

(Total marks: 80)

Notes: (1) Question No. 1 is compulsory.

(2) Attempt any three questions from questions nos. 2 to 6.

(3) Make suitable assumptions if required

(4) Figure to the right indicates full marks.

- Q1** Answer any four of the following **20**
- (a) Write short notes on standard and codes.
  - (b) Explain Concept of high point vent and low point drain
  - (c) Explain different types of pressure losses in pipe?
  - (d) Explain the duties and responsibilities of piping engineer.
  - (e) Explain water hammer in pipes.
  - (f) Explain pipe coating and insulation and list out materials used.
- Q2** (a) What are the welding defects in pipe. Explain any one inspection method to find welding defects. **10**
- (b) Explain in detail Various stresses in piping and stress analysis. **10**
- Q3** (a) Explain with neat diagram IRON –CARBIDE phase diagram. **10**
- (b) Explain in detail process piping code. **10**
- Q4** (a) Explain in detail flexibility analysis **10**
- (b) List out different types of flow diagrams. Explain any one in detail. **10**
- Q5** (a) List and Explain different piping fittings. **10**
- (b) Explain with neat diagram gate valve. **10**
- Q6** (a) What are the different flow diagrams. Explain any one type in detail. **10**
- (b) List and explain different pipe supports with neat diagram. **10**