NEW STANDARD ACADEMY

Marks: 120

Date : 12-05-25 **CLASS : 9TH** **Time: $2\frac{1}{2}$ hours**

PHYSICS

1. 1 km/h^{2}is equal to
   (a) $\frac{1000m}{3600\times3600s^2}$ (b) $\frac{1}{12960}m/s^{-1}$
   (c) both of them (d) none of these
2. 1 km/h^{-1}is equal to
   (a) $\frac{5}{18}$ ms^{-1} (b) $\frac{18}{5}$ ms^{-1}
   (c) both of them (d) none of these
3. What is the average velocity of a car that moved 60 km in 3 hours?
   (a) 60 km/h (b) 20 km/h
   (c) 30 km/h (d) 10 km/h
4. Ratio of displacement to distance is
   (a) Always < 1 (b) always = 1
   (c) always> 1 (d) = or < 1
5. A player throws a ball upward with an initial speed of 29.4 ms^{-1}.The time taken by the ball to return to the player's hands is.(Take g = 9.8 ms^{-2} and neglect air resistance).
   (a) 10 sec (b) 8 sec
   (c) 12sec (d) 6 sec
6. A motor car cover 1/3 part of total distance with v_1 = 10 km/hr, second 1/3 part with v_2= 20 km/hr and rest 1/3 part with v_3= 60km/hr. What is the average speed the car-
   (a) 56 km/hr (b) 60 km/hr
   (c) 50 km/hr (d) 48km/hr
7. A car covers a distance of 2 km . in 2.5 mim. If it covers half of the distance with speed 40 km/hr the rest distance it will cover with speed-
   (a) 56 km/hr (b) 60km/hr
   (c) 50km/hr (d) 48 km/hr
8. When a moving body makes a round trip and returns back to its initial position then its displacement is
   (a) +1 (b) -1
   (c) 0 (d) ≥ 1
9. If a person walked at 2 m/s for 12 s he/she would travel a distance of
   (a) 24 m (b) 6 m
   (c) 4 m (d)None of the answers
10. If car A is at 40 km/h and car B is at 10 km/h in the opposite direction, what is the velocity of the car A relative to the car B?
    (a) 40 km/h (b) 50 km/h.
    (c) 10 km/h (d) 30 km/h
11. Which of the following statements is correct?
    (a) Both speed and velocity are same
    (b) Speed is a scalar and velocity is a vector
    (c) Speed is a vector and velocity is scalar
    (d) None of these
12. What is the slope of the body when it moves with uniform velocity?
    (a) Positive (b) Negative
    (c) Zero
    (d)May be positive or negative
13. What does an area velocity time graph give?
    (a) Distance (b) Acceleration
    (c) Displacement (d)None of the above
14. What does the slope of the position-time graph give?
    (a) Speed (b) Acceleration
    (c) Uniform speed
    (d) Both (a) and (c) depending upon the type of graph.
15. The displacement of the body can be-
    (a) Positive (b) Negative
    (c)Zero (d) All of these.

CHEMISTRY

16. Analyze the following statements and choose the correct option.
    (i) Gas particles have larger interparticle spaces as compared to liquids and solids.
    (ii) Gas particles move faster at higher temperature.
    (iii) Gas is the only state of matter which is fluid.
    (iv) The effect of pressure on the particles of gases is the same as that on the particles of solids.
    (v) Gases occupy more volume for the same number of particles, as compared to solids and liquids.
    (a) (i), (ii) and (v) only
    (b) (ii), (iii) and (iv) only
    (c) (i), (iii) and (iv) only
    (d) (i), (ii), (iv) and (v) only
17. At room temperature, the forces of attraction between the particles of solid

substances are than those which exist in the gaseous state.
(a) stronger (b) weaker
(c) same (d) depends

18. Which of the following represents the correct decreasing order of rate of evaporation?
(a) Alcohol, water, petrol, kerosene oil
(b) Alcohol, petrol, water, kerosene oil
(c) Water, alcohol, kerosene oil, petrol
(d) Kerosene oil, petrol, water, alcohol

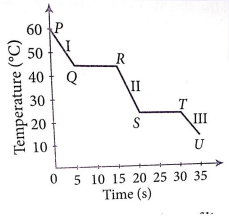
19. On converting 25°C, 38°C and 66°C to Kelvin scale, the correct sequence of temperature will be, respectively
(a) 298 K, 311 K and 339 K
(b) 298 K, 300 K and 338 K
(c) 273 K, 278 K and 543 K
(d) 298 K, 310 K and 338 K.

20. Latent heat of vaporization is
(a) Heat required to raise the temperature to 100°C
(b) Heat required to raise the temperature of 1 kg water from 99°C to 100°C
(c) Heat required to convert 1 kg water at 100°C to vapour at 100°C
(d) All of the above

21. Useful substance in preparation of freezing mixture
(a) NaOH (b) NaCl
(c) $NaHCO_3$ (d) $CaSO_4.2H_2O$

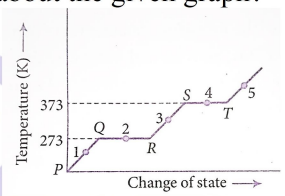
22. Which of the following statements are correct?
1. At 273 K, both ice and water co-exist.
II. Ice at 0°C is more effective in cooling a substance than water at 0°C.
III. Particles of water at 0°C have more energy as compared to particles of ice at the same temperature.
IV. Increase in pressure increases the freezing point of water.
(a) I and IV only (b) I, II and III only
(c) III and IV only (d) 1, II, III and IV

23. The given graph represents the cooling curve of substance X.
Which of the following statements are incorrect?



I. Process I represents cooling of liquid state of X while process III involves cooling of the solid state.
II. The freezing point of substance X is 25°C.
III. At 35°C, the substance exists in solid state.
IV. Substance X exists both in gaseous and liquid form along the curve QR.
(a) I and III only (b) II and IV only
(c) III and IV only (d) None of these

24. Which of the following statements is correct about the given graph?



(a) Temperature remains same during the change of state.
(b) QR represents latent heat of fusion while ST represents latent heat of vaporization.
(c) At QR, substance exists in both solid and liquid states while at ST, it exists in both liquid and gaseous states.
(d) All the statements are true.

25. Which of the following represents the correct increasing order of the rigidity of the given substances?
(a) Milk < Nitrogen < Book
(b) Stone < Oxygen < Oil
(c) Alcohol < Salt < Carbon dioxide
(d) Hydrogen < Petrol < Wooden block

26. Which of the following can be classified as a pure substance?
(a) Milk (b) Tap water
(c) Ice (d) Cast-iron

27. Which of the following is a compound?
(a) Air (b) Milk
(c) Iodine (d) Water

28. Which of the following is not a compound?
(a) Marble (b) Washing soda
(c) Quick lime (d) Brass

29. Air is regarded as a
(a) compound (b) mixture
(c) element (d) electrolyte.

30. Carbon burns in oxygen to form CO_2, The properties of CO_2, are
(a) Similar to carbon (b) Similar to oxygen
(c) Totally different from both
(d) Much similar to both

BIOLOGY

31. The endoskeleton of cell is -
(a) Cell wall (b) ER
(c) Cytoplast (d) Mitochondria

32. Who discovered endoplasmic reticulum
(a) Robert Hook (b) Robert brown
(c) Porter (d) Fontana

33. What is the function of RER
(a) Carbohydrate synthesis
(b) Protein synthesis

(c) Lipid synthesis (d) Fat synthesis

34. Golgi body form from -
(a) Nucleus (b) Endoplasmic reticulum
(c) Mitochondria (d)Chloroplast

35. Who gives the term mitochondria
(a) Altman (b) C benda
(c) Kolikar (d) Robert Hook

36. What is full form of ATP
(a) Adenosine mono phosphate
(b) Adenosine di phosphate
(c) Adenosine tri phosphate
(d) None of the above

37. Mitochondria help in
(a) Aerobic respiration
(b) Anaerobic respiration
(c) In both
(d) None of the above

38. What is function of lysosome
(a) in respiration (b) In digestion
(c) In excretion (d) None of the above

39. Mitochondria is present in
(a) In prokaryotic cell
(b)In eukaryotic cell
(c) In both (d) In bacteria

40. Energy currency is
(a) ADP (b) $NADH^2$
(c) ATP (d) ÀMP

41. Powerhouse of cell is
(a) Chloroplast (b) Golgi body
(c) Mitochondria (d) Lysosome
Endoplasmic reticulum

42. What is function of Golgi body
(a) Package protein and lipids
(b) Form ATP
(c) Form water (d) Form ADP

43. Which type ribosome is present in mitochondria
(a) 50 s (b) 60 s
(c) 70s (d) 80s

44. Vacuole is form from -
(a) Mitochondria (b) Ribosome
(c) Chloroplast (d) Golgi body

45. Kreb,s cycle take place in
(a) Chloroplast (b) Mitochondria
(c) Golgi body (d) Lysosome

MATH

46. If $p(x) = x^{2-2}\sqrt{2}x+1$, then $p(2\sqrt{2})$is equal to
(a) 0 (b) 1
(c) $4\sqrt{2}$ (d) $8\sqrt{2}+1$

47. If (x+2) and (x-1) are factors of the polynomial $10x^2+px+q$, then $\frac{p}{q}$ is :
(a) $-\frac{1}{2}$ (b) $\frac{1}{4}$
(c) -1 (d) - 2

48. The value of the polynomial $5x-4x^2+3$, when x = -1 is :
(a) -6 (b) 6
(c) 2 (d) - 2

49. Zero of the polynomial p(x) , where p(x) = ax+1, $a \neq 0$ is :
(a) $-\frac{1}{a}$ (b) 0
(c) $\frac{1}{a}$ (d) – a

50. If $49x^2-b = \left(7x+\frac{1}{2}\right)\left(7x-\frac{1}{2}\right)$, then the value of b is
(a) 0 (b) $\frac{1}{\sqrt{2}}$
(c) $\frac{1}{4}$ (d) $\frac{1}{2}$

51. If $a^2+b^2+c^2 = 200$ and ab +bc +ca = 28 , then the value of a+b+c, is :
(a) 156 (b) 256
(c) 16 (d) 320

52. Which of the following is a factor of $(x+y)^3-(x^3+y^3)$?
(a) $x^2+xy+2xy$ (b) x^2+y^2-xy
(c) xy^2 (d) 3xy

53. The value of 249^2-248^2 is :
(a) 1 (b) 477
(c) 487 (d) 497

54. If $x-\frac{1}{x}=\frac{1}{2}$ then $4x^2+\frac{4}{x^2}=$
(a) 9 (b) 16
(c) 25 (d) 64

55. If $l+m+n=0$, then $\frac{l^2}{mn}+\frac{m^2}{nl}+\frac{n^2}{lm}$ is equal to:
(a) 1 (b) 2
(c) 3 (d) 4

56. If $x+\frac{1}{x}=3$, then the value of $x^2+\frac{1}{x^2}=$
(a) 7 (b) 8
(c) -7 (d) -8

57. Without actually calculating the cubes the value of $(0.3)^3-(0.2)^3-(0.1)^3$ =
(a) 0.018 (b) – 0.018
(c) 0.019 (d) – 0.019

58. If x + y = 5 and xy = 6, then:
(i) $x^2 + y^2 = 13$ (ii) $x^3 + y^3 = 35$
(iii) $x^2 + y^2 = 35$ (iv) $x^3 + y^3 = 13$
Choose the correct option from the following:
(a) (i) and (ii) (b) (iii)and(iv)
(c) (ii) and (iii) (d) (i) and (iv)

59. Which of these identities can be used to find the value of the expression 97× 103?
(a) $(x - y)^2 = x^2 - 2y + y^2$
(b) $(x+ y)^2 = x^2 + 2y + y^2$
(c) $(x+y+z)^2 = x^2 + y^2 + z^2 + 2xy + 2yz + 2xz$
(d) $(x - y)(x + y) = x^2 - y^2$

60. Evaluate using suitable identities
$$\frac{0.75\times0.75\times0.75+0.25\times0.25\times0.25}{0.75\times0.75-0.75\times0.25+0.25\times0.25}$$
(a) 0.1 (b) 1
(c) 0.01 (d) 100