

Duration: 120 Mins

Total Marks: 78

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1. What is the volume (V) of mercury in cm³, if mass (m) of mercury is 1 kg and density (r) is 13.6 g/cm³?

- A) 73.43 cm³ B) 73.23 cm³
 C) 73.33 cm³ D) 73.53 cm³

Answer: D) 73.53 cm³

2. What is the current?
 R = 50 Ohms
 220 Volts
 I = _____Amps

- A) 4.3 Amps B) 4.1 Amps
 C) 4.2 Amps D) 4.4 Amps

Answer: D) 4.4 Amps

3. What is the voltage?
 R = 250 Ohms
 I = 0.44 Amps
 V = _____Volts

- A) 108 Volts B) 100 Volts
 C) 110 Volts D) 105 Volts

Answer: C) 110 Volts

4. Which machine converts mechanical energy into electrical energy?

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

Answer: D) Generator

5. What is the block weighs (W) in kg, if volume (V) is 320 cm³ and density 8.9 g/cm³?

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

Answer: A) 2.848 kg

6. What is the length L2, if total length (L) is 2.75 metre and L1:L2 = 2:3?

- A) 1.75 metre B) 1.25 metre
 C) 1.65 metre D) 1.1 metre

Answer: C) 1.65 metre

7. What is the HCF of 18, 42, 24?

- A) 6 B) 18
 C) 24 D) 2

Answer: A) 6

8. Which is the example for dynamically induced Emf?

- A) Motor bike B) Generator

- C) Motor D) Car

Answer: B) Generator

9. What is the weight force of a car has a mass of 800 kg?(Take g = 9.81m/sec)

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

Answer: A) 7848 Newton

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

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

Answer: B) Current

11. What is the square root of decimal number 550.37?

- A) 22.46 B) 21.26
 C) 23.46 D) 22.26

Answer: C) 23.46

12. Convert 52% into fraction?

- A) (11/25) B) (9/25)
 C) (13/25) D) (17/25)

Answer: C) (13/25)

13. Which is the unit electrical power?

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

Answer: D) Watts

14. What are fundamental units?

- A) Length, Mass, Time B) Length, Pressure, Volume
 C) Length, Mass, Volume D) Length, Mass, Area

Answer: A) Length, Mass, Time

15. What is the length of each part is a copper wire of 225 metre long is cut into 900 equal parts?

- A) 0.29 metre B) 0.23 metre
 C) 0.28 metre D) 0.25 metre

Answer: D) 0.25 metre

16. What is the resistance of an electric iron if the rating of electric iron is 220 V and 500 watts?

- A) 94.8 ohms B) 96.8 ohms

C) 95.8 ohms D) 97.8 ohms

Answer: B) 96.8 ohms

17. What is the resistance? $I = 11.5$ Amps $V = 380$ Volts $R = \underline{\hspace{2cm}}$ Ohms

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

Answer: B) 33 ohms

18. A motor cycle tyre is sold for Rs 300/- what is the purchase price if 25% profit is added to it.

A) Rs 200 B) Rs 240
C) Rs 260 D) Rs 220

Answer: B) Rs 240

19. What is the rated power if an adjustable resistor bears the following label 1.5 k ohms/ 0.08A?

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

Answer: C) 9.6 watts

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

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

Answer: A) 6

21. What is the voltage of the immersion heater? $P = 500$ watts $I = 2.27$ Amps $V = \underline{\hspace{2cm}}$ Volts

A) 200.3 volts B) 210.3 volts
C) 230.3 volts D) 220.3 volts

Answer: D) 220.3 volts

22. 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) Lenz's law B) Ohm's law
C) Hooke's law D) Newton's law

Answer: B) Ohm's law

23. What is the improper fraction for the given mixed fraction $7 \frac{3}{7}$?

A) $\frac{52}{7}$ B) $\frac{7}{52}$
C) $\frac{7}{28}$ D) $\frac{28}{7}$

Answer: A) $\frac{52}{7}$

24. What is the power if an emf of one volt causes a current flow of 1 ampere?

A) 1 HP B) 1 watt
C) 1 Kilowatt hour D) 1 kilowatt

Answer: B) 1 watt

25. What is the density of aluminium?

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

Answer: C) 2.7 g/cm^3

26. Which is the unit of resistance?

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

Answer: D) Ohm

27. Which is mineral insulator

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

Answer: D) Mica

28. How much watt second in 1 watt hour?

A) 1000 watt sec B) 4000 watt sec
C) 3600 watt sec D) 2000 watt sec

Answer: C) 3600 watt sec

29. What is the decimal fraction of conversion of 18.5%?

A) 0.185 B) 0.195
C) 0.165 D) 0.175

Answer: A) 0.185

30. Which is equal to electric power?

A) IR B) RI
C) $R^2 I$ watts D) $I^2 R$ watts

Answer: D) $I^2 R$ watts

31. What is the filament resistance if a 6 volt bulb draws a current of 0.5 Amps?

A) 1.2 W B) 10 W
C) 3 W D) 12 W

Answer: D) 12 W

32. What is the formula for induced emf?

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

Answer: B) $BLV \sin \theta$ volts

33. What is the x value for $x^2 + 62 = 126$?

A) 8 B) 4
C) 10 D) 6

Answer: A) 8

34. What is the square root of 529?

- A) 12
C) 23
- B) 33
D) 43

Answer: C) 23

35. Which is the unit of current?

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

Answer: D) Ampere

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

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

Answer: A) Weight

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

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

Answer: D) 10.0 cm^3

38. Which statement is correct according to ohm's law?

- A) $I = 1/V$
C) $I = V/R$
- B) $I = R/V$
D) $I = R$

Answer: C) $I = V/R$

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

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

Answer: C) 2.4

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

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

Answer: B) 400 volts

41. 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) 9 grams
C) 8 grams
- B) 6 grams
D) 7 grams

Answer: B) 6 grams

42. Convert 0.456 decimal fraction into percentage?

- A) 0.0456
C) 0.000456
- B) 45.6
D) 0.456

Answer: B) 45.6

43. How much is 8% of 40 kg?

- A) 5.2 kg
C) 4.2 kg
- B) 3.2 kg
D) 2.2 kg

Answer: B) 3.2 kg

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

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

Answer: A) 19.5

45. Divide $(20/31)/(15/62)$

- A) $2(4/3)$
C) $2(2/3)$
- B) $2(1/3)$
D) $2(3/2)$

Answer: C) $2(2/3)$

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

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

Answer: D) 190 grams

47. What is the definition of ratio?

- A) Equality between two ratios
C) Relation of two quantities of the same kind
- B) Relation of two quantities of the different kind
D) Inequality between two ratios

Answer: C) Relation of two quantities of the same kind

48. Convert decimal 0.000659 to fraction?

- A) $(659/100000)$
C) $(659/1000000)$
- B) $(659/10000)$
D) $(659/1000)$

Answer: C) $(659/1000000)$

49. Which is very good conductor?

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

Answer: B) Copper

50. What percentage of 80 is 20?

- A) 0.2
C) 0.25
- B) 0.4
D) 0.8

Answer: C) 0.25

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

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

Answer: B) Resistance

52. What is termed as the quantity of matter contained in a

body?

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

Answer: D) Mass

53. What does EMF stands for?

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

Answer: C) Electro Motive Force

54. What is the square root of 0.017?

- A) 0.13
B) 0.001
C) 0.000001
D) 0.00001

Answer: A) 0.13

55. How many days a mechanic takes to assemble 64 machines if he assembles 8 machines in 3 days?

- A) 20 days
B) 24 days
C) 26 days
D) 22 days

Answer: B) 24 days

56. Simplify: $(\frac{3}{4})+(\frac{2}{5})-(\frac{5}{20})$

- A) $(\frac{13}{10})$
B) $(\frac{12}{10})$
C) $(\frac{3}{10})$
D) $(\frac{9}{10})$

Answer: D) $(\frac{9}{10})$

57. What is the percentage of copper if the casting weight of copper 42.3 kg and tin weight 2.7 kg?

- A) Cu 94%
B) Cu 98%
C) Cu 92%
D) Cu 96%

Answer: A) Cu 94%

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

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

Answer: D) 7.5 g/cm^3

59. What is the product of 0.003×0.5 ?

- A) 0.15
B) 0.0015
C) 0.015
D) 0.00015

Answer: B) 0.0015

60. What is the unit of intensity of magnetic field?

- A) m/wb
B) Coloumb
C) Hertz
D) wb/m

Answer: D) wb/m

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

- A) Mass
B) Density

C) Volume
D) Weight

Answer: B) Density

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

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

Answer: A) 17 ohms

63. How much power does it consumes if an electric heater draws a current of 10 amps at 200 volts?

- A) 2010 watts
B) 2030 watts
C) 2000 watts
D) 2020 watts

Answer: C) 2000 watts

64. Simplify: $(17.49 \times 5.2) / (6.5)$

- A) 13.69
B) 13.99
C) 13.89
D) 13.79

Answer: B) 13.99

65. Which law states about electromagnetic induction?

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

Answer: D) Faraday's law

66. How many millimetres are there in 1 inch?

- A) 2.54 mm
B) 24.5 mm
C) 2.45 mm
D) 25.4 mm

Answer: D) 25.4 mm

67. What is the LCM of 12, 18, 6, 36?

- A) 18
B) 12
C) 42
D) 36

Answer: D) 36

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

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

Answer: A) 5 Amps

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

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

Answer: A) 100.2 watts

70. What is the ratio of 4 kg to 800 grams?

- A) 05:01
B) 08:04
C) 02:04
D) 04:08

Answer: A) 05:01

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

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

Answer: C) Specific gravity

72. What are the two classifications of system of units?

- A) Gravitational and non-gravitational
- B) Metric and International
- C) Fundamental and derived
- D) British and Metric

Answer: C) Fundamental and derived

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

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

Answer: D) Current

74. 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) 10 hours
- D) 18 hours

Answer: C) 10 hours

75. What will be the rpm of smaller gear if a 180 mm dia meshes with 60 mm dia gear and the bigger gear makes 60 rpm?

- A) 120 rpm
- B) 180 rpm
- C) 140 rpm
- D) 160 rpm

Answer: B) 180 rpm

76. Which is the example for statically induced emf?

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

Answer: C) Transformer

77. What denotes letter M in MKS system?

- A) Meter
- B) Micron
- C) Millimeter
- D) Mile

Answer: A) Meter

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

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

Answer: C) 2.166