Seat No.:	Enrolment No.
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GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma Engineering - SEMESTER-V • EXAMINATION - SUMMER • 2014

	•	Code: 355502 Date: 27-05-2014	
Ti	•	Name: Piping Engineering 2:30 pm - 05:00 pm Total Marks: 70	
ms		Attempt all questions.	
Q.1	(a) (b)	Define the term 'Pipe' and Classify the pipes based on various criteria. Describe Functions and duties of piping engineering department.	07 07
Q.2	(a) (b)	Prepare lists of following Piping elements: (1) Various types of Pipe fittings. (2) Various types Fasteners. (3) Various types of valves. (4) Various types Piping specialties. State role of ASME B.31.3 Code in piping fabrication.	07
	(0)	OR	07
	(b)	Calculate the diameter of pipe to carry , $Q = Discharge = 500 \ lit \ / \ Min \ of \ water \\ Vmax = Maximum \ velocity = 15 \ m \ / \ sec \\ Also find the head losses due to friction \\ [Loss of pressure due to friction] in pipe if, \\ Length \ of \ pipe = L = 12 \ km \\ Assume \\ Co \ efficient \ of \ friction = f = 0.015 \\ Gravitational \ constant = g = 9.8 \ m \ / \ sec^2.$	07
Q.3	(a)	Define and Explain 'Renolds number'. List various types of flow. Compare Laminar and Turbulent flow.	07
	(b)	Describe Design consideration of typical pipe Support. OR	07
Q.3	(a)	List out the various types of drawing used in piping eng. Draw neat sketch and explain in brief: - ISO PIPING	07
	(b)	Give classification of Gasket based on various criteria. State properties, need and functions of gasket.	07
Q.4	(a)	 Explain in brief with neat sketch: - flanged joint of pipe. Classify the pipe based on end connection and state their typical application 	07
	(b)	Prepare PQR with help of following data: (Assume suitable addition data, if necessary) 1) Matériel: SA 516 GR 60 2) Pipe dia: 250 mm 3) Electrode: E-7018 of ø 3.15 × 350 mm 4) Thickness of pipe: 12 mm (assume) 5) Welding process: SMAW 6) Position: 5G/6G	07
Q. 4	(a)	OR Describes the factor affecting piping equipment layout.	07
-	(b)	Explain in brief with neat sketch: -1) Steam traps, 2) Pipe Strainer	07
Q.5	(a)	Explain in brief with neat sketch :- procedure for checking of Piping drawings.	07

	(b)	Explain the term "coating"?	07
		Classify coating based on various criteria.	
		Explain any one method of applying of coating	
		OR	
Q.5	(a)	Explain in brief: - Mechanical seal and gasket	07
•	(b)	Explain in brief: method of pipe cutting and their edge preparation	07
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