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NPTTEL

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Courses » Machinery Fault Diagnosis And Signal Processing

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Unit 13 - Week 11

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Course outline

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Week 11

- Lecture 51:
Ultrasonics
- Lecture 52: Eddy
Current and
Acoustic
Emission
- Lecture 53:
Radiography,
Dye Penetrant
Tests

Assignment 11

The due date for submitting this assignment has passed. **Due on 2019-04-17, 23:59 IST**
As per our records you have not submitted this assignment.

1) Select the application of ultrasonic technique 1 point

- a. Thickness measurement
- b. Crack detection
- c. Weld inspection
- d. All of the above

(a)

(b)

(c)

(d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(d)

2) 1 point

What is the order of waves generated when the materials are under stress?

- a. 2 kHz
- b. 20 kHz
- c. 200 kHz
- d. 2000 kHz

(a)

(b)

(c)

(d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

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 Quiz :
Assignment 11 Feedback for
Week 11**Week 12****DOWNLOAD
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Solution**

Mechanical compliance is defined as

- a. Velocity/Force
- b. Force/Velocity
- c. Displacement/Force
- d. Force/Displacement

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.**Score: 0****Accepted Answers:**

(c)

4) The purpose of dye penetration test is

- a. Thickness measurement
- b. Surface crack detection
- c. Temperature measurement
- d. Chemical composition identification

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.**Score: 0****Accepted Answers:**

(b)

5) Select a non-contact temperature measurement device?

- a. Thermometer
- b. Thermocouple
- c. Optical pyrometer
- d. None of these

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.**Score: 0****Accepted Answers:**

(c)

6) Following are the types of non-destructive testing

- a. Acoustic emission
- b. Ultrasonics
- c. Vibration analysis
- d. All of the above

**1 point****1 point****1 point**

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(d)

7) Ultrasonic technique can also be applied in non-metallic material

1 point

- a. True
- b. False

- (a)
- (b)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a)

8)

1 point

Select the technique which can be used for crack detection in non-conductive mater

- a. Ultrasonic
- b. Eddy current
- c. Both a. and b.
- d. None of these

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a)

9) Select the type(s) of acoustic emission signal

1 point

- a. Transient (burst)
- b. Continuous
- c. Both a. and b.
- d. None of these

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(c)

10)

1 point

The Eddy current technique is based on the following phenomenon

- a. Measuring radiation absorption
- b. Uses high frequency sonar
- c. Magnetic induction
- d. None of these

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(c)

11)

1 point

Measurement of response as well as force is required in experimental modal analysis

- a. True
- b. False

- (a)
- (b)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a)

12)

1 point

Experimental modal analysis aims for the evaluation of

- a. Natural frequencies of the system
- b. Damping of the system
- c. Mechanical properties of the system
- d. All of the above

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a)

(b)

13)

1 point

Inverse of the mechanical impedance is called

- a. Mobility
- b. Compliance
- c. Stiffness
- d. Resilience

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a)

14. In vibrating structures, the points having zero displacements are called **1 point**

- a. Mode points
- b. Node points
- c. Anti-mode points
- d. Anti-node points

(a)

(b)

(c)

(d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(b)

15. Instrumented hammer used in experimental modal analysis, usually has **1 point**

- a. A force transducer
- b. A vibration transducer
- c. Both a. and b.
- d. None of these

(a)

(b)

(c)

(d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a)

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