17555

15116

3 Hours / 100 Marks Seat No. | | | | | | | | |

Instructions : (1) All Questions are *compulsory*.

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Use of Non-Programmable Electronic Pocket Calculator is permissible.

Marks

1. Attempt any FIVE : **20**

(a) What are the requirements of good comparator ?

(b) What are the advantages of quality control ?

(c) Differentiate between inspection and quality control.

(d) What are the objectives of non-destructive and testing ?

(e) Explain Allweld metal test in brief.

(f) State and explain inspection codes for pressure vessels and pipes in brief.

(g) Explain the principle of Acoustic Test.

2. Attempt any TWO : **16**

(a) Differentiate between pneumatic comparator and electrical comparator with four points.

(b) State the advantages and disadvantages of X-ray radiography.

(c) What is the purpose of Nick break test ? Explain its procedure with neat sketch.

P.T.O.

3. Attempt any FOUR : **16**

(a) Define :

(i) Quality of Design

(ii) Quality of Performance

(b) Enlist the duties of Inspector.

(c) Explain principle of magnetic particle inspection test.

(d) Enlist applications of ultrasonic inspection.

(e) Explain the principle and practical aspect of compression test.

(f) Explain ASME and ASTM codes in brief.

4. Attempt any FOUR : **16**

(a) What is total quality management ? Explain.

(b) Explain inspection planning.

(c) Enlist the advantages of gamma radiography.

(d) Enlist the disadvantages of gamma radiography.

(e) Enlist different types of bend test with its purpose.

(f) Explain PIN, IBR codes in brief.

5. Attempt any TWO : **16**

(a) Differentiate between hole basis system and shaft basis system.

(b) Explain working principle of Eddy current testing and give its applications.

(c) Explain Izod and Charpy test in detail.

6. Attempt any FOUR : **16**

(a) Define :

(i) Limit

(ii) Fit

(b) Explain classification of inspection in brief.

(c) What are different types of leak tests ? Explain any one.

(d) What are the basic factors in ultrasonic testing ?

(e) Explain difference between macro etch test and micro etch test.

(f) Explain Hardness test in brief.

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