

Roll No.:

SGT UNIVERSITY

END TERM THEORY EXAMINATION JULY-2022

| | | | |
|---------------------------|--------------------------------------|----------------|--------------------------|
| Faculty/College of Study: | Engineering & Technology | Year/Semester: | 6 th Semester |
| Program: | B.Tech. (ME) | Duration: | 03:00 Hrs |
| Course/Subject: | Non-Destructive Evaluation & Testing | Maximum Marks: | 60 |
| Course/Subject Code: | 13030648 | Batch: | 2019 |

Instructions:-

1. Write Your Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided correct question paper. Complaint(s) in this regard, if any should be made within 15 minutes of the commencement of the exam. No complaint(s) will be entertained thereafter.
3. All Questions are compulsory. Marks are indicated against each question.
4. Illustrate your answer with diagram wherever required.

SECTION-A

(Very Short Answer Type Questions)

Note: All Questions are compulsory: -

[12X1=12 Marks]

| S. No. | Question | Marks Allotted |
|--------|---|----------------|
| 1 | What is TOFD in ultrasonic testing? | 1 |
| 2 | Define 'edge effect'. | 1 |
| 3 | Define 'lift off effect'. | 1 |
| 4 | Give one future scope of NDT methods. | 1 |
| 5 | Define NDT. | 1 |
| 6 | Define dye test. | 1 |
| 7 | Define leak test. | 1 |
| 8 | Define liquid penetrate testing. | 1 |
| 9 | Define magnetic particle testing. | 1 |
| 10 | What is the principle of LPT? | 1 |
| 11 | List some of the properties of X- and Gamma Rays. | 1 |
| 12 | What are the limitations of LPI? | 1 |

SECTION-B
(Short Answer Type Questions)

Note: All Questions are compulsory: -

[4X2=8 Marks]

| S. No. | Question | Marks Allotted |
|--------|--|----------------|
| 13 | Explain the future scope of NDT methods. | 2 |
| 14 | Differentiate b/w destructive and non-destructive testing. | 2 |
| 15 | What are the properties of liquid penetrate developer? | 2 |
| 16 | How visual inspection helps in Non- Destructive Testing? | 2 |

SECTION-C
(Descriptive Answer Type Questions)

Note: All Questions are compulsory: -

[4X4=16 Marks]

| S. No. | Question | Marks Allotted |
|--------|--|----------------|
| 17 | What are the general stages of weld inspection and testing? | 4 |
| 18 | Explain theory of magnetism. | 4 |
| 19 | Explain various methods of Liquid Penetrant Inspection. | 4 |
| 20 | What is the use of field indicators in MPI? Explain any one type of field indicator used in MPI. | 4 |

SECTION-D
(Long Answer Type Questions)

Note: All Questions are compulsory: -

[4X6=24 Marks]

| S. No. | Question | Marks Allotted |
|---------------|---|-----------------------|
| 21 | Explain fluorescent penetrate inspection. | 6 |
| 22 | Explain the principle and methods of demagnetization in brief. | 6 |
| 23 | Explain procedure used for testing a component using Magnetic particle Inspection (MPI). | 6 |
| 24 | (a) Explain any three applications of Eddy current testing. (b) What are the advantages and limitations of ECT? | 6 |