NEW STANDARD ACADEMY

Marks: 60

Date : 03-08-2026 **CLASS : 9TH** **Time: 2 hours**

PHYSICS

1. A force of 25 N moves a box through 4 m in the direction of the force. The work done is:
   (a) 50 J (b) 75 J
   (c) 100 J (d) 125 J
2. A machine does 1800 J of work in 60 s. Its power is:
   (a) 20 W (b) 30 W
   (c) 40 W (d) 50 W
3. A 5 kg object is lifted through 8 m. Take g = 10 m/s². Find its potential energy.
   (a) 200 J (b) 300 J
   (c) 400 J (d) 500 J
4. A 4 kg body moves with a speed of 5 m/s. Its kinetic energy is:
   (a) 25 J (b) 50 J
   (c) 75 J (d) 100 J
5. A 1000 W motor runs for 10 s. The work done is:
   (a) 5000 J (b) 10000 J
   (c) 15000 J (d) 20000 J
6. A force of 60 N acts on an object, but the object remains stationary. The work done is:
   (a) 60 J (b) 30 J
   (c) 0 J (d) 120 J
7. A body gains 600 J of potential energy when lifted. If its mass is 6 kg, the height is:
   (a) 5 m (b) 10 m
   (c) 15 m (d) 20 m
8. A body has a kinetic energy of 144 J and mass 8 kg. Its speed is:
   (a) 4 m/s (b) 5 m/s
   (c) 6 m/s (d) 8 m/s
9. A worker does 12,000 J of work in 40 s. His power is:
   (a) 200 W (b) 250 W
   (c) 300 W (d) 350 W
10. A force of 40 N moves an object by 15 m. The work done is:
    (a) 400 J (b) 500 J
    (c) 600 J (d) 700 J
11. A 5 kg body has kinetic energy equal to its potential energy at a height of 20 m above the ground. (Take g = 10, m/s²). What is its speed at that instant?
    (a) 10 m/s (b) 20 m/s
    (c) 25 m/s (d) 30 m/s
12. A 10 kg object is lifted at a constant speed through 15 m in 30 s. Take g = 10 m/s². The power developed is:
    (a) 25 W (b) 40 W
    (c) 50 W (d) 75 W
13. A 5 kg body moving at 6 m/s collides and slows down to 2 m/s. The loss in kinetic energy is:
    (a) 40 J (b) 60 J
    (c) 80 J (d) 100 J
14. A 2 kg body is dropped from a height of 20 m. Neglecting air resistance, its kinetic energy just before reaching the ground is:
    (a) 200 J (b) 300 J
    (c) 400 J (d) 500 J
15. A 1200 W lift raises a 60 kg load vertically by 10 m. Take g = 10 m/s². The minimum time required is:
    (a) 3 s (b) 4 s
    (c) 5 s (d) 6 s

CHEMISTRY

16. A chemical equation is always balanced to fulfil the condition of
    (a) Dalton's atomic theory
    (b) law of constant composition
    (c) law of multiple proportions
    (d) law of conservation of mass.
17. A sample of pure water, irrespective of its source contains 11.1% hydrogen and 88.9% oxygen. The data supports
    (a) law of constant proportions
    (b) law of conservation of mass
    (c) law of reciprocal proportions
    (d) law of multiple proportions.
18. All samples of carbon dioxide contain carbon and oxygen in the mass ratio 3: 8. This is in agreement with the law of
    (a) conservation of mass

(b) constant proportions
(c) multiple proportions
(d) gaseous volumes.

19. An atom is the
(a) smallest particle of matter known
(b) smallest particle of a gas
(c) smallest particle of an element that can take part in a chemical change
(d) radioactive emission.

20. Which of the following is a triatomic molecule?
(a) Carbon dioxide (b) Ammonia
(c) Helium (d) Sugar

21. The number of atoms present in a molecule of a substance is called
(a) molecularity (b) atomicity
(c) valency (d) reactivity.

22. Atomicity of sulphur is
(a) 8 (b) 4
(c) 2 (d) 1

23. Molecules of phosphorus and ammonia are respectively
(a) monoatomic and triatomic
(b) monoatomic and diatomic
(c) tetratomic and triatomic
(d) tetratomic and tetratomic.

24. Which of the following represents a polyatomic ion?
(a) Sulphide (b) Chloride
(c) Sulphate (d) Nitride

25. The valency of nitrogen in ammonia (NH_3) is
(a) 2 (b) 0
(c) 3 (d) 4

26. In which of the following the valency of each of the constituent elements is equal to the total number atoms in one molecule of the compound?
(a) HCI (b) H_2S
(c) CaO (d) $MgCl_2$

27. Valency of silver in Ag_2S is
(a) 1 (b) 2
(c) 0 (d) 3

28. Which of the following has the smallest mass?
(a) 4 g of He
(b) 6.022×10^{23} atoms of He
(c) 1 atom of He
(d) 1 mole atoms of He

29. The atomic mass of calcium (Ca) is 40 g. The number of moles in 60 g of calcium are
(a) 0.5 mol (b) 2.0 mol
(c) 1.5 mol (d) 0.75 mol

30. What mass of carbon dioxide (CO_2) will contain 3.011×10^{23} molecules?
(a) 11.0 g (b) 22.0 g
(c) 4.4 g (d) 44.0 g

BIOLOGY

31. The major function of Golgi apparatus is
(a) Detoxification (b) Fermentation
(c) Translocation (d) Secretion

32. Organelle other than nucleus, containing DNA is
(a) Mitochondria (b) Golgi apparatus
(c) Endoplasmic reticulum
(d) Lysosome

33. The organelle important in spindle formation during nuclear division is
(a) Centrosome (b) Chloroplast
(c) Endoplasmic reticulum
(d) Peroxisome

34. The term cell was given by
(a) Leeuwenhoek (b) Robert Hooke
(c) Robert Brown (d) Palade

35. The longest cell in human body is
(a) Neuron (b) Muscle fibre
(c) Epithelial cell (d) Bone cell

36. The function of the nucleolus in the cell is
(a) Secretion
(b) Synthesis of DNA
(c) Synthesis of RNA and ribosomes
(d) None of the above

37. Which of the following phenomenon is commonly referred to as cell drinking?
(a) Exocytosis (b) Pinocytosis
(c) Endocytosis (d) Phagocytosis

38. Which organelle releases oxygen?
(a) Ribosome (b) Golgi apparatus
(c) Mitochondria (d) Chloroplast

39. A pair of kidney shaped cells present around stomata are called
(a) Guard cells (b) Subsidiary cells
(c) Epidermal cells (d) Trichomes

40. Which of these types of cells is most likely to divide?
(a) Epidermis (b) Parenchyma
(c) Meristematic (d) Xylem

41. A unit of the nervous system is
(a) Cyton (b) Axon
(c) Neuron (d) Dendrite

42. Girth of stem increase due to
(a) Lateral meristem (b) Apical meristem
(c) Vertical meristem

(d) Intercalary meristem

43. Parenchymatous cells which are thickened with pectin at the corner are called
(a) Collenchyma (b) Sclerenchyma
(c) Parenchyma and sclerenchyma
(d) None of the above

44. Tendon connects a
(a) Ligament with muscle
(b) Bone with muscle
(c) Cartilage with muscle
(d) Bone with bone

45. The tissue which is helpful for the movement of ovum in the fallopian tube is
(a) Columnar epithelial tissue
(b) Ciliated columnar epithelial tissue
(c) Cuboidal epithelial tissue
(d) Squamous epithelial tissue

MATHS

46. Which one of the following is a polynomial?
(a) $\frac{x^2}{2} - \frac{2}{x^2}$ (b) $\sqrt{2x}$-1
(c) $x^2 + \frac{3x^{\frac{3}{2}}}{\sqrt{x}}$ (d) $\frac{x-1}{x+1}$

47. Which of the following algebraic expression is a polynomial in one variable?
(a) $7x^2 - \frac{2}{r}$ (b) $7x^2 - 3x + \sqrt{2}$
(c) $\frac{(x-2)(x-4)}{x}$ (d) $7x^2 - xy + 5y + 2$

48. $\sqrt{2}$ is a polynomial of degree
(a) 2 (b) 0
(c) 1 (d) 1/2

49. Which of the following algebraic expressions is a trinomial?
(a) $7x^3 + 2x$ (b) $2x^2 + 3x - x^5$
(c) $2x^3 + 4x^2 - 5x + 1$ (d) xyz

50. The linear equation 2x - 5y = 7 has
(a) a unique solution
(b) two solutions
(c) infinitely many solutions
(d) no solution

51. A solution of the equation 2x + 5y - 3 = 0 is
(a) (5,-2) (b) (-5,2)
(c) (-1, 1) (d) (1,-1)

52. Which of the following is a recursive rule for the sequence 5, 8, 11, 14, ...?
(a) $a_n = 3n + 2$
(b) $a_1 = 5$, $a_n = a_{n-1} + 3$
(c) $a_n = a_{n-1} + 5$
(d) $a_1 = 5$, $a_n = 3a_{n-1}$

53. If a, (a-2) and 3a are in A.P., then the value of a is
(a) -3 (b) - 2
(c) 3 (d) 2

54. Which term of the G.P. $\sqrt{3}$, 3,3$\sqrt{3}$ … is 729?
(a) 12^{th} (b) 14^{th}
(c) 17^{th} (d) 19^{th}

55. Given a G.P. with a = 729 and 7th term 64, determine S_7.
(a) 1136 (b) 2143
(c) 2059 (d) 1942

56. For what values of x, the numbers - 3/7 are in G.P.? - 7/3
(a) ±2 (b) ±3
(c) ±1 (d) ± ½

57. x_1, x_2, x_3 ..... are in A.P. If $x_1 + x_7 + x_{10} = -6$ and $x_3 + x_8 + x_{12} = -11$, then $x_3 + x_8 + X_{22}$ =
(a) -21 (b) -15
(c) -18 (d) -31

58. If the seventh term of an A.P. is 1/9 and its ninth term is 1/7, find its 63rd term.
(a) 1 (b) 2
(c) 3 (d) None of these

59. Match the List-I with List-II and choose the correct option.

List-I	List-II
(P) Sum of 12 terms of G.P., 1, 2, 4, 8, is	(1) -20
(Q) Sum of 5 terms of G.P. 1, 1/3 1/9 27 is	(2) 121/81
(R) Sum of 8 terms of G.P., 1, 3, 9, 27 is	(3) 4095
(S) Sum of 4 terms of G.P., 1, -3, 9, -27 is	(4) 3280

(a) P-3, Q-2, R-4, S-1
(b) P - 1, Q - 2, R - 3, S - 4
(c) P - 2, Q - 1, R - 4, S - 3
(d) P - 1, Q - 3, R - 2, S – 4

60. Find the perimeter of the sixth inscribed equilateral triangle.
(a) 8/15 cm (b) 15/8 cm
(c) 8/17 cm (d) 17/8 cm