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Score: 47/50 (94.00%)

Code: 0872

1. Which machine converts mechanical energy into electrical energy?

- A) Battery  
 B) **Generator (Correct)**  
 C) Heater  
 D) Iron box

2. Which is the unit of resistance?

- A) Ampere  
 B) Volt  
 C) **Ohm (Correct)**  
 D) Watt

3. Which is mineral insulator

- A) Glass  
 B) Quartz  
 C) **Mica (Correct)**  
 D) Porcelain

4. 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 (Correct)**  
 D) 1/17 ohms

5. What is the resistance?

$I = 11.5$  Amps  
 $V = 380$  Volts  
 $R = \underline{\hspace{2cm}}$  Ohms

- A) 13 ohms  
 B) 23 ohms  
 C) **33 ohms (Correct)**  
 D) 43 ohms

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

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

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

- A) **2000 watts**  
 B) 2010 watts  
 C) 2020 watts (Incorrect)  
 D) 2030 watts

8. 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) 95.8 ohms  
 C) **96.8 ohms (Correct)**  
 D) 97.8 ohms

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

- A) **wb/m (Correct)**  
 B) m/wb  
 C) Hertz  
 D) Coloumb

10. What is the power required?

$I = 0.455$  Amps  
 $R = 484$  Ohms  
 $P = \underline{\hspace{2cm}}$  Watts

- A) 98.2 watts  
 B) 99.2 watts  
 C) **100.2 watts (Correct)**  
 D) 101.2 watts

11. 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) **9.6 watts (Correct)**  
 D) 9.8 watts

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

- A) Density  
 B) Volume  
 C) **Mass (Correct)**  
 D) Specific gravity

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

- A) Mass  
 B) **Weight (Correct)**  
 C) Volume  
 D) Density

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

- A) Mass  
 B) Weight  
 C) **Density (Correct)**  
 D) Volume

15. What is the mass if the density of a body is  $7.6 \text{ g/cm}^3$  and its volume is  $25 \text{ cm}^3$ ?

- A) **190 grams (Correct)**  
 B) 200 grams  
 C) 210 grams  
 D) 220 grams

16. What is the mass in gram, if a force of 15 dynes acting on a mass  $m$  producing an acceleration of  $2.5 \text{ cm/sec}^2$ ?

- A) 9 grams  
 B) 8 grams  
 C) 7 grams  
 D) **6 grams (Correct)**

17. 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  
**C) 2.166 (Correct)**

B) 3.166  
D) 1.166

18. Which one is non-metal?

A) Mercury  
C) Brass

**B) Graphite (Correct)**  
D) Iron

19. Which is brittle metal?

**A) Cast iron (Correct)**  
C) Mild steel

B) Steel  
D) Alloy steel

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

A) Conductivity  
**C) Fusibility**

B) Malleability  
D) Tenacity (Incorrect)

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

A) 0.02% to 0.03%  
C) 0.25% to 0.50%

B) 0.15% to 0.25%  
**D) 0.50% to 1.50% (Correct)**

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

A) Butyl  
**C) Silicon (Correct)**

B) Hypalone  
D) Nitrite butadiene

23. Which insulator is used in over head lines?

A) Mica  
C) P.V.C

B) Rubber  
**D) Porcelain (Correct)**

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

**A) Di-electric strength**  
C) Mechanical strength

B) Specific resistance  
D) Non absorption (Incorrect)

25. What is the diagonal of a square plate whose side is 28 cm?

A) 39.29 cm  
C) 39.49 cm

B) 39.39 cm  
**D) 39.59 cm (Correct)**

26. What is the side of a square whose area is  $625 \text{ mm}^2$ ?

A) 15 mm  
**C) 25 mm (Correct)**

B) 20 mm  
D) 30 mm

27. What is the area of a rectangle, whose length and breadth are 10cm and 8cm respectively?

A)  $75 \text{ cm}^2$   
C)  $85 \text{ cm}^2$

**B)  $80 \text{ cm}^2$  (Correct)**  
D)  $90 \text{ cm}^2$

28. Find the total surface area of cube whose side is 25 cm.

A)  $3740 \text{ cm}^2$   
**C)  $3750 \text{ cm}^2$  (Correct)**  
D)  $3755 \text{ cm}^2$

B)  $3745 \text{ cm}^2$

29. What is the total surface area of a cylinder having radius 2 metres and height 5 metres?

A) 86 sq.metre  
C) 90 sq.metre

**B) 88 sq.metre (Correct)**  
D) 92 sq.metre

30. What is the unit of speed?

**A) Metre/second (Correct)**  
C) Metre/minute

B)  $\text{Metre/second}^2$   
D) Metre/hour

31. What is called if a body posses only magnitude or size alone?

A) Speed  
C) Vector quantity

B) Velocity  
**D) Scalar quantity (Correct)**

32. What is the rate of change of displacement of a body?

A) Body at rest  
C) Speed

B) Body at motion  
**D) Velocity (Correct)**

33. What is the speed of a train of 80 metre long train passes a railway station platform of 120 metres length in 20 seconds?

A) 30 km/hour  
C) 34 km/hour

B) 32 km/hour  
**D) 36 km/hour (Correct)**

34. What is the retardation of a car moving with a velocity of 50 km/hr is brought to rest in 45 seconds?

A)  $0.40 \text{ m/sec}^2$   
C)  $0.20 \text{ m/sec}^2$

**B) 0.30  $\text{m/sec}^2$  (Correct)**  
D)  $0.10 \text{ m/sec}^2$

35. What is the ratio of power output to power input?

A) Work  
**C) Efficiency (Correct)**

B) Energy  
D) Acceleration

36. How many newtons for 1 kilogram?

A) 981 Newtons  
**C) 9.81 Newtons (Correct)**

B) 98.1 Newtons  
D) 0.981 Newtons

37. How many watts for 1 horse power in metric system?

- A) 725.5 watts  
C) 745.5 watts
- B) 735.5 watts (Correct)**  
D) 755.5 watts

38. What is the formula for potential energy?

- A)  $mgh$  joule (Correct)**  
C)  $1/2 mgh$  joule
- B)  $mgh^2$  joule  
D)  $2/3 mgh$  joule

39. What is the potential energy, if a body of mass 250 kg is at a height of 30 metre?

- A) 72.57 KJ  
C) 74.57 KJ
- B) 73.57 KJ (Correct)**  
D) 75.57 KJ

40. What is the work done in joules if a load of 15.5 kg is lifted through a height of 4.4 metres?

- A) 639 Joules  
C) 659 Joules
- B) 649 Joules  
**D) 669 Joules (Correct)**

41. What is the square root of 0.017?

- A) 0.001  
C) 0.00001
- B) 0.13 (Correct)**  
D) 0.000001

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

- A) 4  
**C) 8 (Correct)**
- B) 6  
D) 10

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

- A) 1.1 metre  
**C) 1.65 metre (Correct)**
- B) 1.25 metre  
D) 1.75 metre

44. 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  
C) 160 rpm
- B) 140 rpm  
**D) 180 rpm (Correct)**

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

- A) 0.185 (Correct)**  
C) 0.165
- B) 0.175  
D) 0.195

46. How many millimetres are there in 1 inch?

- A) 2.54 mm  
C) 24.5 mm
- B) 25.4 mm (Correct)**  
D) 2.45 mm

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

- A) 2  
C) 18
- B) 6 (Correct)**  
D) 24

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

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

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

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

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

- A) 13.69  
C) 13.89
- B) 13.79  
**D) 13.99 (Correct)**