

Student Name: _____	Roll No: _____
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1. What is the name of the metal which do not contain iron?

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

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

3. What is the square root of 529?

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

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

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

5. What is the current Flow in the bulb? $P = 550$ watts
 $R = 22$ Ohms $I =$ ____Amps

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

6. How many hours will take for a 100 watts bulb to consume 1 kwh energy? $W = 1$ Kwh $P = 100$ Watts $t =$ ____Hours

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

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

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

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

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

9. Which alloy steel is using for making precious instrument?

- A) Vanadium B) Invar steel
C) Manganese steel D) Silicon steel

10. Which is mineral insulator

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

11. What is the voltage of the immersion heater? $P = 500$ watts $I = 2.27$ Amps $V =$ ____Volts

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

12. Which alloy steel is used to make permanent magnets?

- A) Cobalt steel B) Vanadium steel
C) Silicon steel D) Manganese steel

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

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

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

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

15. What is the power required? $I = 0.455$ Amps $R = 484$ Ohms $P =$ ____Watts

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

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

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

17. What metals contained in brass alloy?

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

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

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

19. What is the current? $R = 50 \text{ Ohms}$ $V = 220 \text{ Volts}$
 $I = \text{_____Amps}$

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

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

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

21. Which alloy used in electric lamp as filament?

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

22. How much is 8% of 40 kg?

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

23. What is the product of 0.003×0.5 ?

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

24. Which is the example for dynamically induced Emf?

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

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

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

26. Which cast iron cannot be welded?

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

27. How much watt second in 1 watt hour?

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

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

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

29. Which law states about electromagnetic induction?

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

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

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

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

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

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

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

33. Which is the unit of current?

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

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

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

35. Which rubber is used as insulator for power cables and control wires?

- A) Nitrite butadiene
- B) Hypalone
- C) Silicon
- D) Butyl

36. What is the length L_2 , if total length (L) is 2.75 metre and $L_1:L_2 = 2:3$?

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

37. Which is the unit of resistance?

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

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

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

39. Convert decimal 0.000659 to fraction?

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

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

- A) 02:04
- B) 08:04

C) 05:01

D) 04:08

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

A) 22.26

B) 22.46

C) 23.46

D) 21.26

42. How many millimetres are there in 1 inch?

A) 25.4 mm

B) 24.5 mm

C) 2.54 mm

D) 2.45 mm

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

A) 42

B) 36

C) 18

D) 12

44. What denotes letter M in MKS system?

A) Mile

B) Meter

C) Millimeter

D) Micron

45. Which steel is used for making files and cold chisel?

A) Medium carbon steel

B) Stainless steel

C) High carbon steel

D) Low carbon steel

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

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

47. What is the voltage? $R = 250 \text{ Ohms}$ $I = 0.44 \text{ Amps}$ $V = \text{___Volts}$

A) 100 Volts

B) 108 Volts

C) 110 Volts

D) 105 Volts

48. Convert 0.456 decimal fraction into percentage?

A) 0.456

B) 0.0456

C) 45.6

D) 0.000456

49. Which among the following is an insulator?

A) Mica

B) Silver

C) Copper

D) Aluminium

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

A) 22 days

B) 24 days

C) 26 days

D) 20 days

51. What is the formula for induced emf?

A) $BLV \sin \theta$ voltsB) $B^2 \sin \theta V$ voltsC) $BL \sin \theta$ voltsD) $B^2 \sin \theta L$ volts

52. Convert 52% into fraction?

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

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

A) 1 kilowatt

B) 1 watt

C) 1 Kilowatt hour

D) 1 HP

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

A) Mild steel

B) Low alloy steel

C) High alloy steel

D) High speed steel

55. What are fundamental units?

A) Length, Mass, Time

B) Length, Mass, Area

C) Length, Pressure, Volume

D) Length, Mass, Volume

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

A) Ductility

B) Fusibility

C) Structure

D) Corrosion

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

A) Tenacity

B) Elasticity

C) Malleability

D) Plasticity

58. What is the definition of ratio?

A) Relation of two quantities of the different kind

B) Equality between two ratios

C) Relation of two quantities of the same kind

D) Inequality between two ratios

59. Which machine converts mechanical energy into electrical energy?

A) Iron box

B) Generator

C) Heater

D) Battery

60. Which is equal to electric power?

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

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

A) 13 ohms

B) 33 ohms

C) 23 ohms

D) 43 ohms

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

- A) Current
C) Power

- B) Voltage
D) Resistance

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

- A) $(52/7)$
C) $"7/52"$

- B) $"7/28"$
D) $"28/7"$

64. Which metal contains iron as a major content?

- A) Ferrous metal
C) Bronze metal

- B) Brass metal
D) Zinc

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

- A) Hardness
C) Toughness

- B) Malleability
D) Ductility

66. What is the name of the property of an insulation that should brake down or puncture on application of high voltage?

- A) Non absorption
C) Specific resistance

- B) Mechanical strenth
D) Di-electric strength

67. What is the square root of 0.017?

- A) 0.13
C) 0.00001

- B) 0.000001
D) 0.001

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

- A) 97.8 ohms
C) 94.8 ohms

- B) 95.8 ohms
D) 96.8 ohms

69. What is the ore of aluminium?

- A) Mallatite
C) Bauxite

- B) Hematite
D) Lemonite

70. What does EMF stands for?

- A) Electromated Force
C) Electro Magnetic Force

- B) Electro Motive Force
D) Electronic Magnetic Force

71. Which property of a metal enables it by which it can be drawn out into wires under tension without rupture?

- A) Hardness
C) Malleability

- B) Ductility
D) Brittleness

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

- A) 9.2 watts
C) 9.8 watts

- B) 9.6 watts
D) 9.4 watts

73. Which one is non-metal?

- A) Brass
C) Mercury

- B) Graphite
D) Iron

74. Which insulator is used in over head lines?

- A) Porcelain
C) Rubber

- B) P.V.C
D) Mica

75. Which metal cannot be forged?

- A) Cast iron
C) Steel

- B) Mild steel
D) Alloy steel

76. What percentage of 80 is 20?

- A) 0.25
C) 0.4

- B) 0.8
D) 0.2

77. Which is the unit electrical power?

- A) Watts
C) Ohms

- B) Ampere
D) Volts

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

- A) 18
C) 24

- B) 2
D) 6

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

- A) 2010 watts
C) 2020 watts

- B) 2000 watts
D) 2030 watts

80. 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

81. 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) 395 volts
D) 400 volts

82. Simplify: $(3/4) + (2/5) - (5/20)$

- A) $(13/10)$
C) $(12/10)$

- B) $(3/10)$
D) $(9/10)$

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

- A) Cu 96%
C) Cu 92%

- B) Cu 98%
D) Cu 94%

84. What is the length of each part is a copper wire of 225

metre long is cut into 900 equal parts?

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

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

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

86. Which is very good conductor?

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

87. Which is brittle metal?

- A) Mild steel
- B) Cast iron

C) Steel

D) Alloy steel

88. Which is the example for statically induced emf?

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

89. 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) 180 rpm
- B) 160 rpm
- C) 120 rpm
- D) 140 rpm

90. Which insulating material is used for making switches?

- A) Bakelite
- B) Porcelain
- C) Ebonite
- D) PVC