

➤ **SECTION A : PHYSICS (20 QUESTIONS)**

**1. Which of the following is not a form of energy?**

- A) Light                  B) Sound                  C) Friction                  D) Heat

**2. The SI unit of force is:**

- A) Dyne                  B) Newton                  C) Joule                  D) Watt

**3. When a car suddenly stops, the passengers move forward. This is due to:**

- A) Gravitational force                  B) Frictional force                  C) Inertia                  D) Momentum

**4. If a pendulum completes 20 oscillations in 10 seconds, its frequency is:**

- A) 0.5 Hz                  B) 2 Hz                  C) 5 Hz                  D) 10 Hz

**5. Which of the following is a non-contact force?**

- A) Friction                  B) Tension                  C) Gravitational force                  D) Normal reaction

**6. Which of the following statements about mass and weight is correct?**

- A) Mass changes with location, weight does not  
B) Weight is a vector, mass is a scalar  
C) Mass is measured in newtons, weight in kilograms  
D) Weight and mass are always equal

**7. If an object is moving in a circle at constant speed, then:**

- A) Its velocity is constant                  B) Its acceleration is zero  
C) It is not accelerating                  D) It is accelerating

**8. The phenomenon responsible for the bending of light as it passes from one medium to another is:**

- A) Reflection                  B) Refraction                  C) Diffraction                  D) Interference

**9. Which of the following is a renewable source of energy?**

- A) Coal                  B) Petroleum                  C) Natural gas                  D) Solar energy

**10. The amount of space occupied by an object is called its:**

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

**11. What is the kinetic energy of a 2 kg object moving at a speed of 3 m/s?**

- A) 3 J      B) 6 J      C) 9 J      D) 18 J

**12. Which of the following simple machines is a lever?**

- A) Pulley      B) Inclined plane      C) Screw      D) Scissors

**13. The time taken by the Earth to complete one rotation on its axis is:**

- A) 12 hours      B) 24 hours      C) 30 days      D) 365 days

**14. Which of the following devices converts chemical energy into electrical energy?**

- A) Electric motor      B) Battery      C) Solar panel      D) Wind turbine

**15. What happens to the pressure if the area over which a force is applied decreases?**

- A) Increases      B) Decreases      C) Remains the same      D) Becomes zero

**16. The ability to do work is known as:**

- A) Force      B) Energy      C) Power      D) Pressure

**17. Which of the following will float on water?**

- A) Iron nail      B) Stone      C) Cork      D) Coin

**18. Which of the following can travel through a vacuum?**

- A) Sound      B) Water waves      C) Light      D) Seismic waves

**19. If the mass of an object is doubled, its gravitational potential energy will:**

- A) Remain the same      B) Double      C) Become half      D) Become four times

**20. In which of the following situations is work done?**

- A) Holding a heavy bag without moving      B) Pushing a wall that does not move  
C) Lifting a book to a shelf      D) Sitting still in a chair

➤ **SECTION B : CHEMISTRY (20 QUESTIONS)**

**21. Which of the following is a compound?**

- A) Oxygen      B) Water      C) Iron      D) Carbon

**22. Which of the following is a chemical change?**

- A) Melting of ice      B) Evaporation of water      C) Rusting of iron      D) Breaking of glass

**23. The chemical formula for common salt is:**

- A) NaOH      B) NaCl      C) NaCO<sub>3</sub>      D) KCl

**24. The process of a liquid changing into a gas at any temperature below its boiling point is called:**

- A) Boiling      B) Freezing      C) Evaporation      D) Condensation

**25. The atomic number of carbon is:**

- A) 6      B) 8      C) 12      D) 14

**26. Which of the following is a physical property of matter?**

- A) Flammability      B) Reactivity with acid      C) Density      D) Toxicity

**27. Which gas is used in fire extinguishers?**

- A) Oxygen      B) Carbon dioxide      C) Hydrogen      D) Methane

**28. The smallest particle of an element that can exist independently is called:**

- A) Atom      B) Molecule      C) Proton      D) Electron

**29. Which of the following is a mixture?**

- A) Water      B) Carbon dioxide      C) Air      D) Sodium chloride

**30. Which of the following is a noble gas?**

- A) Oxygen      B) Nitrogen      C) Argon      D) Hydrogen

**31 . The chemical symbol for gold is:**

- A) Ag      B) Au      C) Cu      D) Pb

**32. Which of the following is a metalloid?**

- A) Sodium                      B) Iron                      C) Silicon                      D) Copper

**33. What is the pH of a neutral solution?**

- A) 0                      B) 7                      C) 14                      D) 10

**34. Which of the following substances is an acid?**

- A) Soap                      B) Vinegar                      C) Baking soda                      D) Salt

**35. The process by which plants make their own food is called:**

- A) Respiration                      B) Photosynthesis                      C) Transpiration                      D) Fermentation

**36. Which of the following is a non-metal?**

- A) Magnesium                      B) Sulfur                      C) Iron                      D) Aluminum

**37. The process of coating iron with zinc to prevent rusting is called:**

- A) Electroplating                      B) Galvanization                      C) Anodizing                      D) Chromating

**38. The element with the atomic number 1 is:**

- A) Helium                      B) Oxygen                      C) Hydrogen                      D) Carbon

**39. Which of the following is a liquid metal at room temperature?**

- A) Sodium                      B) Mercury                      C) Lead                      D) Copper

**40. Which of the following is not a chemical reaction?**

- A) Burning of paper                      B) Rusting of iron                      C) Boiling of water                      D) Cooking of food

➤ **SECTION B : BIOLOGY ( 20 QUESTIONS)**

**41. The functional unit of life is:**

- A) Tissue                      B) Organ                      C) Cell                      D) System

**42. Which of the following is a non-green plant?**

- A) Mango tree                      B) Rose plant                      C) Mushroom                      D) Fern

**43. Which part of the plant is mainly responsible for photosynthesis?**

- A) Root                      B) Stem                      C) Leaf                      D) Flower

**44. The process by which plants release oxygen is called:**

- A) Transpiration              B) Respiration              C) Photosynthesis              D) Fermentation

**45. Which of the following is not a component of a plant cell?**

- A) Nucleus              B) Mitochondria              C) Chloroplast              D) Lysosome

**46. Which part of the human digestive system absorbs the most nutrients?**

- A) Stomach              B) Small intestine              C) Large intestine              D) Esophagus

**47. Which of the following is a communicable disease?**

- A) Cancer                      B) Diabetes                      C) Tuberculosis                      D) Asthma

**48. Which organ is responsible for pumping blood throughout the body?**

- A) Lungs                      B) Kidney                      C) Heart                      D) Brain

**49. Which of the following is a function of the skeleton?**

- A) Producing oxygen                      B) Digesting food  
C) Protecting internal organs                      D) Regulating body temperature

**50. Which of the following is not a type of joint?**

- A) Ball and socket                      B) Pivot                      C) Gliding                      D) Muscle

**51. Which of the following is a renewable source of energy?**

- A) Coal                      B) Petroleum                      C) Natural gas                      D) Solar energy

**52. The largest organ in the human body is:**

- A) Heart                      B) Brain                      C) Liver                      D) Skin

**53. Which part of the brain controls balance and coordination?**

- A) Cerebrum              B) Cerebellum              C) Medulla oblongata              D) Hypothalamus

**54. What is the basic unit of heredity?**

- A) Chromosome              B) Gene                      C) DNA                      D) Nucleus

**55. Which of the following is an excretory organ in humans?**

- A) Liver                      B) Stomach                      C) Lungs                      D) Kidney

**56. Which of the following organisms is not a vertebrate?**

- A) Snake                      B) Frog                      C) Fish                      D) Earthworm

**57. Which vitamin is necessary for the formation of strong bones?**

- A) Vitamin A                      B) Vitamin B                      C) Vitamin C                      D) Vitamin D

**58. Which of the following is an example of a non-flowering plant?**

- A) Rose                      B) Fern                      C) Mango                      D) Sunflower

**59. The process by which plants lose water through their leaves is called:**

- A) Transpiration                      B) Respiration                      C) Photosynthesis                      D) Fermentation

**60. The largest bone in the human body is the:**

- A) Humerus                      B) Femur                      C) Tibia                      D) Radius

➤ **SECTION D : MATHEMATICS (30 QUESTIONS)**

**61. If  $3x - 5 = 16$ , then the value of  $x$  is:**

- A) 5                      B) 7                      C) 8                      D) 9

**62. If  $2a + 3 = 11$ , then the value of  $a$  is:**

- A) 4                      B) 3                      C) 5                      D) 6

**63. The value of  $\sqrt{2}$  is?**

- A) 1.6                      B) 3.2                      C) 6.4                      D) 1.412

**64. If  $x = 2$  and  $y = 3$ , then the value of  $2x^2 + 3y^2 + 3y$  is:**

- A) 19                      B) 17                      C) 161                      D) 24

**65. If  $a + b = 10$  and  $a - b = 4$ , then the value of  $a$  is:**

- A) 6                      B) 7                      C) 8                      D) 9

**66. The perimeter of a rectangle with length 12 cm and breadth 8 cm is:**

- A) 20 cm                      B) 40 cm                      C) 48 cm                      D) 60 cm

**67. The area of a circle with radius 7 cm is:**

- A) 154 cm<sup>2</sup>                      B) 44 cm<sup>2</sup>                      C) 77 cm<sup>2</sup>                      D) 28 cm<sup>2</sup>

**68. If the sides of a triangle are 3 cm, 4 cm, and 5 cm, its perimeter is:**

- A) 12 cm                      B) 15 cm                      C) 18 cm                      D) 20 cm

**69. The volume of a cube with side length 6 cm is:**

- A) 36 cm<sup>3</sup>                      B) 216 cm<sup>3</sup>                      C) 144 cm<sup>3</sup>                      D) 96 cm<sup>3</sup>

**70. The sum of the angles in a quadrilateral is:**

- A) 180°                      B) 270°                      C) 360°                      D) 450°

**71. The value of  $5x + 3x + 5 = 0$ :**

- A) -8/5                      B) -8/2                      C) -5/8                      D) 5/8

72. The least common multiple (LCM) of 12 and 15 is:  
A) 30                      B) 60                      C) 45                      D) 90
73. What is the square root of 144?  
A) 10                      B) 11                      C) 12                      D) 13
74. Which of the following numbers is a prime number?  
A) 27                      B) 21                      C) 31                      D) 33
75. If a number is divisible by 6, it must be divisible by:  
A) 2 and 3                      B) 3 and 4                      C) 4 and 5                      D) 5 and 10
76. If 25% of a number is 50, then the number is:  
A) 100                      B) 150                      C) 200                      D) 250
77. The ratio of 4 to 6 is equivalent to:  
A) 2:3                      B) 3:2                      C) 4:3                      D) 5:3
78. If a sum of money triples in 5 years, the rate of simple interest is:  
A) 50%                      B) 100%                      C) 150%                      D) 200%
79. If 60% of a number is 240, then 80% of the number is:  
A) 280                      B) 320                      C) 360                      D) 400
80. If the cost price of an item is ₹500 and it is sold at a 20% profit, the selling price is:  
A) ₹550                      B) ₹600                      C) ₹700                      D) ₹750
81. If the average of 6, 8, 10, 12, and 14 is:  
A) 9                      B) 10                      C) 11                      D) 12
82. The probability of getting a head when a coin is tossed is:  
A) 0.25                      B) 0.5                      C) 0.75                      D) 1
83. If a die is rolled, the probability of getting a number greater than 4 is:  
A)  $\frac{1}{6}$                       B)  $\frac{2}{6}$                       C)  $\frac{1}{3}$                       D)  $\frac{1}{2}$
84. The median of the data set {3, 5, 7, 9, 11} is:  
A) 5                      B) 7                      C) 9                      D) 11
85. If the mode of the data set {2, 3, 3, 4, 5, 5, 5, 6, 7} is:  
A) 3                      B) 4                      C) 5                      D) 6
86. The product of two consecutive even numbers is always:  
A) Even                      B) Odd                      C) Prime                      D) Divisible by 5
87. Find area of Equilateral Triangle whose side 3cm :  
A)  $-\frac{45\sqrt{3}}{10}\text{cm}^2$                       B)  $\frac{45\sqrt{3}}{10}\text{cm}^2$                       C)  $-4.5\text{cm}^2$                       D)  $4.5\text{cm}^2$
88. The reciprocal of 0.25 is:  
A) 0.5                      B) 2                      C) 4                      D) 8
89. If a polygon has 10 sides, it is called a:  
A) Hexagon                      B) Heptagon                      C) Octagon                      D) Decagon
90. If the simple interest on a sum of money for 4 years at 5% per annum is ₹800, the principal amount is:  
A) ₹2000                      B) ₹3000                      C) ₹4000                      D) ₹5000

➤ **SECTION E : GENERAL KNOWLEDGE**

91. Which ancient civilization is known for its well-planned cities of Harappa and Mohenjo-Daro?
- A) Egyptian                      B) Mesopotamian                      C) Indus Valley                      D) Chinese

**92. Who was the first known ruler of the Maurya Dynasty?**

- A) Ashoka      B) Bindusara      C) Chandragupta Maurya      D) Bimbisara

**93. The Gupta Empire is often referred to as the "Golden Age" of India because:**

- A) It was the longest-lasting empire in India  
B) It had the largest army in Indian history  
C) It made significant advances in art, science, and literature  
D) It was the wealthiest empire in Indian history

**94. Who was the famous Chinese traveler who visited India during the reign of Harshavardhana?**

- A) Marco Polo      B) Fa-Hien      C) Ibn Battuta      D) Xuanzang (Hiuen Tsang)

**95. The Battle of Plassey (1757) was fought between:**

- A) The British and the French      B) The British and the Mughals  
C) The British and the Marathas      D) The British and the Nawab of Bengal

**96. The Indian National Congress was formed in the year:**

- A) 1857      B) 1885      C) 1905      D) 1919

**97. Which emperor is known for his policy of religious tolerance and his interest in all religions?**

- A) Akbar      B) Aurangzeb      C) Shah Jahan      D) Babur

**98. The Iron Pillar at Mehrauli, Delhi, is known for:**

- A) Its height      B) Its inscriptions      C) Its rust-resistant iron      D) Its architectural design

**99. Who was the last ruler of the Mughal Empire?**

- A) Bahadur Shah I      B) Aurangzeb      C) Shah Jahan      D) Bahadur Shah Zafar

**100. The ancient university of Nalanda, known for its excellence in education, was located in:**

- A) Gujarat      B) Bihar      C) Punjab      D) Maharashtra