

Duration: 120 Mins

Total Marks: 55

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Student Name: _____ Roll No: _____

1. What is termed as the quantity of matter contained in a body?

- A) Specific gravity B) Mass
C) Density D) Volume

2. What is the specific gravity of the metal, if the piece of metal weighs 150 grams in air and 125 grams in water?

- A) 25 B) 6
C) 15 D) 10

3. What is the other name of low carbon steel?

- A) Low alloy steel B) Mild steel
C) High speed steel D) High alloy steel

4. Which is very good conductor?

- A) Cast iron B) Wrought iron
C) Copper D) Steel

5. What is the density (ρ) in g/cm^3 of an iron cube, if it weighs (W) 4.8 kg and volume (V) is 640 cm^3 ?

- A) 6.6 g/cm^3 B) 7.5 g/cm^3
C) 6.9 g/cm^3 D) 7.2 g/cm^3

6. What is the volume of mercury in cm^3 , if the mass (m) of mercury is 136 grams (g) and density (ρ) of mercury is 13.6 g/cm^3 ?

- A) 136 cm^3 B) 10.0 cm^3
C) 10.6 cm^3 D) 13.6 cm^3

7. What is the mass in gram, if a force of 15 dynes acting on a mass m producing an acceleration of 2.5 cm/sec^2 ?

- A) 7 grams B) 8 grams
C) 6 grams D) 9 grams

8. What is the resistance? $I = 11.5 \text{ Amps}$ $V = 380 \text{ Volts}$ $R = \text{_____ Ohms}$

- A) 13 ohms B) 43 ohms
C) 23 ohms D) 33 ohms

9. What is the rated power if an adjustable resistor bears the following label $1.5 \text{ k ohms} / 0.08 \text{ A}$?

- A) 9.8 watts B) 9.6 watts
C) 9.2 watts D) 9.4 watts

10. Which is mineral insulator

- A) Mica B) Glass
C) Porcelain D) Quartz

11. Which is the example for dynamically induced Emf?

- A) Generator B) Motor bike
C) Car D) Motor

12. Which metal contains iron as a major content?

- A) Bronze metal B) Ferrous metal
C) Brass metal D) Zinc

13. What is the flow of electrons in any conductor?

- A) Voltage B) Current
C) Power D) Resistance

14. What does EMF stands for?

- A) Electronic Magnetic Force B) Electro Magnetic Force
C) Electro Motive Force D) Electromated Force

15. Which one is non-metal?

- A) Graphite B) Mercury
C) Brass D) Iron

16. What is the force with which a body is attracted by the earth towards its centre?

- A) Volume B) Mass
C) Density D) Weight

17. Which mechanical property of a metal offers resistance to elastic deformation in a cutting tool?

- A) Hardness B) Malleability
C) Ductility D) Toughness

18. Which property of material enables to formation of permanent deformation without fracture?

- A) Plasticity
- B) Ductility
- C) Brittleness
- D) Elasticity

19. Which metal cannot be forged?

- A) Steel
- B) Alloy steel
- C) Mild steel
- D) Cast iron

20. Which cast iron cannot be welded?

- A) Nodular cast iron
- B) Malleable cast iron
- C) White cast iron
- D) Grey cast iron

21. What is the weight force of a car has a mass of 800 kg?(Take $g = 9.81\text{m/sec}$)

- A) 7748 Newton
- B) 7487 Newton
- C) 7847 Newton
- D) 7848 Newton

22. Which property of a substance is opposing the flow of electric current?

- A) Resistance
- B) EMF
- C) Current
- D) Voltage

23. What is the volume (V) of mercury in cm^3 , if mass (m) of mercury is 1 kg and density (r) is 13.6 g/cm^3 ?

- A) 73.53 cm^3
- B) 73.23 cm^3
- C) 73.43 cm^3
- D) 73.33 cm^3

24. How many hours will take for a 100 watts bulb to consume 1 kwh energy?
 $W = 1\text{ Kwh}$
 $P = 100\text{ Watts}$
 $t = \text{___Hours}$

- A) 12 hours
- B) 24 hours
- C) 18 hours
- D) 10 hours

25. What is the density of aluminium?

- A) 5.7 g/cm^3
- B) 2.7 g/cm^3
- C) 4.7 g/cm^3
- D) 3.7 g/cm^3

26. Which is the unit of current?

- A) Volt
- B) Watt
- C) Ohm
- D) Ampere

27. Which property of a metal possessed by it melts when heat is applied?

- A) Conductivity
- B) Malleability
- C) Tenacity
- D) Fusibility

28. What is the mass if the density of a body is 7.6 g/cm^3 and its volume is 25 cm^3 ?

- A) 210 grams
- B) 200 grams
- C) 220 grams
- D) 190 grams

29. What is the block weighs (W) in kg, if volume (V) is 320 cm^3 and density 8.9 g/cm^3 ?

- A) 2.948 kg
- B) 2.648 kg
- C) 2.448
- D) 2.848 kg

30. Which is same in series connection of resistors in a circuit?

- A) Resistance
- B) Power
- C) Voltage
- D) Current

31. Which one of the following properties is the mechanical properties of metal?

- A) Fusibility
- B) Corrosion
- C) Ductility
- D) Structure

32. What is the name of the metal which do not contain iron?

- A) Ferrous metals
- B) Insulating metals
- C) Non-Insulating metals
- D) Non-ferrous metals

33. Which is brittle metal?

- A) Cast iron
- B) Steel
- C) Alloy steel
- D) Mild steel

34. Which alloy used in electric lamp as filament?

- A) Vanadium
- B) Silicon
- C) Cobalt
- D) Tungsten

35. What is the total resistance if three resistances of 3 ohms, 9 ohms and 5 ohms are connected in series?

- A) 11 ohms
- B) 7 ohm
- C) 17 ohms
- D) $1/17\text{ ohms}$

36. What is called the ratio between the density of a substance density of water at 4 Degree Centigrade?

- A) Specific gravity
- B) Weight
- C) Density
- D) Mass

37. How much voltage will be required to illuminate a 40 watts fluorescent lamp draws a current of 0.10 amperes?

- A) 405 volts
- B) 400 volts
- C) 395 volts
- D) 390 volts

38. What is the name of furnace to obtained cast iron?

- A) Steel - Rever battery
- B) Mild steel - Blast furnace
- C) Alloy metal - Electric furnace
- D) Cupola

39. What is the specific gravity of the metal, if the weighs 6.5 kgf in air and 3.5 kgf in water?

- A) 2.166
- B) 1.166
- C) 3.166
- D) 6.166

40. What is the total resistance if two resistances of 4 ohms and 6 ohms are connected in parallel?

- A) 4
- B) 5
- C) 10
- D) 2.4

41. Which furnace is used to get pig iron from iron ore?

- A) Mild steel - Rever battery
- B) Blast furnace
- C) Cupola
- D) Electric furnace

42. Which machine converts mechanical energy into electrical energy?

- A) Battery
- B) Iron box
- C) Heater
- D) Generator

43. Which law states that at constant temperature the current passing through a closed circuit is directly proportional to the potential difference and inversely proportional to the resistance?

- A) Hooke's law
- B) Lenz's law
- C) Ohm's law
- D) Newton's law

44. What is called mass per unit volume of a substances?

- A) Density
- B) Mass
- C) Weight
- D) Volume

45. What metals contained in brass alloy?

- A) Copper and lead
- B) Copper and aluminium
- C) Copper and zinc
- D) Copper and tin

46. What is the carbon percentage in medium carbon steel?

- A) 0.05% to 0.15%
- B) 0.15% to 0.25%
- C) 0.5% to 1.5%
- D) 0.25% to 0.5%

47. What is the formual for induced emf?

- A) $BLV \sin \theta$ volts
- B) $BL \sin \theta$ volts
- C) $B \times 2 \times V \sin \theta$ volts
- D) $B \times 2 \times L \sin \theta$ volts

48. What is the power required? $I = 0.455$ Amps $R = 484$ Ohms $P = \text{_____}$ Watts

- A) 98.2 watts
- B) 101.2 watts
- C) 99.2 watts
- D) 100.2 watts

49. What is the current Flow in the bulb? $P = 550$ watts $R = 22$ Ohms $I = \text{_____}$ Amps

- A) 2 Amps
- B) 4 Amps
- C) 3 Amps
- D) 5 Amps

50. Which is the unit electrical power?

- A) Ampere
- B) Watts
- C) Volts
- D) Ohms

51. Which is the unit of resistance?

- A) Ampere
- B) Volt
- C) Watt
- D) Ohm

52. What is the specific gravity of the solid, if density of the solid is 19.5 g/cm^3 ?

- A) 18.5
- B) 19
- C) 8
- D) 19.5

53. Which metal is widely used for making casting of machinery parts?

- A) Grey cast iron
- B) Wrought iron
- C) Malleable cast iron
- D) White cast iron

54. Which is the example for statically induced emf?

- A) Generator
- B) Refrigerator
- C) Motor
- D) Transformer

55. Which property of metal has its power of returning to its original shape after the applied force is released?

- A) Plasticity
- B) Malleability
- C) Elasticity
- D) Tenacity