B.E. (Sem VII) (CBSGS) (Mechanical Engg.)

Piping Engineering

17th Dec. 2015

11.00 am to 2.00 pm

QP Code : 6103

(3 Hours) **[Total marks : 80**

[1] Question No. 1 is compulsory

[2] Attempt any three questions out of remaining five questions

[3] Figure to right indicate full marks

[4] Assume suitable data if necessary.

[5] Notations carry usual meaning.

Q.1 a) Differentiate between pipe and tube {05}

b) State the dimensional standards used for the following.

4" NPS Elbow, O'let fittings, 1" NPS equal tee, 16" NPS Flange, CS & SS pipe {05}

c) What is upstream, midstream and downstream oil and gas industry. {05}

b) With sketch explain spectacle blind. {05}

Q.2 a) Give classification of flanges and gaskets with dimensional standards. {10}

b) Draw isometric typical piping used for control station. {10}

Q.3 a) Find BOP of pipe spool L-3 {10}

[TURN OVER]

b) Complete the following table {05}

NPS	NB	OD
6"		
1 1/2"		
	450	
	250	
		21.3

c) Give full form of OISD, ASTM, ASMÆ, ISO, ANSI {05}

Q.4 a) Draw typical Isometric of pump suction and discharge piping. Also state why specific length of pipe spool is maintained at suction and discharge line near the nozzle. {10}

b) Write the appropriate branching component to be used for following branching requirement and the dimensional standard for particular component. {10}

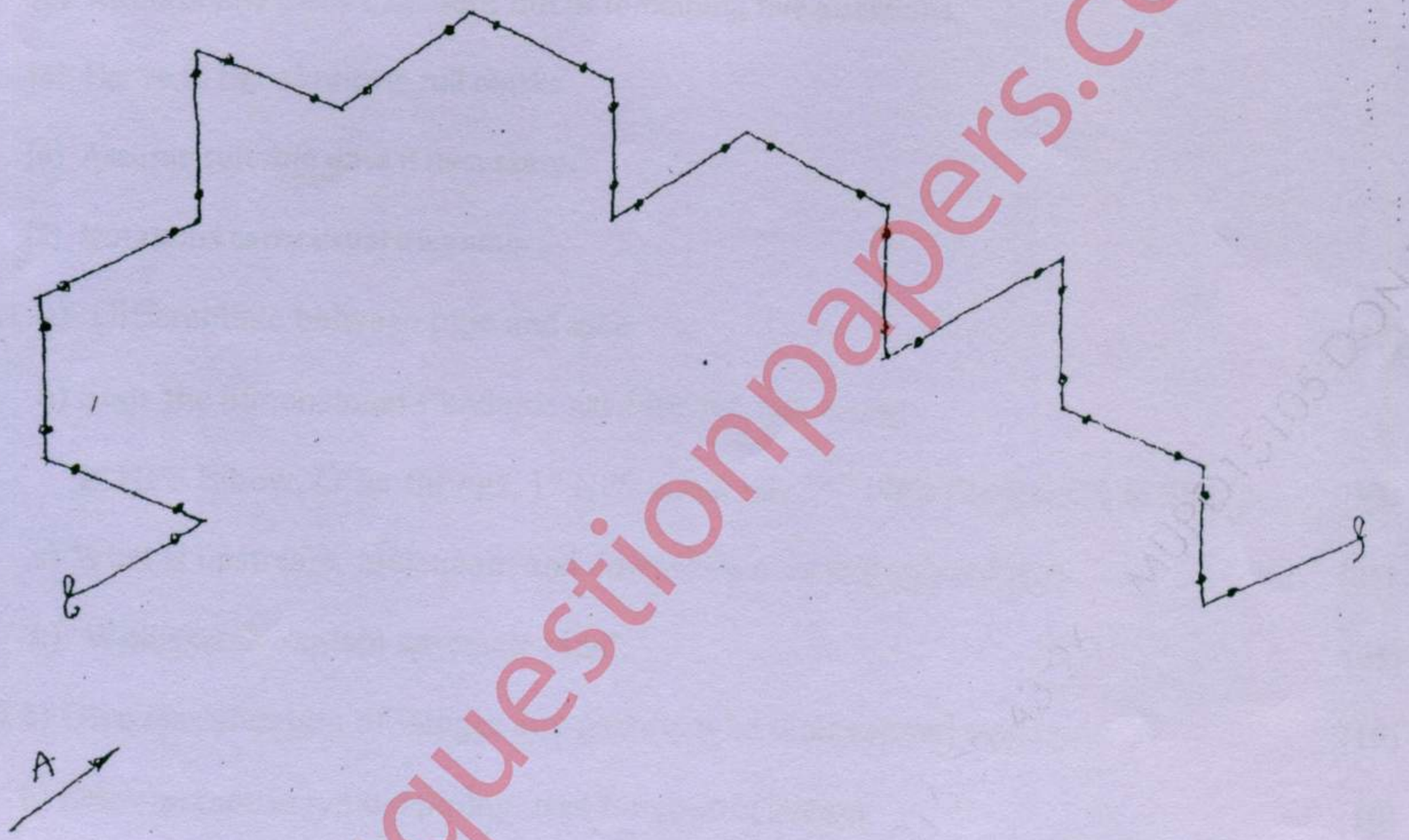
Sr. No.	Size (Header" X Branch")
1	8" X 6"
2	18" X 8"
3	10" X 3/4 "
4	3" X 1 ½"
5	20" X 4"
6	22" X 16"
7	5" X 2 (1/2)"
8	16" X 1 (1/2)"
9	20" X 16"
10	12" X 1(1/2)"

Q.5 c) Differentiate between bend and elbow. {04}

a) Calculate pipe thickness of the pipe for following conditions, Working pressure1640 psi, working temperature 660 F, Size 8" NPS., Seamless,MOC A106 Gr. B, Take Y 0.4 {10}

b) What are the codes, standards & standard practices? {06}

Q.6 a) Draw plan and elevation of the following. {10}



b) Draw circuit diagram of distillation column & explain function of each in the circuit. {10}