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PREVIOUS PAPER

Assistant Loco Pilot

KOLKATA

Based on Memory

1. Manometer is used to measure-

1) Pressure 2) Gravity 3) Humidity 4) Volume

2. Calorie is the unit of-

1) Temperature 2) Heat 3) Power 4) Energy

3. A stratight rod partially immersed in water seems bent. Its reason is-

1) Refraction

2) Reflection

3) Different temperature of water levels

4) High pressure of water at the bottom

4. Which law states that a liquid inside a closed system exerts equal pressure in all directions?

1) Boyle's law 2) Pascal's law

3) Graham's law 4) Gay - Lussac's law

5. An electro-magnet is made of-

1) Soft iron 2) Copper 3) Hard Steel 4) Zinc

6. Only two elements are in liquid state at room temperature. They are

1) Bromine, Iodine 2) Hafnium, Mercury

3) Bromine, Mercury 4) None of these

7. A stone was dropped freely in a river flowing down a bridge. The stone takes 2 seconds in touching the water surface. The height of the bridge is-

1) 9.8 m 2) 19.6 m 3) 39.2 m 4) Data inadequate

8. 1 micron is equal to-

1) 0.1 mm 2) 0.01 mm 3) 0.001 mm 4) 0.0001 mm

9. The most abundant gas found in earth's atmosphere is-

1) Oxygen 2) Carbon dioxide

3) Hydrogen 4) None of these

10. The Chemical formula of Caustic Soda is-

1) $Na(OH)_2$ 2) Na_2CO_3 3) NaOH 4) NaCl

11. Air cooler will be most effective in-

1) Kolkata 2) Guwahati 3) Puri 4) New Delhi

12. A certain distance was covered at a certain speed. If half of the distance is covered in twice time, the ratio between new speed and original speed is-

1) 1 : 2 2) 1 : 4 3) 2 : 1 4) 4 : 1

13. The number of electrons in Na^+ is-

1) 11 2) 10 3) 12 4) 13

14. The most electro negative element in the following is-

1) F 2) Cl 3) Br 4) I

15. Rh factor is related to-

1) Blood Transfusion 2) Atmospheric Pressure

3) Blood Pressure 4) Space

16. A force of 50N acts on a body and moves the body on a straight path to a distance of 4 metres. Find the work done if the force acts at an angle of 60 with horizontal.

1) 100J 2) 300J 3) 10J 4) 200J

17. The length of pendulum is reduced to one fourth. Its time period will be-

1) Twice 2) Eight times 3) Half 4) None of these

18. An element which changes the rate of a chemical reaction but does not undergo any change in itself, is called-

1) Electrolyte 2) Catalyst 3) Lubricant 4) Litmus

19. At constant temperature the volume of a given mass of a gas is inversely proportional to the pressure. It is known as-

1) Charles' Law 2) Boyle's Law

3) Avogadro's Law 4) Dalton's Law

20. The resistance of an electric circuit/ implement is measured by-

1) Meggar 2) Ammeter 3) Ohm-meter 4) None of these

21. Solenoid is a-

1) Shaft 2) Hollow tube

3) Tube on which wire is coiled 4) Cell

22. At a uniform accleration which of the motion equations is correct-

1) $v = u - at$ 2) $v = u + at$

3) $s = ut - \frac{1}{2} at^2$ 4) $u = v + at$

23. A body starts from rest at an acceleration of 2m/sec*2. The distance covered by the body in 2 seconds is-

1) 2 m 2) 8 m 3) 4 m 4) 1 m

24. The c.g.s. unit of density is-

1) gm/cm^3 2) gm/cm^2 3) gm/cm 4) kg/cm^3

25. When a body is partially of fully immersed in a liquid it experiences a loss in its weight that is equal to the weight of liquid displaced by its immersed part. This principle is of-

1) Boyle 2) Pascal 3) Terricelli 4) Archimedes

26. The unit of force in cgs unit is-

1) Newton 2) Dyne 3) ms^{-2} 4) K

27. Humidity in the atmosphere is measured by-

1) Hydrometer 2) Hygrometer 3) Manometer 4) Pyrometer

28. Density of pure water at 4°C is-

1) 100 $kg./m^2$ 2) 1000 kg/m^3 3) 1000 gm/cm^3 4) 1000 gm/cm^2

29. Momentum, mass and velocity are related as-

1) Momentum = mass/velocity

2) Momentum = mass × velocity

3) Velocity = mass × momentum

4) Mass = momentum × velocity

30. 1 second is ..... part of a mean solar day.

1) $\frac{1}{84600}$ 2) $\frac{1}{85000}$ 3) $\frac{1}{86400}$ 4) $\frac{1}{80000}$

31. The unit of Young's Modulus of Elasticity in MKS system is-

1) Nm^{-2} 2) N/cm^2 3) Dynes/cm 4) $Dynes/cm^2$

32. **The property of a metal which reduces its strength when it is subjected to reversal of stress is called-**

1) Fatigue 2) Creep 3) Resilience 4) Elasticity

33. **Melting point of cast iron (in °C) is in the range of-**

1) 1150-1300 2) 1800-1900 3) 1450-1600 4) 600-700

34. **The buckling loads depend upon-**

1) slenderness ratio 2) cross-sectional area

3) modulus of elasticity 4) All of the above

35. **'Anvil' is used in the work of-**

1) Forging 2) Welding 3) Fitting 4) Machining

36. **In an electrical circuit resistance is 55 Ohms and current 4 amperes. What is voltage?**

1) 220V 2) 13.75V 3) 0 4) 110V

37. **Bell metal contains Cu and ....**

1) A*l* 2) Sn 3) Zn 4) Ni

38. **To produce flat surfaces by a reciprocating type of machine tool is called-**

1) Lathe 2) Shaper 3) Drill 4) Milling

39. **Which is the most elastic material?**

1) Rubber 2) Timber 3) Plastic 4) Steel

40. **Which of the following has the highest Poisson's ratio?**

1) Steel 2) Copper 3) Aluminium 4) Rubber

41. **D.C. Generator works on the basis of-**

1) Faraday's law of e.m.induction 2) Ohm's law

3) Lenz's law 4) Newton's law

42. **When x = 2, the value of $\left(0.5 - \frac{1}{x}\right)$ = ?**

1) 1.5 2) –1.5 3) 0.5 4) 0

43. **What number has to be added to the terms of 3 : 5 to make the ratio 5 : 6?**

1) 13 2) 7 3) 12 4) 6

44. **Find the value of $\left\{8 - 2 \times \frac{8-2}{8+2} \times 5\right\}$**

1) 3 2) 2 3) 6 4) 4

45. The sum of three consecutive numbers is 18; find the sum of the next three consecutive numbers?

1) 24 2) 30 3) 27 4) 35

46. $\log_5 125 = x$; x = ?

1) 25 2) 3 3) 2 4) 5

47. Find the value of x in $(2^2)^{\frac{1}{3}}\left(2x + \frac{1}{2}\right) = 2^{-5}$

1) –4 2) +4 3) –2 4) +2

48. A two digit number is 7 times the sum of its two digits. The number that is formed by reversing its digits is 18 less than the original number. What is the number?

1) 52 2) 42 3) 62 4) 27

49. A sum of money becomes Rs. 20,925 in 2 years and Rs. 24,412.50 in 5 years. Find the rate of interest and the sum of money

1) 8%, Rs.17,560 2) 6.25%, Rs.18,600

3) 7%, Rs.18,000 4) 6.75%, Rs.17,775

50. Find the sum fraction which becomes $\frac{1}{2}$ when denominator is increased by 4; the same fraction becomes $\frac{1}{8}$ when the numerator is reduced by 5.

1) $\frac{3}{5}$ 2) $\frac{5}{8}$ 3) $\frac{6}{8}$ 4) $\frac{8}{12}$

51. Lux is the unit of

1) magnetic flux 2) frequency

3) sound intensity 4) level of illumination

52. MISTAKE = 9765412, NAKED = 84123 then STAIN = ?

1) 65478 2) 98175 3) 89483 4) 68194

53. GAMBLE = ICODNG; FLOWER = ?

1) GMPXFS 2) HNQYGT 3) GMPVDS 4) None of these

54. Ram started from his house and walked 2km North, then 3 km west and finally 6 km south. How far is he from his house?

1) 5 km 2) 11 km 3) 4 km 4) 7 km

55. Arrange the following words in the order they appear in an English dictionary?

1. Literature 2. Little 3. Liberty 4. Library

1) 4, 3, 2, 1 2) 3, 4, 1, 2 3) 2, 1, 3, 4 4) 4, 3, 1, 2

56. Insert the missing numbers-

2	6
54	18

?	?
81	27

1) 3 and 9 2) 5 and 18 3) 6 and 12 4) 3 and 21

57. Which tool is used for chipping?

1. Chisel 2. Drill 3. Pliers 4. Hammer

58. "PICO" means-

1) 10^{-15} 2) 10^{-9} 3) 10^{-12} 4) 10^{-6}

59. 1 nanometre = ?

1) 10^{-7} m 2) 10^{-8} m 3) 10^{-9} m 4) 10^{-6} m

60. The relation between wave velocity (V), frequency (f) and wave - length (λ) is-

1) $V = f\lambda$ 2) $\lambda = Vf$ 3) $f = \frac{\lambda}{V}$ 4) $f = \lambda V$

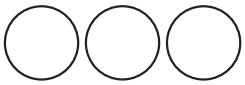
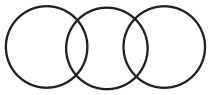
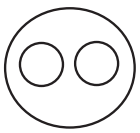
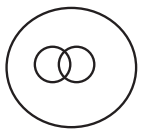
61. 100K = ?

1) 170°C 2) –173°C 3) –273°C 4) 273°C

62. At 1.45 PM, the hour hand will be in the direction-

1. North - west 2. South - east 3. West 4. North - east

63. House, bedroom and bathroom are best represented by which venn diagram?

1)  2)  3)  4) 

64. If the 26th August in a month is Friday, then the number of Tuesdays in that month will be-

1) 4 2) 5 3) 6 4) None of these

65. If the diameter of a sphere is 6 meters, its hemisphere will have a volume of-

1) 36π 2) 72π 3) 18π 4) None of these

66. What part of an hour elases from 4.56PM to 5.32 PM?

1) $\frac{1}{4}$ 2) $\frac{3}{4}$ 3) $\frac{3}{5}$ 4) $\frac{1}{2}$

67. "Newton's Disk" when rotated rapidly appears

1) Yellow 2) White 3) Black 4) Green

68. Red Hematite is the ore of

1) Copper 2) Zinc 3) Aluminium 4) Iron

69. Specific Latent heat of vapourization of water is-

1) 540 calories/ gm 2) 80 calories/ gm

3) 540 k.calories/ gm^2 4) 80 k.calories/ gm^2

70. What percent of CO^2 by volume constitutes the atmosphere?

1) 1% 2) 0.03% 3. 0.1% 4) 2%

71. Which Gupta ruler was crowned with the title of Vikramaditya?

1) Chandragupta-I 2) Chandragupta-II

3) Skundgupta 4) Samudragupta

72. The father of Rabindrabhanath Tagore was-

1) Ratindranath 2) Dwarkanath

3) Avanindranath 4) Devendranath

73. Which of the following filmstars was lovingly called "Dadamuni"?

1) Sanjeev Kumar 2) Asit sen

3) Ashok Kumar 4) Kishore Kumar

74. The unit to measure the speed of ships is-

1) mile 2) kmph 3) knot 4) mph

75. National Defence Academy is situated in-

1) Dehradun 2) New Delhi

3) Kharagwasala 4) Nasik

76. Dhanpat Rai is popularly known as-

1. Nirala 2. Hari Audh 3. Bachchan 4. Premchand

77. The Khajuraho temples are situated in-

1) Madya pradesh 2) Uttar Pradesh

3) Rajasthan 4) Bihar

78. The famous "Gateway of India" is situated in

1) Mumbai 2) Agra 3) New Delhi 4) Kolkata

79. Which has pink colour ?

1) India Gate 2) Victoria Memorial

3) Hawa Mahal 4) Lotus Temple

80. Hinyana and Mahayana are two sects of

1) Sikhism 2) Hinduism 3) Buddhism 4) Jainism

81. Status of Liberty is situated in-

1) Spain 2) UK 3) US 4) Italy

82. Who is called Bharatendu?

1) Rabindranath 2) Premchand

3) Hrishchandra 4) Bachchan

83. Euro is the currency of

1) Germany 2) New Zealand 3) Canada 4) Mexico

84. NaC*l* is the chemical formula of-

1) Urea 2) Salt 3) Baking soda 4) Lime

85. Seismology is the scientific study of

1) Earthquake 2) Weather coditions

3) Volcanoes 4) Rocks

86. Who was the last viceroy of India?

1) C.Rajgopalachari 2) Lord Wavell

3) Lord Canning 4) Mountbatten

87. Haldiya oil refinery is situated in-

1) Bihar 2) Jharkand 3) Orissa 4) W.Bengal

88. Which of the following cities is also called Prayag?

1) Lucknow 2) Allahabad 3) Patna 4) Nasik

ANSWERS

1-1; 2-2; 3-1; 4-2; 5-1; 6-3; 7-2; 8-3; 9-1; 10-3; 11-4; 12-2; 13-2; 14-1; 15-1; 16-1; 17-3; 18-2; 19-2; 20-3; 21-3; 22-2; 23-3; 24-1; 25-4; 26-2; 27-2; 28-2; 29-2; 30-3; 31- 1; 32-1; 33-3; 34-4; 35-2; 36-2; 37-2; 38-1; 39-4; 40-1; 41-1; 42-4; 43-2; 44-2; 45-3; 46-2; 47-1; 48-2; 49-2; 50-3; 51-4; 52-1; 53-2; 54-1; 55-2; 56-1; 57-1; 58-3; 59-3; 60-1; 61-2; 62-4; 63-3; 64-2; 65-3; 66-3; 67-2; 68-4; 69-1; 70-2; 71-2; 72-4; 73-3; 74-3; 75-3; 76-4; 77-1; 78-1; 79-3; 80-3; 81-3; 82-3; 83-1; 84-2; 85-1; 86-1; 87-4; 88-2.