in piping engineering department. State the procedure for checking of piping drawing. ******	07