

NEW STANDARD ACADEMY

Marks: 120

Date : 15-04-25

CLASS : 9TH

Time: 2 hours

PHYSICS

- Unit of Height is
(a) sec (b) meter
(c) Kelvin (d) kg
- Unit of luminous Intensity is
(a) Sec (b) Kelvin
(c) Ampere (d) Candela
- Unit of force is
(a) m/s (b) m/s²
(c) kg $\frac{m}{s^2}$ (d) $\frac{m}{s^2}$
- Unit of acceleration
(a) m/s (b) sec
(c) kg $\frac{m}{s}$ (d) $\frac{m}{s^2}$
- Unit of kinetic energy ($k = \frac{1}{2}mv^2$) is
(a) kg $\frac{m^2}{s^2}$ (b) kg $\frac{m}{s^2}$
(c) kg $\frac{m}{s}$ (d) $\frac{kg}{sec}$
- A unit of pressure is
(a) A-sec (b) cd/sec
(c) $\frac{kg}{ms^2}$ (d) $\frac{kg}{m^2s}$
- Unit of potential energy is
(a) kg $\frac{m^2}{s}$ (b) Kg-m
(c) kg $\frac{m^2}{s^2}$ (d) kg-k
- $X = \frac{10^{-3} \times 10^2 \times 10^7}{10^2 \times 10^3 \times 10^{-9}}$ is equal to
(a) 10³ (b) 10⁴
(c) 10¹⁰ (d) 10⁻⁸
- $X = \frac{10^2 \times 10^7 \times 10^{-5}}{10^{20} \times 10^3 \times 10^{-1}}$ is equal to
(a) 10⁶ (b) 10⁻¹¹
(c) 10⁻⁷ (d) 10⁷
- 1 joule is equal to
(a) 10⁵ erg (b) 10⁷ erg
(c) 10⁹ erg (d) 10¹¹ erg
- 1N is equal to
(a) 10⁵ Dyne (b) 10⁷ Dyne
(c) 10³ Dyne (d) 10⁴ Dyne
- Unit of force kg $\frac{m}{s^2}$ given in SI can be converted in to CGS
(a) g $\frac{cm}{s^2}$ (b) g $\frac{m}{s^2}$
(c) kg $\frac{cm}{s^2}$ (d) kg $\frac{m}{s^2}$
- Unit of Acceleration in C.G.S unit
(a) $\frac{m}{s^2}$ (b) $\frac{cm}{s^2}$

- (c) kg $\frac{m}{s^2}$ (d) g/cm
- Unit of Temperature in CGS is
(a) kelvin(k) (b) °C
(c) °F (d) Cd
- Unit of mass and unit of time (in CGS SYSTEM) when multiplied is
(a) kg-s (b) g -s
(c) k-sec (d) $\frac{k}{cd}$

CHEMISTRY

- Which of the following is rigid?
(a) Solids (b) Liquids
(c) Gases (d) Both (2) and (3)
- The quantity of matter present in an object is called its
(a) Weight (b) Volume
(c) Mass (d) Density
- Which of the following is not an example of matter?
(a) Air (b) Feeling of cold
(c) Dust (d) All of these
- What happens to the volume of aqueous solution when small amount of sugar is dissolved in it?
(a) Volume increase
(b) No change
(c) Volume first increase then decreases
(d) Volume decrease
- Which is not correct for gases?
(a) Gases have definite mass
(b) Gases have definite shape
(c) Gases have definite volume
(d) Both (2) and (3)
- Which of the following has the strongest interparticle force of attraction at the room temperature?
(a) Nitrogen (b) Water
(c) Iron (d) Chalk
- In liquids, there is _____ and _____ between particles than in solids.
(a) Strong force of attraction, more spacing
(b) Weaker force of attraction, less spacing
(c) Weaker force of attraction, more spacing
(d) Strong force of attraction, less spacing
- Answer the following riddle.
I'm solid, liquid, or gas you see,
Changing my state, I can be.

Water or ice, it's all the same,
What am I, can you name?

- (a) Material (b) Matter
(c) Compound (d) Mixture
24. Which of the following is not a characteristic property of matter?
(a) Colour (b) Volume
(c) Mass (d) Density
25. Name the process by which a drop of ink spreads in a beaker of water.
(a) Diffusion (b) Vaporization
(c) Condensation (d) Sublimation
26. The temperature at which a solid changes into liquid at atmospheric pressure is called
(a) melting point (b) boiling point
(c) diffusion (d) evaporation.
27. Melting and freezing points of water
(a) are same
(b) have large difference between them
(c) have close difference between them.
(d) none of these
28. The process for the change of a solid directly into its vapour is called
(a) evaporation (b) fusion
(c) condensation (d) sublimation.
29. Which of the following substances undergo sublimation process?
(a) Naphthalene (2) O₂
(c) H₂ (d) N₂
30. Which of the following substances does not show the property of sublimation?
(a) Copper (b) Camphor
(c) Naphthalene (d) Iodine

BIOLOGY

31. A plant cell wall is mainly composed of
(a) Protein (b) Cellulose
(c) Lipid (d) Starch
32. Glycolipids in the plasma membrane are located at
(a) Inner leaflet of the plasma membrane
(b) The outer leaflet of the plasma membrane
(c) Evenly distributed in the inner and outer leaflets
(d) It varies according to cell types
33. The term cell was given by
(a) Robert Hooke (b) Tatum
(c) Schwann (d) De Bary
34. The cell is not applied for
(a) Algae (b) Bacteria
(c) Virus (d) Fungi
35. The membrane around the vacuole is known as
(a) Tonoplast (b) Elaioplast
(c) Cytoplasm (d) Amyloplast
36. Which type of cells lack a well-defined nucleus?

- (a) Prokaryotic cells (b) Eukaryotic cells
(c) Plant cells (d) Animal cells
37. What is the function of the cell membrane?
(a) Regulation of cell functions
(b) Energy production
(c) Protein synthesis
(d) Storage of genetic material
38. Which cell organelle contains digestive enzymes and helps in the digestion of cellular waste?
(a) Golgi apparatus
(b) Endoplasmic reticulum
(c) Mitochondria
(d) Lysosomes
39. Which structure is found in plant cells but not in animal cells?
(a) Chloroplast (b) Centrioles
(c) Lysosomes (d) Nucleus
40. The first living cell discover by
(a) Robert Brown (b) Robert Hooke
(c) Leeuwenhoek (d) None of these
41. The membrane around the cytoplasm with is known as
(a) Tonoplast (b) Elaioplast
(c) Cytoplasm (d) Amyloplast
42. Schawn is a ?
(a) Zoologist (b) Botanist
(c) Microbiologist (d) none of the above
43. What is the function of the nucleus in a cell?
(a) Synthesis of proteins
(b) Cellular respiration
(c) Control of cell activities and storage of genetic material
(d) Breakdown of cellular waste
44. That cell is the fundamental structural and functional unit of all living organisms is evidenced by the facts like -
(a) Any thing less than a complete structure of a cell does not ensure independent living
(b) Subcellular components can regenerate whole cell
(c) A cell arises by fusion of two cells
(d) All cells are totipotent
45. Choose the wrong option -
(a) Mycoplasma is the smallest cell (0.3 μ m in length)
(b) Bacteria are 3 to 5 μ m
(c) The largest cell is the egg of an ostrich
(d) Nerve cells are some of the smallest cells

MATH

46. Find the value of $f(x)=4x^3-3x^2+5x+7$ at $x=-2$
(a) -17 (b) -27
(c) -37 (d) -47
47. Write the coefficient of x^2 in each of the polynomials $(x-1)(3x-4)$

- (a) 8 (b) 3
(c) 4 (d) 5
48. If $f(x) = x^3 - 3x^2 + 3x - 4$, find $f(2) + f(-2) + f(0)$.
(a) -36 (b) 38
(c) 36 (d) 39
49. Find the zeroes of the polynomial
 $p(x) = (x-2)^2 - (x+2)^2$
(a) 3 (b) 1
(c) 2 (d) 0
50. Find the roots of the polynomial equations
 $(x+2)(x-3)(2x-7)=0$.
(a) $-2, 5, \frac{7}{8}$ (b) $2, 6, \frac{7}{2}$
(c) $-2, 3, \frac{7}{8}$ (d) $-2, 3, \frac{7}{2}$
51. Find the value of 'a' if the polynomial $p(x) = x^4 - 2x^3 + 3x^2 - ax + 3a - 7$ when divided by $(x+1)$ leaves the remainder 19. Also find the remainder when $p(x)$ is divided by $(x+2)$
(a) 62 (b) $-1/62$
(c) -62 (d) none of these
52. Find the value of 'a' if remainder is same when polynomial $f(x) = x^3 + 8x^2 + 15x + ax - 6$ is divided by $(x+2)$ or $(x+1)$.
(a) 34 (b) 2
(c) -2 (d) 0
53. The polynomials $ax^3 - 3x^2 + 4$ and $2x^3 - 5x + a$ When divided by $(x-2)$ leave the remainder p and q respectively. If $p-2q=4$, Then find the value of a.
(a) 14 (b) 7
(c) 4 (d) 21
54. Find the remainder when $x^3 - ax^2 + 6x - a$ is divided by $x - a$.
(a) -5a (b) 6a
(c) -6a (d) 5a
55. If the polynomials $ax^3 + 3x^2 - 13$ and $5x^3 - 8x + a$ leave the same remainder when divided by $x+1$, then find the value of a.
(a) $-\frac{13}{2}$ (b) $-\frac{13}{8}$
(c) $-\frac{15}{2}$ (d) $\frac{13}{2}$
56. The polynomial $x^3 + 2x^2 - 5kx - 7$ when divided by $(x+1)$ leaves the remainder p and the polynomial $x^3 + kx^2 - 12x + 6$ When divided by $(x-2)$ leaves the remainder q. If $2p+q=6$, Then find the value of k.
(a) 2 (b) -2
(c) 0 (d) 0.2
57. Which of the following algebraic expression is a polynomial in one variable?
(a) $7x^2 - \frac{2}{x}$ (b) $7x^2 - 3x + \sqrt{2}$
(c) $\frac{(x-2)(x-4)}{x}$ (d) $7x^2 - xy + 5y + 2$
58. If $p(x) = (3x^2 - 1)(2x^3 + 1)$ then the leading coefficient of the polynomial $p(x)$ is
(a) 3 (b) 2
(c) 5 (d) 6

59. 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) $8\sqrt{2} + 1$
60. Which of the following is a factor $(x+y)^3 - (x^3 + y^3)$?
(a) $x^2 + xy + 2xy$ (b) $x^2 + y^2 - xy$
(c) xy^2 (d) $3xy$