

Unit 2 - Week 0

Course outline

How does an NPTEL online course work?

Week 0

Quiz : Assignment 0

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Assignment 0

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

Due on 2020-01-27, 23:59 IST.

Welcome to the course "Theory and Practice of Non Destructive Testing". This is a primer to the course, to give you an overview about some basic concepts.

Conventional methods to inspect the condition of a component or a part, involves breaking a part of it in order to examine it under a microscope or measure its physical properties like hardness, tensile strength. For instance, the severity of quench, examined using a Rockwell hardness test, requires a part of sample be cut from the part being inspected. Non-Destructive Testing (NDT) methods help the analysis of components without causing permanent damage to it.

In this course, you will learn about the basic principles and methodology of several NDT techniques. This assignment is basically aimed at giving you a revisit to some basic concepts like optics, magnetism, surface tension etc.

- 1) Certain materials absorb light of particular wavelength and get excited. They come back to ground state by emitting a longer wavelength light. This phenomenon is known as _____

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) Fluorescence

1 point

Magnetic lines of force flows from A pole to B pole in a bar magnet

- 2) Fill in the blanks:

Answer of A _____

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) North

1 point

- 3) Answer of B _____

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) South

1 point

- 4) Above this frequency level, sound waves are known as ultrasonic waves. What is this threshold level of frequency?

- 20 Hz
 2 kHz
 20 kHz
 20 MHz

No, the answer is incorrect.
Score: 0

Accepted Answers:
20 kHz

1 point

- 5) Eddy currents are generated when:

- A conductive material is placed in a changing magnetic field
 When a conductive material is moved through a static magnetic field
 When a static magnetic field is moved across the surface of a conductive material
 All of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
All of the above

1 point

- 6) When you put a drop of water on a lotus leaf, the water droplet will simply roll on the surface of the leaf without wetting it. This phenomenon is known as lotus effect. What will be the contact angle that the liquid droplet makes with the leaf surface?

- 45°
 60°
 75°
 150°

No, the answer is incorrect.
Score: 0

Accepted Answers:
150°

1 point

- 7) Within a given material, the speed of sound:

- Is constant
 Decreases with the distance from the transducer
 Increases with the distance from the transducer
 None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Decreases with the distance from the transducer

1 point

- 8) In several construction sites, heaps of sand is stored. If the stored sand gets wet in rain, the sand grains form agglomerates. What is the driving force for the formation of these agglomerates?

- Capillary force
 Magnetic force
 Vander wal's force
 Electrostatic force

No, the answer is incorrect.
Score: 0

Accepted Answers:
Capillary force

1 point

- 9) The number of magnetic lines of force cutting through a plane of a given area at a right angle is known as the:

- Magnetic flux leakage
 Magnetic flux density
 Magnetic ampere
 None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Magnetic flux density

1 point

- 10) A photographic paper consists of silver halide particles. When you develop the photographic paper what happens to the silver halide particles?

- They are reduced to silver particles
 They are converted into silver nanoparticles
 They become silver oxide
 They are inert

No, the answer is incorrect.
Score: 0

Accepted Answers:
They are reduced to silver particles

1 point

- 11) Sound can propagate as:

- Longitudinal waves
 Shear waves
 Surface waves
 All of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
All of the above

1 point

- 12) Soft X-rays are x-rays with wavelength > 0.1 nm (lower energy), while hard x-rays have wavelength < 0.1 nm (high energy). Exposure to which of the two are harmful to human beings?

- Hard X-rays
 Soft X-rays

No, the answer is incorrect.
Score: 0

Accepted Answers:
Soft X-rays

1 point

- 13) The ability to locate discontinuities that are close together within the material is called:

- Resolution
 Sensitivity
 Effectiveness
 Phase delay

No, the answer is incorrect.
Score: 0

Accepted Answers:
Resolution

1 point

- 14) A current carrying conductor placed in a magnetic field experiences an induced magnetic field. This is known as _____

- Photoelectric effect
 Thomson effect
 Electromagnetic induction
 Lenz's law

No, the answer is incorrect.
Score: 0

Accepted Answers:
Electromagnetic induction

1 point

- 15) Which of the following gives a 3D image of an object?

- Computed tomography (CT scan)
 Ultrasonic testing
 Optical microscopy
 None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Computed tomography (CT scan)

1 point

- 16) What are the ways to demagnetize a magnetic object?

- Heat the object above Curie temperature
 Pass a current in the direction opposing the magnetic field
 Both a and b
 None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Both a and b

1 point