

17555

21718

3 Hours / 100 Marks

Seat No.

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Instructions : All Questions are *compulsory*.

Marks

1. Attempt any FIVE :

5 × 4 = 20

- (a) What are the factors that affect the quality of a product ?
- (b) What are the advantages of quality control ?
- (c) What are the uses of comparators ?
- (d) Give the working principle of comparator.
- (e) What are the duties of an inspector ?
- (f) Explain the concept of acoustic testing ?
- (g) What are the types of leak testing ?

2. Attempt any FOUR :

4 × 4 = 16

- (a) Explain Taylor's Principle.
- (b) Define Limits, Fits, Tolerances and line standards.
- (c) Differentiate between inspection & quality control.
- (d) What is visual inspection ?
- (e) Differentiate between X-ray and Gamma rays.
- (f) State the two codes each for pipes and pressure vessels as per ASME.

- 3. Attempt any FOUR :** **16**
- (a) Give the principle of compression test.
 - (b) How is the preparation of specimen done in tensile testing ?
 - (c) What are DIN and ASTM codes ?
 - (d) Explain principle of fluorescent penetrant inspection with neat sketch.
 - (e) State any two advantages & disadvantages of X-ray radiography.
 - (f) Write the major provision in DIN standard for the inspection of pressure vessels.
- 4. Attempt any FOUR :** **16**
- (a) What are DIN and IBR ?
 - (b) What is the purpose of bend test ?
 - (c) Describe the procedure for conduct longitudinal bend test.
 - (d) State the concept of "hole basis system" with diagram.
 - (e) Explain the procedure of X-ray radiography.
 - (f) State the principle of magnetic particle inspection.
- 5. Attempt any TWO :** **2 × 8 = 16**
- (a) With a neat sketch explain the working and principle of operation of eddy current.
 - (b) Explain with a neat sketch Charpy test and Izod test.
 - (c) Explain the working of pneumatic comparator with a neat sketch.
- 6. Attempt any TWO :** **2 × 8 = 16**
- (a) State the procedure of Brinell hardness test. Draw neat diagram & write formula to find out BHN.
 - (b) Describe the procedure with a neat sketch ultrasonic inspection.
 - (c) State the importance of TQM and give the definition of quality control and quality of design.
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