

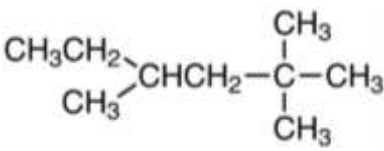


S. No

Pre-Medical

1. If u_1 and u_2 are the velocities of two bodies (i.e. m_1 and m_2) before collision and v_1 and v_2 are the velocities of the said bodies after collision. When m_2 is initially at rest then equation for velocity of m_2 after collision will be _____.
(A) $v_2 = \frac{m_1 u_1 - m_1 v_1}{m_2}$ (B) $v_2 = \frac{m_1 u_1 + m_1 v_1}{m_2}$ (C) $v_2 = \frac{m_1 u_1 - m_1 v_1}{m_1}$ (D) $v_2 = \frac{m_1 u_1 + m_1 v_1}{m_1}$
2. Main difference between Ribose and deoxyribose sugar is due to
(A) Glycosidic linkage (B) Peptide linkage (C) Number of Oxygen atoms (D) Number of Carbon atoms
3. In terms of structure, how does grey matter in the brain differ from grey matter in the spinal cord?
(A) Brain: outer, Spinal cord: inner (B) Brain: inner Spinal cord: outer (C) Both: central (D) Both: peripheral
4. Test used for detection of alkenes is
(A) Fehling's test (B) Tollen's test (C) Bayer's test (D) Litmus test
5. Which organelle is found in both eukaryotic and prokaryotic cells?
(A) Nucleus (B) Mitochondria (C) Ribosomes (D) Golgi body
6. When Polonium-218 undergoes α -decay, it converts into _____.
(A) Lead-204 (B) Lead-206 (C) Lead-210 (D) Lead-214
7. Which of the following statements best differentiates antiseptics from disinfectants?
(A) used on instruments; cleanse wounds. (B) used on cut skin; clean objects. (C) kill microorganism; prevent infection. (D) for personal care; for industrial use.
8. During which phase of the cardiac cycle does the blood flow from the atria to the ventricles?
(A) Systole (B) Atrial contraction (C) Ventricular contraction (D) Diastole
9. How many grams will be there in 2 moles of CO_2 ?
(A) 44g (B) 88g (C) 66g (D) 22g
10. If the direction of the wire having current is perpendicular to the magnetic field then force on wire is _____.
(A) Increases (B) Decreases (C) Remains same (D) 0
11. Which molecule is primarily transported through the phloem from the source to the sink?
(A) Glucose (B) Sucrose (C) Starch (D) Cellulose
12. Which of the following subshell has higher energy?
(A) 3s (B) 3p (C) 3d (D) 4s
13. Functional group of carboxylic acid is _____.
(A) $-\text{OH}$ (B) $-\text{COOH}$ (C) $-\text{CHO}$ (D) $-\text{CO}-$

14. If a simple pendulum has a time period of 2 seconds on earth, its time period on moon will be _____.
- (A) Less than 2 seconds (B) Greater than 2 seconds (C) Exactly 2 seconds (D) Dependent on pendulum's mass
15. There are _____ types of conditional sentences.
- (A) 1 (B) 2 (C) 3 (D) 4
16. Which of the following has the lowest coefficient of friction?
- (A) Wood on leather (B) Steel on ice (C) Wood on wood (D) Steel on steel
17. Oxidation number of sulphur in H_2SO_4 is
- (A) +6 (B) +4 (C) +3 (D) +2
18. In the electron transport chain, 2 NADH molecules are equivalent to how many ATP molecules?
- (A) 4 ATPs (B) 6 ATPs (C) 8 ATPs (D) 10 ATPs
19. For a person with hypermetropia, which activities would likely cause the most difficulty without correction?
- (A) Driving at night (B) Reading a book (C) Watching television (D) Looking at distant mountains
20. Deficiency of vitamin D causes
- (A) Premature aging (B) Scurvy (C) Acne (D) Rickets
21. Which of the following statements is true about the coccyx?
- (A) fusion of five anterior vertebrae. (B) fusion of five posterior vertebrae. (C) fusion of four anterior vertebrae. (D) fusion of four posterior vertebrae.
22. Which of the following acid will not completely ionize in water?
- (A) CH_3COOH (B) HCl (C) HNO_3 (D) H_2SO_4
23. As compared to thick wires, thin wires have _____.
- (A) Higher resistance (B) Lower resistance (C) Equal resistance (D) Variable resistance
24. The coefficient of linear thermal expansion for aluminum is $25 \times 10^{-6} \text{K}^{-1}$. The value of its volume thermal expansion is _____.
- (A) $8 \times 10^{-9} \text{K}^{-1}$ (B) $8 \times 10^{-6} \text{K}^{-1}$ (C) $75 \times 10^{-9} \text{K}^{-1}$ (D) $75 \times 10^{-6} \text{K}^{-1}$
25. Stratosphere is a layer that contains ozone layer. It's temperature range in Celsius is
- (A) $-56 \text{ to } -2$ (B) $15 \text{ to } -56$ (C) $-2 \text{ to } -92$ (D) $-92 \text{ to } -56$
26. The equation for magnification produced by compound microscope is given by _____.
- (A) $m = -\frac{d_i}{f_0} \times \frac{N}{f_e}$ (B) $m = -\frac{d_i}{f_e} \times \frac{f_o}{N}$ (C) $m = -\frac{f_0}{d_i} \times \frac{f_e}{N}$ (D) $m = -\frac{f_0}{d_i} \times \frac{N}{f_e}$
27. Which of the following best describes the flexed state of the forearm, and the muscle actions involved?
- (A) biceps contracts, triceps relaxes. (B) triceps contracts, biceps relaxes. (C) Both biceps and triceps contract. (D) Both biceps and triceps relaxe.

28. What is the zoological name of lion?
- (A) Felis leo (B) *Felis leo* (C) Felis Leo (D) Felis leo
29. Which compound among the following can cause temporary hardness of water?
- (A) Magnesium sulphate (B) Magnesium bicarbonate (C) Calcium chloride (D) Magnesium chloride
30. Elements in the same period will have same
- (A) Chemical properties (B) Valency (C) Number of valence electrons (D) Number of shells
31. If the magnetic field strength increases, the induced emf will _____.
- (A) Decrease (B) Increase (C) Remain same (D) Become 0
32. In DC motor _____ allows the direction of current in the coil to reverse every half cycle.
- (A) The armature (B) The slip rings (C) The brushes (D) The split rings
33. Which of the following would result in a phenotypic ratio of 1:2:1 in the offspring?
- (A) monohybrid cross with incomplete dominance (B) dihybrid cross with independent assortment (C) monohybrid cross with complete dominance (D) Dihybrid cross with incomplete dominance
34. 
- (A) 3,5,5 trimethylhexane (B) 2,3,4 trimethylhexane (C) 2,4 dimethylheptane (D) 2,2,4 trimethylhexane
35. Two capacitors $5\mu F$ and $10\mu F$ are connected in series. Their equivalent capacitance is _____.
- (A) $3.3\mu F$ (B) $5\mu F$ (C) $7.5\mu F$ (D) $15\mu F$
36. What is the primary composition of the ground substance in cartilage?
- (A) Collagen fibers arranged randomly (B) Collagen fibers in parallel arrangements (C) Blood vessels and chondrocytes (D) Blood vessels, bone cells and elastic fibers
37. Carbon's ability of self-linkage is called
- (A) Saturation (B) Catenation (C) Tetravalent (D) Isomerism
38. The best hobby is reading. In this sentence reading has been used as _____.
- (A) subject (B) object (C) predicate nominative (D) object of a preposition
39. He is ill _____ malaria.
- (A) from (B) with (C) by (D) in
40. Calculate molarity of a solution containing 12 mol of NaCl in enough water to make 3dm^3 of solution.
- (A) 12M (B) 6M (C) 5M (D) 4M
41. The wave motion transfers energy by _____.
- (A) Moving particles along the wave (B) Displacing the particles in the direction of wave motion (C) Creating a vacuum in front of a wave (D) Causing particles to oscillate around its fixed position

42. Which of the following pair would produce the greatest attractive force if separation between them is set as 1mm?
 (A) +2q and +4q (B) -2q and -4q (C) +2q and -2q (D) -4q and -4q
43. Everybody enjoys a good match. The word everybody is _____ pronoun.
 (A) definite (B) indefinite (C) relative (D) A & C
44. Efficiency of electric generator is _____.
 (A) 20 % (B) 55 % (C) 85 % (D) 98 %
45. A patient undergoes a Blood Glucose Concentration (BGC) Test after fasting for 10 hours and their blood glucose level is measured at 115 mg/100ml. What is the likely diagnosis?
 (A) Normal (B) Pre-diabetes (C) Diabetes (D) Hypoglycemia
46. The center of mass of a uniform rod lies _____.
 (A) At one end of the rod (B) At the midpoint of the rod (C) At center of gravity of the rod (D) Outside the rod
47. Fresh water needed for human requirements is ____ of the total.
 (A) 2.14% (B) 97% (C) 0.2% (D) 0.61%
48. The presence of a wide range of skin colors in humans is an example of:
 (A) Discontinuous controlled by a single gene. (B) Continuous influenced by multiple genes. (C) Discontinuous influenced by multiple genes (D) Continuous controlled by a single gene.
49. Which of the following is most reactive?
 (A) Ethyne (B) Ethene (C) Methane (D) Ethane
50. Which of the following best describes epilepsy?
 (A) Vascular disorder (B) Infectious disorder (C) Functional disorder (D) Biochemical disorder
51. In which direction do electric field lines point around a positive point charge?
 (A) Parallel to the charge axis (B) Tangential to the charge axis (C) Radially inward (D) Radially outward
52. Science that deals with the procedure used in extracting metal from its ores, purifying, alloying and creating useful objects from metals is called _____.
 (A) Metallurgy (B) Concentration (C) Electrolysis (D) Distillation
53. Which stage of meiosis is characterized by the separation of diploid homologous chromosomes to produce haploid sets in daughter cells?
 (A) Prophase-I (B) Metaphase-I (C) Anaphase-I (D) Telophase-I
54. Which of the following best describes the chromosomal content of a secondary spermatocyte and a secondary oocyte?
 (A) Secondary spermatocyte is 2n, secondary oocyte is n. (B) Both are diploid (2n) (C) Secondary spermatocyte n, secondary oocyte is 2n. (D) Both are haploid (n)
55. Greenhouse effect is naturally occurring process, life won't be possible without it because
 (A) It Leads to formation of ozone layer (B) It Results in earth surface being completely covered in water (C) It decrease average temperature of earth (D) Warms earth surface, creating habitable environment

56. What would be the remaining concentration of 1 g of radioactive substance after 400 days if the half-life is 100 days?
- (A) $\frac{1}{16}$ (B) $\frac{1}{8}$ (C) $\frac{1}{4}$ (D) $\frac{1}{2}$
57. The extremely tired lioness in the jungle is losing patience with her cub. The adjective phrase in this line is_____.
- (A) the extremely tired (B) losing patience (C) her cub (D) in the jungle
58. Displacing pendulum from its equilibrium position is an example of _____.
- (A) Stable equilibrium (B) Unstable equilibrium (C) Neutral equilibrium (D) Dynamic equilibrium
59. _____of the extreme weather, the match will be played tomorrow.
- (A) therefore (B) regardless (C) in addition to (D) furthermore
60. The instrument used for measuring the density of sugar in a liquid is called _____.
- (A) Lactometer (B) Barometer (C) Saccharometer (D) Alcoholometer
61. Three characteristics of a specific method of asexual reproduction are listed below:
i. Division of nucleus
ii. Division of cytoplasm
iii. Formation of a cyst
Identify the method:
- (A) Binary fission (B) Spore formation (C) Budding (D) Multiple fission
62. Which of the following is kept constant in Charles law
- (A) Temprature (B) Volume (C) Pressure (D) Heat
63. Identity the correct use of apostrophe.
- (A) the Smith's are coming over. (B) the Smiths' are coming over. (C) the Smiths are coming over. (D) the Smith's' are coming over.
64. pH of 0.01 M solution of nitric acid is
- (A) 5 (B) 4 (C) 3 (D) 2
65. Which of the following is an example of primary storage?
- (A) USB (B) Hard disk (C) Floppy Disk (D) Random Access Memory
66. Lack of motivation in drug addicts is classified as:
- (A) Physical (B) Behavioral (C) Psychological (D) Emotional
67. Petroleum occurs in all three states of matter depend upon its composition. Petroleum in solid form is called _____.
- (A) Asphalt (B) Crude oil (C) Black gold (D) Natural gas
68. If the concentration of substrate increases beyond a saturation point, the rate of reaction _____.
- (A) Increases linearly (B) Decreases (C) unpredictable changes (D) Does not increase
69. Which of the following is example of intramolecular forces.
- (A) Covalent bond (B) Hydrongen bond (C) Dipole interaction (D) London dispersion forces

70. Jhon is good_____ Mathematics.
- (A) in (B) at (C) on (D) A & C
71. The role of control rods in a nuclear reactor is to absorb excess _____.
- (A) Neutrons (B) Alpha particles (C) Beta particles (D) Gamma rays
72. Which part of the plant elongates during hypogeal germination, and what is a common example of this type of germination?
- (A) Epicotyle; cucumber (B) Hypocotyl; Beans (C) Epicotyl; Pea (D) Hypocotyl; Melons
73. The speed of light in water having index of refraction as 1.33 is _____.
- (A) $2.2 \times 10^6 \text{m/s}$ (B) $2.2 \times 10^8 \text{m/s}$ (C) $3 \times 10^6 \text{m/s}$ (D) $3 \times 10^8 \text{m/s}$
74. During the electron transport chain, where do electrons released from NADH and FADH_2 pass along, and what is formed at the end of this process?
- (A) Cytochromes; CO_2 (B) Electron carriers; H_2O (C) ATP synthase; NAD (D) Mitochondrial membrane; FAD
75. All of the following is characteristics of homologous series except
- (A) Same general formula (B) Same chemical properties (C) Each Members differ by $-\text{CH}_4-$ (D) Same method of preparation
76. During chemical equilibrium, rate of forward reaction become equal to rate of backward reaction and the concentration of reactants and products
- (A) Become constant (B) Remain same (C) Decrease (D) Increase
77. If ΔB (difference between two sound levels) equals 0, what can be inferred about I_2 and I_1 ?
- (A) $I_2 = I_1$ (B) $I_2 = 2I_1$ (C) $I_1 = 2I_2$ (D) $I_2 = \frac{I_1}{2}$
78. Which of the following best describes the liver's role in processing the byproducts of hemoglobin breakdown?
- (A) Stores for energy (B) Transforms into vitamins (C) Detoxifies and excretes (D) Creates new hemoglobin
79. In equilibrium mixture, the concentration of hydrogen and iodine is 0.4mol.dm^{-3} while hydrogen iodide is 0.8mol.dm^{-3} . value of K_c for the following reaction is
- $$\text{H}_2 + \text{I}_2 \rightleftharpoons 2\text{HI}$$
- (A) 0.4 (B) 0.8 (C) 4 (D) 8
80. What is the primary outcome of double fertilization in angiosperms?
- (A) diploid zygote and a triploid endosperm (B) two diploid zygotes (C) haploid zygote and a triploid endosperm (D) triploid zygote and a diploid endosperm
81. The pitch of a sound is determined by _____.
- (A) Amplitude (B) Intensity (C) Frequency (D) Quality
82. What role does lignin play in xylem tissue?
- (A) structural support and hardness (B) transport of food. (C) flexibility to the plant (D) permeability of cell walls
83. In dative bond, electron is donated to
- (A) Donor (B) Electron deficient (C) Electron rich (D) Anion

84. Which of the following is not alkali metal?
- (A) Lithium (B) Beryllium (C) Sodium (D) Potassium
85. Marwan is superior _____ Akram.
- (A) from (B) to (C) of (D) with
86. Which statement accurately describes the convection in vacuum?
- (A) Convection occurs at a slower rate (B) Convection is not possible (C) Convection relies on electromagnetic waves (D) Convection involves movement of charged particles
87. What does the observation of a 9:3:3:1 phenotypic ratio in the F₂ generation of a dihybrid cross suggest about the genes involved?
- (A) located on the same chromosome (B) located on different chromosomes (C) exhibit incomplete dominance (D) lethal in certain combinations
88. Peptide linkage is present in
- (A) Carbohydrates (B) Fats (C) Proteins (D) Nucleic acid
89. For turn ratio of transformer to be 5, the relation will be _____.
- (A) $N_s = 5N_p$ (B) $V_s = 5V_p$ (C) $I_s = 5I_p$ (D) $N_p = 5N_s$
90. The scrotal sac in male rabbits plays a crucial role in reproduction. What is its primary function related to the testes, and why is this important?
- (A) produce sperm; crucial for fertility. (B) store sperm; essential for ejaculation. (C) protect the testes; vital for preventing injuries. (D) regulate the temperature of the testes; important for spermatogenesis.
91. Which artery supplies blood to the stomach and spleen?
- (A) Coeliac (B) Renal (C) Carotid (D) Femoral
92. All of the following is related to free radicals except
- (A) Heterolytic fission (B) Unpaired electrons (C) Highly reactive (D) No charge
93. What is the typical response of a thermistor to a temperature increase?
- (A) Resistance increases (B) Resistance decreases (C) Resistance remains constant (D) Resistance varies
94. The gravitational force between two objects is 12 N at a distance of 2 m. What is the force at a distance of 4 m?
- (A) 3 N (B) 6 N (C) 12 N (D) 24 N
95. Which type of cells increase in number during bacterial and viral infections?
- (A) Erythrocytes (B) Leukocytes (C) Lymphocytes (D) Thrombocytes
96. The time independent equation of motion for a body starting from rest is _____.
- (A) $2aS = V_f^2 - V_i^2$ (B) $2aS = V_f^2$ (C) $2aS = -V_i^2$ (D) $V_f = at$

97. During alcoholic fermentation, what role does NADH play?
- Ⓐ acts as an oxidizing agent Ⓑ acts as a reducing agent Ⓒ A substrate for ethanol production Ⓓ A byproduct of glycolysis
98. Which of the following is also called simplest sugar?
- Ⓐ Polysaccharides Ⓑ Oligosaccharides Ⓒ monosaccharides Ⓓ Cellulose
99. The NOR gate is equivalent to _____.
- Ⓐ AND gate with inverted at its inputs Ⓑ OR gate with inverted at its inputs Ⓒ AND gate with inverted at its outputs Ⓓ OR gate with as inverted at its outputs
100. A four lined stanza is called _____.
- Ⓐ quatrain Ⓑ tercet Ⓒ monostitch Ⓓ octave