Model Questions For MT Level - II

1. The location where a magnetic field can be detected existing or entering a material is called:
   a. A magnetic pole
   b. A magnetic field
   c. A flux field
   d. Polarity
2. Which of the following has a very weak and negative susceptibility to magnetic field?
   a. Ferromagnetic materials
   b. Diamagnetic materials
   c. Paramagnetic materials
   d. None of the above
3. The magnetic flux density that remains in the material when the magnetizing force is zero is called:
   a. Retentivity
   b. Residual magnetism
   c. Coercive force
   d. Permeability
4. Which type of current flows continuously in one direction at a constant voltage?
   a. Direct current
   b. Alternating current
   c. Rectified alternating current
   d. Half wave rectified alternating current
5. An object that has a magnetic pole on one end and a second equal but opposite magnetic pole on the other is called a:
   a. Dipole
   b. Inductor
   c. Capacitor
   d. A ferromagnetic material
6. Materials can be demagnetized by:
   a. Heating above their curie temperature
   b. Subjecting the component to a reversing and decreasing magnetic field
   c. Both A and B
   d. None of the above
7. The no. of magnetic lines of force cutting through a plane of a given area at a right angle is known as the:
   a. Magnetic flux leakage
   b. Magnetic flux density
   c. Magnetic ampere
   d. None of the above
8. The area where the exit poles are concentrated is called the magnet's:
   a. South pole
   b. North pole
   c. Dipole

d. Flux density

9. When the magnetizing current is stopped, a ferromagnetic material will:
   a. Remain magnetically saturated
   b. Become demagnetized
   c. Retain a residual magnetic field within the component
   d. None of the above
10. Magnetic lines of force:
   a. Have the same strength
   b. Seek the path of least resistance
   c. Decrease in density with increasing distance from the poles
   d. All of the above.
11. A property of a material that describes the ease with which a magnetic flux is established in a component is called:
   a. Retentivity
   b. Residual magnetism
   c. Coercive force
   d. Permeability
12. Which of the following has a large susceptibility to magnetic field?
   a. Ferromagnetic materials
   b. Diamagnetic materials
   c. Paramagnetic materials
   d. None of the above
13. Magnetic particle inspection can be performed on parts made from which materials:
   a. Iron, nickel, copper
   b. Iron, nickel, cobalt
   c. Nickel, cobalt, copper
   d. Iron only
14. When ferromagnetic material is in a unmagnetized state, the domains are:
   a. Aligned in a north and south direction
   b. Aligned in east and west direction
   c. Randomly organized
   d. Balanced to produce a gauss rating of 2
15. A hysteresis loop shows the relationship between the:
   a. Induced magnetic flux density and the magnetizing force
   b. Induced magnetic flux density and the electron force
   c. Electron flow and magnetic field strength
   d. Flux density and number of coil turns
16. A material with a wider hysteresis loop has:
   a. Higher reluctance
   b. Higher permeability
   c. Lower retentivity
   d. All of the above
17. The opposition that a ferromagnetic material shows to the establishment of a magnetic field is called:

a. Retentivity
b. Reluctance
c. Coercive force
d. Permeability

18. A longitudinal magnetic field has magnetic lines of force that run:
    a. Parallel to the long axis of the part
    b. 90 degrees to the long axis of the part
    c. Circumferentially around the perimeter of the part
    d. Opposite the waveform of the magnetic particle machine used
19. The best detection of defects occurs:
    a. When the magnetic field is 10% beyond its saturation point
    b. When the hysteresis loop shifts from positive to negative
    c. In a darkened room
    d. When the line of magnetic force are parallel to the longest dimension of the defect
    e. When the lines of magnetic force are perpendicular to the longest dimension of the defect.
20. A yoke established a magnetic field:
    a. That can be constant or pulsed
    b. Between the north and south poles of the yoke
    c. Equally in all directions around the poles
    d. Both A and B
21. Multidirectional inspection equipment:
    a. Provides a more sensitive inspection
    b. Provides less sensitive inspection
    c. Can be used without the need for QQIs
    d. Reduces inspection time
22. Materials can be demagnetized by:
    a. Heating above their curie temperature
    b. Subjecting the component to a reversing and decreasing magnetic field
    c. Both A and B
    d. None of the above
23. The amount reverse magnetic field which must be applied to a magnetic material to reduce the magnetic flux to zero is called:
    a. Retentivity
    b. Residual magnetism
    c. Coercive force
    d. Permeability
24. Sub surface defect indications usually appear:
    a. Sharp and distinct
    b. Sharp and wide
    c. Wide and fuzzy
    d. Sharp and linear
25. When using wet continuous method, the flow of suspension from the hose should be shut off

a. Immediately after supplying current
b. Immediately before supplying current
c. While current is flowing
d. 30 seconds before applying current

26. If the concentration level of the magnetic particle bath is not maintained at the proper level, possible indications may be,
    a. Missed
    b. Masked
    c. Erroneously identified
    d. All of the above
27. What is the major advantage of dry visible particles over wet fluorescent particles
    a. They come in only one colour
    b. They are more sensitive to small stress cracks
    c. They don't require UV light or darkened area
    d. All of the above
28. What method of applying magnetic particles is considered most the most sensitive?
    a. Residual
    b. Continuous
    c. Modified residual
    d. Multidirectional residual application
29. Why do particles come in different color?
    a. To increase the ability of the technician to detect indication
    b. To increase the color contrast of the particles to surface under test
    c. Different colors represent different sensitivity levels
    d. A and B
30. A key factor for selecting magnetic particles for magnetic particle test is that they have:
    a. Good mobility
    b. High permeability
    c. Low retentivity
    d. All of the above factors to be an acceptable testing medium
31. When residual application method is used what magnetic characteristic must the part have
    a. Low permeability
    b. High retentivity
    c. High permeability
    d. Low retentivity
32. A hallow part's geometry would require what type of MPT to detect longitudinal stress cracks on the inner surface:
    a. Circular magnetism applied with head shot
    b. Circular magnetism applied with central bar conductor
    c. Longitudinal magnetism applied with head shot
    d. Longitudinal magnetism applied with central bar conductor
33. In which type of magnetism is the length of a part not a criterion for determining the amount of current to be used?
    a. Circular magnetism applied with head shots

b. Circular magnetism applied with prods
c. Circular magnetism applied with a coil
d. Both a an b

34. Why should a technician know that type of discontinuity the MPT procedure is designed to detect?
    a. Knowing type of discontinuity can save the time and money
    b. Knowing type of discontinuity enhances the chances of finding it
    c. Knowing type of discontinuity can eliminate doing the magnetic particle test
    d. Both a and b
35. Selecting the technique for doing a magnetic particle test includes
    a. Knowing the amount type of current
    b. Knowing the manner to apply the particles
    c. Knowing the type of the equipment
    d. All of the above
36. A pie gauge is used to determine
    a. The general direction and approximate strength of the magnetic field induced in the part
    b. The specific direction and strength of the magnetic field induced in the part
    c. The strength of the internal magnetic field
    d. To cut pies into equal portions
37. When do painted parts need the paint removed
    a. When the current is applied in a coil
    b. When the current is applied with a central bar conductor
    c. When the current is applied with headstocks
    d. All of the above, because paint removed is always required for magnetic particle tests.
38. A subsurface discontinuity can be detected by magnetic particle testing. What factor limits the ability to dectect subsurface discontinuities?
    a. The type of material being tested
    b. The geometry of the part being tested
    c. The type of current and particle medium used
    d. All of the above
39. Which of the following can cause a non relevant indications
    a. Lint in the bath
    b. Heat treating boundaries
    c. Pressed fits
    d. All of the above
40. Why should parts be demagnetized?
    a. To prevent interference with welding operations
    b. To prevent interference with electrical operations
    c. To allow for proper post cleaning of a part
    d. All of the above

Ans:

1. A
2. B
3. B
4. A
5. A
6. C
7. B
8. B
9. C
10. B
11. D
12. A
13. D
14. C
15. A
16. A
17. B
18. A
19. E
20. B
21. D
22. C
23. C
24. C
25. C
26. D
27. C
28. B
29. B
30. D
31. B
32. B
33. A
34. D
35. D
36. B
37. D
38. C
39. D
40. D