

Unit 5 - Week 3

Course outline

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

Eddy current testing - 1

Eddy current testing - 2

Eddy current testing - 3

Eddy current testing - 4

Eddy current testing - 5

Quiz : Week 3 Practice Assessment

Quiz : Assignment 3

Week 3 Feedback : Theory and Practice of Non Destructive Testing

Week 4

Week 5

Week 6

Week 7

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Assignment 3

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-02-19, 23:59 IST.

1) Eddy current testing can be used to:

1 point

- Detect surface and near surface cracks
- Detect internal flaws
- Measure the thickness of nonconductive coatings on plastics
- Both A and B

No, the answer is incorrect.
Score: 0

Accepted Answers:
Detect surface and near surface cracks

2) The highest area enclosed by the lift off curve in impedance plane will be for:

1 point

- Air
- Steel
- Copper
- Aluminum

No, the answer is incorrect.
Score: 0

Accepted Answers:
Copper

3) In Eddy current testing, changing the frequency of current from 100 kHz to 1 MHz in a bronze coil will be visible in the impedance plane as:

1 point

- Increase in the area under the Lift off curve
- Decrease in the area under the Lift off curve
- Disappearance of Lift off curve
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Increase in the area under the Lift off curve

4) 'Lift off' in Eddy Current Testing is:

1 point

- Change in the impedance of probe
- Distance between probe and sample surface
- Signal for crack in Impedance plane
- Surface discontinuity of the testing sample

No, the answer is incorrect.
Score: 0

Accepted Answers:
Distance between probe and sample surface

5) In Eddy current testing typically used frequency range of AC is:

1 point

- 1 kHz – 10 MHz
- 50 Hz – 60 Hz
- 20 Hz – 20,000 Hz
- 10 MHz – 1 GHz

No, the answer is incorrect.
Score: 0

Accepted Answers:
1 kHz – 10 MHz

6) Eddy Current Testing reveals flaws as:

1 point

- Indirect indications
- Direct indications
- Indications visible on the sample surface
- V-I plot in Cartesian coordinates

No, the answer is incorrect.
Score: 0

Accepted Answers:
Indirect indications

7) Direction of induced current is given by:

1 point

- Faraday's Law
- Lenz's Law
- Ohm's law
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Lenz's Law

8) All other variables being same, induced EMF in a coil with 40 turns will be:

1 point

- Double of a coil with 20 turns
- Half of a coil with 20 turns
- $2\sqrt{2}$ times of a coil with 5 turns
- 25% more than a coil with 15 turns

No, the answer is incorrect.
Score: 0

Accepted Answers:
Double of a coil with 20 turns

9) The induced current in a coil opposes change in its magnetic flux:

1 point

- To conserve energy
- To enhance the induced voltage
- To decrease the ohmic resistance
- All of above

No, the answer is incorrect.
Score: 0

Accepted Answers:
To conserve energy

10) As the frequency of the current, conductivity and magnetic permeability of the sample is increased, the standard penetration depth

1 point

- Decreases
- Increases
- Remains constant
- Cannot be determined

No, the answer is incorrect.
Score: 0

Accepted Answers:
Decreases