

Student Name: _____	Roll No: _____
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1. What is the other name of low carbon steel?

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

2. 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) 0.29 metre  
C) 0.23 metre                              D) 0.28 metre

3. Which metal contains iron as a major content?

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

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

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

5. What is the carbon percentage in low carbon steel?

- A) 0.15% to 0.25%                      B) 0.50% to 1.50%  
C) 0.02% to 0.03%                      D) 0.25% to 0.50%

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

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

7. What is the voltage?  $R = 250$  Ohms  $I = 0.44$  Amps  $V = \underline{\hspace{2cm}}$  Volts

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

8. 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

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

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

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

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

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

12. 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) 160 rpm                                  B) 140 rpm  
C) 120 rpm                                  D) 180 rpm

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

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

14. What is the formual for induced emf?

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

15. What is the power required?  $I = 0.455$  Amps  $R = 484$  Ohms  $P = \underline{\hspace{2cm}}$  Watts

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

16. Which is the unit of resistance?

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

17. Which one is non-metal?

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

18. Which property of a substance is opposing the flow of

electric current?

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

19. What are fundamental units?

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

20. Which among the following is an insulator?

- A) Aluminium
- B) Silver
- C) Mica
- D) Copper

21. What is the product of  $0.003 \times 0.5$ ?

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

22. What is the definition of ratio?

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

23. Which is equal to electric power?

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

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

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

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

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

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

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

27. How much is 8% of 40 kg?

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

28. Which machine converts mechanical energy into electrical energy?

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

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

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

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

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

31. What is the voltage of the immersion heater?  $P = 500$  watts  $I = 2.27$  Amps  $V =$  \_\_\_\_\_Volts

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

32. Which cast iron cannot be welded?

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

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

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

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

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

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

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

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

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

37. What is the current Flow in the bulb?  $P = 550$  watts  $R = 22$  Ohms  $I =$  \_\_\_\_\_Amps

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

38. Which is mineral insulator

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

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

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

40. What is the carbon percentage in high carbon steel?

- A) 0.15% to 0.25%      B) 0.50% to 1.50%  
C) 0.02% to 0.03%      D) 0.25% to 0.50%

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

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

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

- A)  $(3/10)$       B)  $(9/10)$   
C)  $(13/10)$       D)  $(12/10)$

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

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

44. Which metal cannot be forged?

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

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

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

46. 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) 10 hours      B) 12 hours  
C) 24 hours      D) 18 hours

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

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

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

- A) 42      B) 18  
C) 12      D) 36

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

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

50. 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

51. What is the resistance?  $I = 11.5 \text{ Amps}$   $V = 380 \text{ Volts}$   $R = \text{___Ohms}$

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

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

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

53. How much watt second in 1 watt hour?

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

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

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

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

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

56. What denotes letter M in MKS system?

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

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

- A) Stainless steel      B) Low carbon steel  
C) High carbon steel      D) Midium carbon steel

58. What does EMF stands for?

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

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

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

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

- A)  $1/17$  ohms      B) 11 ohms  
C) 7 ohm      D) 17 ohms

61. Which insulating material is used for making switches?

- A) Bakelite
- C) Ebonite

- B) PVC
- D) Porcelain

- C) Cobalt steel

- D) Manganese steel

62. Convert decimal 0.000659 to fraction?

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

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

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

64. Which is the example for dynamically induced Emf?

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

65. Which is the unit of current?

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

66. How many millimetres are there in 1 inch?

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

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

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

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

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

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

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

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

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

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

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

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

- A) Vanadium steel
- B) Silicon steel

73. What is the square root of 529?

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

74. Convert 52% into fraction?

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

75. 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) 96.8 ohms
- D) 95.8 ohms

76. Which is the unit electrical power?

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

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

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

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

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

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

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

80. Which alloy used in electric lamp as filament?

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

81. Which is very good conductor?

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

82. Which law states about electromagnetic induction?

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

83. What is the square root of 0.017?

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

84. What percentage of 80 is 20?

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

85. Which is the example for statically induced emf?

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

86. What is the ore of aluminium?

- A) Lemonite
- B) Hematite
- C) Mallatite
- D) Bauxite

87. Which insulator is used in over head lines?

- A) Rubber
- B) Mica

C) Porcelain

D) P.V.C

88. Convert 0.456 decimal fraction into percentage?

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

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

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

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

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