

PHYSICS

1. **When a cricket ball is hit for a six, which force is responsible for bringing it back to the ground?**
 - a) Muscular force
 - b) Gravitational force
 - c) Frictional force
 - d) Magnetic force

2. **Which statement is true about the universal law of gravitation?**
 - a) It depends only on the masses of objects.
 - b) It applies only to celestial objects.
 - c) It depends inversely on the square of the distance between two objects.
 - d) It works only on Earth.

3. **What does the slope of a distance-time graph represent?**
 - a) Speed
 - b) Acceleration
 - c) Distance
 - d) Time

4. **Which law of motion explains the action-reaction pair?**
 - a) First law
 - b) Second law
 - c) Third law
 - d) Law of gravitation

5. **The frequency of a sound wave is measured in:**
 - a) Decibels
 - b) Hertz
 - c) Meters
 - d) Seconds

6. **The weight of an object is the force exerted on it by :**
 - a) Friction
 - b) Magnetism
 - c) Gravity
 - d) Electricity

7. **Which of the following does not affect the speed of sound?**
 - a) Temperature
 - b) Density of the medium
 - c) Frequency of the sound
 - d) State of the medium (solid, liquid, gas)

CHEMISTRY

8. Which of the following processes demonstrates the kinetic energy of particles in matter?

- a) Melting of ice
- b) Breaking of a chalk piece
- c) Dissolution of salt in water
- d) Sublimation of camphor

9. The stability of an atom is explained best by which of the following models?

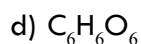
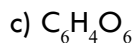
- a) Dalton's Atomic Model
- b) Thomson's Plum Pudding Model
- c) Rutherford's Nuclear Model
- d) Bohr's Model of Atom

10. Which of these methods is used to separate a mixture of salt and camphor?

- a) Filtration
- b) Sublimation
- c) Distillation
- d) Crystallization

11. What is the molecular formula of glucose?

- a) $C_6H_{12}O_6$
- b) $C_6H_{10}O_5$



12. The atomic number of an element is determined by the number of:

- a) Neutrons in the nucleus
- b) Protons in the nucleus
- c) Electrons in the atom
- d) Protons and neutrons in the nucleus

13. Which of the following is true about isotopes?

- a) Isotopes have the same number of protons but different numbers of neutrons.
- b) Isotopes have different numbers of protons.
- c) Isotopes have the same number of neutrons but different numbers of electrons.
- d) Isotopes have different numbers of protons and neutrons.

14. What happens to the boiling point of water at higher altitudes?

- a) Increases
- b) Decreases
- c) Remains constant
- d) Doubles

BIOLOGY

15. The process of photosynthesis takes place in which part of the plant cell?

- a) Nucleus
- b) Chloroplast
- c) Mitochondria
- d) Ribosome

16. Xylem tissue in plants is responsible for:

- a) Transporting water
- b) Transporting food
- c) Storing food
- d) Photosynthesis

17. Which type of animal tissue is responsible for sending electrical signals?

- a) Connective tissue
- b) Epithelial tissue
- c) Nervous tissue
- d) Muscle tissue

18. The control center of the cell is the:

- a) Mitochondria
- b) Nucleus
- c) Ribosomes
- d) Golgi apparatus

19. Which organelle is responsible for producing energy in the cell?

- a) Ribosomes
- b) Mitochondria
- c) Endoplasmic Reticulum
- d) Nucleus

20. Which type of plant tissue is responsible for transporting water from roots to leaves?

- a) Xylem
- b) Phloem
- c) Epidermis
- d) Parenchyma

MATHEMATICS

21. The volume of a cone is $\frac{1}{3}\pi r^2 h$. What is the volume of a cone with radius 3 cm and height 9 cm?

- a) 25.5 cm³
- b) 81 cm³
- c) 84 cm³
- d) 84.85 cm³

22. In a triangle, if one angle is 90° and the other two angles are equal, what type of triangle is it ?

- a) Acute-angled triangle
- b) Scalene triangle
- c) Right isosceles triangle
- d) Equilateral triangle

23. If the mean of five numbers is 20, what is the sum of the numbers?

- a) 4
- b) 25
- c) 100
- d) 120

24. What is the value of $2^{0.5} \times 2^{2.5}$?

- a) 2^3
- b) 2^2
- c) 2^1
- d) 2^4

25. Which of the following is an irrational number?

- a) $\frac{3}{4}$
- b) $\sqrt{2}$
- c) 0.5
- d) 2

26. If $x + 3 = 7$, what is the value of x ?

- a) 3
- b) 4
- c) 5
- d) 7

27. What is the sum of the roots of the quadratic equation $2x^2 - 3x + 1 = 0$?

- a) -1
- b) $\frac{3}{2}$
- c) 3
- d) -3

28. If the mean of five numbers is 20, what is the sum of the numbers ?

- a) 4
- b) 25
- c) 100
- d) 120

29. The sum of the interior angles of a quadrilateral is:

- a) 180°
- b) 360°
- c) 270°
- d) 90°

30. The sum of the angles of a triangle is always equal to:

- a) 180°
- b) 360°
- c) 270°

d) 90°

31. The median of a data set is the:

- a) Average of all values
- b) Middle value when data is arranged in ascending order
- c) Sum of all values divided by the number of values
- d) Most frequent value

32. What is the area of a circle with radius 7 cm?

(Use $\pi = \frac{22}{7}$)

- a) 154 cm^2
- b) 49 cm^2
- c) 44 cm^2
- d) 22 cm^2

33. The volume of a cylinder is given by the formula $V = \pi r^2 h$. What will be the volume of a cylinder with radius 3 cm and height 5 cm ?

- a) 141.42 cm^3
- b) 130 cm^3
- c) 75.4 cm^3
- d) 45.6 cm^3

34. The decimal expansion of $\frac{1}{7}$ is:

- a) Terminating
- b) Non-terminating but repeating
- c) Non-terminating and non-repeating

d) A whole number

35. Which of the following is a rational number?

- a) $\sqrt{2}$
- b) π
- c) $\frac{7}{4}$
- d) $\sqrt{3}$

36. Which of the following is a polynomial?

- a) $x^2 + 3x + 1$
- b) $\frac{1}{x} + 2$
- c) $\frac{5}{x^2}$
- d) $\frac{1}{x+1}$

37. The sum of the interior angles of a polygon with n sides is given by:

- a) $(n-2) \times 180^\circ$
- b) $n \times 180^\circ$
- c) 180°
- d) $n \times 360^\circ$

38. In a cyclic quadrilateral, the sum of opposite angles is always equal to:

- a) 0°
- b) 90°
- c) 180°

d) 360°

39. The mode of the data set 1, 2, 3, 3, 4, 4, 4, 5 is:

a) 1

b) 2

c) 4

d) 3

40. The surface area of a sphere is given by the formula $4\pi r^2$. What is the surface area of a sphere with radius 7 cm?

a) 616 cm^2

b) 154 cm^2

c) 50 cm^2

d) 22 cm^2

ENGLISH

41. Identify the sentence with the correct tense usage:

a) She is played piano beautifully.

b) She play the piano beautifully.

c) She plays the piano beautifully.

d) She has been playing the piano beautifully tomorrow.

42. Choose the correct form of the verb in the sentence: "By next year, she ____ her thesis."

a) completes

b) has completed

c) will have completed

d) will complete

43. Which sentence is in the past perfect tense?

a) She had cooked dinner by the time we arrived.

b) She cooked dinner last night.

c) She cooks dinner every evening.

d) She is cooking dinner now.

44. Choose the correct sentence:

a) He has been working in this office since three years.

b) He has been working in this office for three years.

c) He has been working in this office from three years.

d) He is working in this office since three years.

45. What does the idiom "burn the midnight oil" mean?

a) Waste energy unnecessarily

b) Stay up late working or studying

c) Work during the day

d) Save money

46. The phrase “a piece of cake” refers to something that is:

- a) Delicious
- b) Difficult
- c) Expensive
- d) Easy

47. Change the sentence to reported speech: “He said, ‘I am reading a book.’”

- a) He said that he is reading a book.
- b) He said that he was reading a book.
- c) He said that he reads a book.
- d) He said that I am reading a book.

48. Which of the following is an example of indirect speech?

- a) She said, “I love chocolate.”
- b) She said that she loved chocolate.
- c) “I love chocolate,” she said.
- d) She says, “I love chocolate.”

49. A person who loves books is called:

- a) Bibliophile
- b) Philanthropist
- c) Cartographer

d) Ethnologist

50. A person who does not believe in the existence of God is called:

- a) Theist
- b) Atheist
- c) Agnostic
- d) Ascetic

SOCIAL STUDIES

51. Which river is known as the lifeline of the desert areas in Rajasthan?

- a) Narmada
- b) Ravi
- c) Luni
- d) Tapti

52. Which of the following best represents the Estates-General meeting in 1789 ?

- a) Demand by the clergy for higher taxes
- b) Introduction of the Guillotine
- c) Demand for a constitution by the Third Estate
- d) Abolition of the monarchy

53. Which event marked the beginning of the French Revolution?

- a) Storming of the Bastille
- b) Execution of Louis XVI
- c) Formation of the Estates-General

d) Declaration of the Rights of Man

54. What was the primary cause of the financial crisis in France before the Revolution?

- a) Wars with Britain
- b) Lavish lifestyle of the monarchy
- c) Poor harvests
- d) All of the above

55. The river Brahmaputra is an example of which type of drainage pattern?

- a) Radial
- b) Dendritic
- c) Trellis
- d) Parallel

56. Which of the following rivers is associated with the Ganga-Brahmaputra delta?

- a) Narmada
- b) Mahanadi
- c) Ganga
- d) Godavari

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59. The Russian Revolution led to the establishment of which government?

- a) Communist
- b) Monarchy
- c) Dictatorship
- d) Socialist Republic

60. Who was the leader of the Bolsheviks during the Russian Revolution?

- a) Joseph Stalin
- b) Vladimir Lenin
- c) Leon Trotsky
- d) Tsar Nicholas II