



MAGNETIC PARTICLE INSPECTION - ENTRANCE EXAMINATION

Student Name _____ Points Per Item _____ 5.0
Company _____ Points Awarded _____
Supervisor _____ Percentage _____
Date & Time _____

The following questions are True (T) or False (F). Write T or F in each blank space preceding the questions.

- _____ 1. A surface crack in a ferromagnetic part will disrupt the lines of force and will create a flux leakage.
- _____ 2. Soft steel parts have a high residual magnetism.
- _____ 3. Hard steel parts are more difficult to magnetize than soft steel parts.
- _____ 4. Coil shots are used to produce circular magnetic fields.
- _____ 5. Head shots are used to produce longitudinal magnetic fields.
- _____ 6. Parts with high resistance (reluctance) to magnetic fields also have high retentively.
- _____ 7. The lines of force should be at right angles to the direction of the discontinuities.
- _____ 8. Permeability refers to the ease with which a magnetic flux is established in a material.
- _____ 9. Magnetic particles are better attracted to subsurface lines of force than they are to leakage fields.
- _____ 10. Non-ferromagnetic materials are commonly inspected with the magnetic particle method.
- _____ 11. A central conductor may be used to generate circular magnetic fields in hollow parts.
- _____ 12. A coil may be used to generate longitudinal magnetic fields.
- _____ 13. Prods produce longitudinal magnetic fields.
- _____ 14. Hard metals, with a high carbon content, produce wide hysteresis loops.
- _____ 15. Alternating current (AC) is the best choice for locating subsurface discontinuities.



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The following questions are multiple choice. Circle your choice of the correct answer for each question. There is only ONE correct answer for each question.

16. The wet fluorescent technique differs from the wet visible technique because of the need for:

- A. Higher Current
- B. A Black Light.
- C. Different Magnetizing Equipment.
- D. Higher Magnetizing Current.

17. If the magnetic field strength does NOT increase with an increase in current the _____ point has been reached.

- A. Residual
- B. Retentively
- C. Salient
- D. Saturation

18. When the magnetic particles are applied sometimes after the current is removed, what technique is employed?

- A. Residual
- B. Continuous
- C. Wet
- D. Dry

19. When preparing an inspection bath, a certain amount of magnetic particles is used. This is called the bath:

- A. Usable Limit.
- B. Concentration.
- C. Particle Number.
- D. Measuring Scale.

20. The ability of matter to attract other matter is called:

- A. Field Strength.
- B. Pole Strength.
- C. Coercive Force.
- D. Magnetism.