TECHNO INDIA GROUP OF PUBLIC SCHOOLS

Dt. 04-08-2025

NEET (XI)

Monthly Mock Test - 1 (August-2025)

Time Allowed: **3 hours** Maximum Marks: **720**

General Instructions:

1. This test will be a 3 hours Test, Maximum Marks 720.
2. This test consists of 180 questions of Physics, Chemistry and Biology. All questions are COMPULSORY to attempt.
3. Each question is of 4 marks.
4. There are three parts in the question paper, consisting Part-I Physics (Q. No. 1 to 45), Part-II Chemistry (Q. no. 46 to 90), Part-III Biology (Q. no. 91 to 180).
5. There will be only one correct choice in the given four choices for each question. For each question 4 marks will be awarded for correct choice, 1 mark will be deducted for incorrect choice and zero mark will be awarded for unattenuated question.
6. Any textual, printed or written material, mobile phones, calculator, etc. is not allowed for the students appearing for the test.
7. All calculations / written work should be done in the rough sheet provided.

Space For Rough Works

PHYSICS

1. The density of mercury is 13600 kg-m^{-3}. Its value in C.G.S system will be

① 13.6 g-cm^{-3} ② 1360 g-cm^{-3} ③ 136 g-cm^{-3} ④ 1.36 g-cm^{-3}

2. Given that :

$Y = A \sin\left[\left(\frac{2\pi}{\lambda}\right)(ct - x)\right]$ where y and x are measured in metres. Which of the following statements is true?

① The unit of λ is same as that of x and A.
② The unit of λ is same as that of x but not of A
③ The unit of c is same as that of $(2\pi/\lambda)$
④ The unit of (ct – x) is same as that of $(2\pi/\lambda)$

3. Which of the following is a derived unit?

① unit of mass ② unit of length ③ unit of time ④ unit of volume

4. The unit of force and length are doubled, the unit of energy will be

① $\frac{1}{4}$ time ② $\frac{1}{2}$ times ③ 2 times ④ 4 times

5. The dimensional representation of planck's constant is identical to that of :

① torque ② work ③ stress ④ angular momentum

6. Dimensions of gravitational constant are

① $[ML^2T^2]$ ② $[ML^3T^{-2}]$ ③ $[M^\circ L^3T^2]$ ④ $[M^{-1}L^3T^{-2}]$

7. $\left(P + \frac{a}{v^2}\right)(v - b) = RT$ where P is pressure, V the molar volume, T is absolute temperature of the given sample of gas, a, b and R constants. [a] =

① $[ML^5T^{-2}]$ ② $[ML^{-1}T^{-2}]$ ③ $[L^3]$ ④ $[L^6]$

8. Which of the following have same dimensions ?

① Angular momentum and linear momentum
② Work and Power
③ Work and torque
④ Torque and pressure

9. Which of the following functions of A and B may be performed if A and B possess different dimensions ?

① A + B ② A – B ③ A/B ④ A / e^{AB}

10. If the velocity of light (C), gravitational constant (G) and planck's constant (h) are chosen as fundamental units, then which of the following represents the dimensions of mass ?

① $\left[C^{\frac{1}{2}}G^{\frac{1}{2}}h^{\frac{1}{2}}\right]$ ② $\left[C^{\frac{1}{2}}G^{-\frac{1}{2}}h^{-\frac{1}{2}}\right]$ ③ $\left[C^{\frac{1}{2}}G^{-\frac{1}{2}}h^{\frac{1}{2}}\right]$ ④ $\left[C^{-\frac{1}{2}}G^{\frac{1}{2}}h^{\frac{1}{2}}\right]$

11. Error in the measurement of radius of a sphere is 1%. The error in the calculated value of its volume is

① 1% ② 3% ③ 5% ④ 7%

12. The length and breadth of a metal sheet are 3.124 m and 3.002 m respectively. The area of this sheet upto four correct significant figures is (in m^2)

① 9.37 ② 9.378 ③ 9.3782 ④ 9.378248

Cont.. 4

13. If voltage v = (100 ± 5) volt and current I = (10 ± 0.2) A, the % error in resistance R is

① 5.2% ② 25% ③ 7% ④ 10%

14. in general, least count of vernier scale

① 0.1 mm ② 1 mm ③ 0.01 mm ④ 10 mm

15. The number of significant figures in 0.0023 and 1.0023 are

① 4, 5 ② 2, 5 ③ 1, 4 ④ 5, 5

16. If the velocity of a particle is $v = At + Bt^2$, where A and B are constants, then the distance travelled by it between 1*s* and 2*s* is

① $\frac{3}{2}A+4B$ ② $3A+7B$ ③ $\frac{3}{2}A+\frac{7}{3}B$ ④ $\frac{A}{2}+\frac{B}{3}$

17. Velocity $v(x) = bx^{-2n}$, where b and n are constants and x is the position of the particle. The acceleration of the particle as function of x is

① $-2n\,b^2x^{-4n-1}$ ② $-2b^2x^{-2n+1}$ ③ $-2n\,b^2x^{-4n+1}$ ④ $-2n\,b^2x^{-2n-1}$

18. A ball is dropped from a high rise platform at t = 0 starting from rest. After 6s another ball is thrown downwards from the same platform with a speed v. The two balls meet at t = 18s. What is the value of v ? ($g = 10\ m/s^2$)

① 75 m/s ② 55 m/s ③ 40 m/s ④ 60 m/s

19. A stone falls freely from rest from a height h and it travels a distance $\frac{9h}{25}$ in the last second. The value of h is :

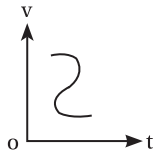
① 145 m ② 100 m ③ 122.5 m ④ 200 m

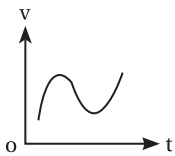
20. A particle moving along x-axis has acceleration f at time t, given by $f = f_0\left(1-\frac{t}{T}\right)$ where f_0, T are constants.

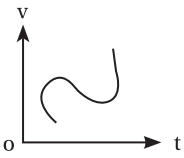
In the time interval between t = 0 and the instant when f = 0, the particle's velocity is

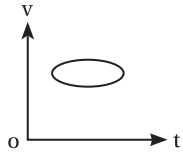
① $\left(\frac{1}{2}\right)f_0T^2$ ② f_0T^2 ③ $\left(\frac{1}{2}\right)f_0T$ ④ f_0T

21. Which of the following velocity – time graphs shows a realistic situation for a body in motion ?

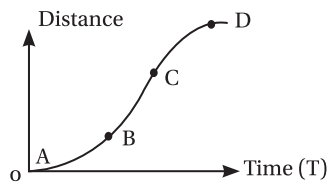
① 

② 

③ 

④ 

22. A particle shows distance – time curve as given in this figure. The maximum instantaneous velocity of the particle is around the point



① D ② A ③ B ④ C

23. A car starts from rest and moves with constant acceleration. The ratio of distance covered in the nth second to that covered it n seconds is :

① $\frac{2}{n^2}-\frac{1}{n}$ ② $\frac{2}{n^2}+\frac{1}{n}$ ③ $\frac{2}{n}-\frac{1}{n^2}$ ④ $\frac{2}{n}+\frac{1}{n^2}$

24. A car moves from x to y with uniform speed ν and returns to x with uniform speed u. The average speed for this round trip is

① $\sqrt{uv}$ ② $\frac{uv}{u+v}$ ③ $\frac{u+v}{2}$ ④ $\frac{2uv}{u+\nu}$

25. A point initially at rest moves along x–axis. Its acceleration varies with time as $a = (6t + 5)\ m/s^2$. If it starts from origin, the distance covered in 2s is

① 20 m ② 18 m ③ 16 m ④ 25 m

26. Find the vector that must be added to the vector $(\hat{i}-3\hat{j}+2\hat{k})$ and $(3\hat{i}+6\hat{j}-7\hat{k})$ so that the resultant vector is a unit vector along Y axis.

① $-4\hat{i}-2\hat{j}+5\hat{k}$ ② $-4\hat{i}+2\hat{j}+5\hat{k}$ ③ $4\hat{i}-2\hat{j}+5\hat{k}$ ④ $-4\hat{i}-2\hat{j}-5\hat{k}$

27. $\vec{A}=3\hat{i}\,;\vec{B}=4\hat{j}$ and $\vec{C}=5\hat{k}$ find angle between $\vec{A}+\vec{B}+\vec{C}$ and Z axis.

① 30° ② 45° ③ 60° ④ 90°

28. At what angle should the two vectors 2P and $\sqrt{2}\,P$ act so that the resultant force is $P\sqrt{10}$

① 45° ② 60° ③ 90° ④ 120°

29. What is the angle between $(\vec{P}+\vec{Q})$ and $(\vec{P}\times\vec{Q})$

① zero ② $\frac{\pi}{2}$ ③ $\frac{\pi}{4}$ ④ π

30. Resultant of which of the following may be equal to zero

① 10 N, 10 N, 10 N ② 10 N, 10 N, 25 N ③ 10 N, 10 N, 35 N ④ All of the above

31. If $\vec{A},\vec{B}$ and $\vec{A}+\vec{B}$ vectors are unit vectors. Find $|\vec{A}-\vec{B}|$

① 2 ② zero ③ $\sqrt{3}$ ④ $\sqrt{2}$

32. If $a\hat{i}+b\hat{j}$ is a unit vector and it is perpendicular to $\hat{i}+\hat{j}$ then value of a and b is –

① 1, 0 ② –2, 0 ③ 0.5, –0.5 ④ none of these

33. The resultant of two vector P and Q is R. If Q is doubled, the new resultant is perpendics to P, then R equal to –

① P ② P + Q ③ Q ④ P – Q

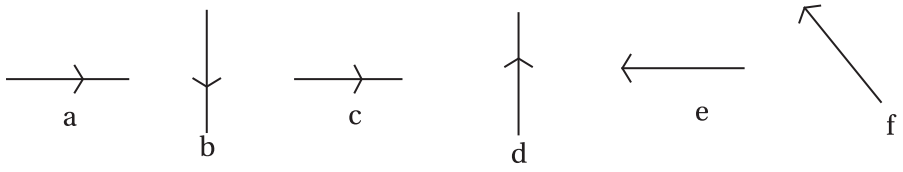
34. A vector P directed towards north and another vector Q directed upward find director of $\vec{Q}\times\vec{P}$

① west ② east ③ south ④ downward

35. Resultant of two vectors of equal magnitude A is

① $\sqrt{3}$ A at 0° ② $\sqrt{2}$ A at 90° ③ 2A at 120° ④ A at 18°

36. Six vectors have magnitude and direction as indicated in the figure, which of the following expression is true?

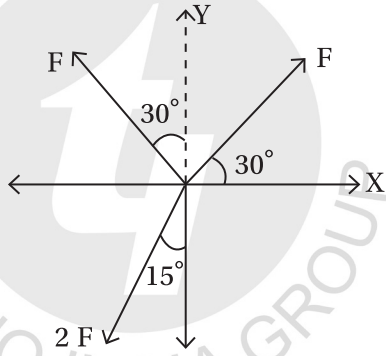


① b + e = f ② b + c = f ③ d + c = f ④ d + e = f

37. The value of λ for which two vectors $\vec{a} = j\hat{i} + \lambda\hat{j} + \hat{k}$ and $\vec{b} = \hat{i} - 2\hat{j} + \hat{k}$ are perpendicular to each other is

① 2 ② – 2 ③ 3 ④ – 3

38. Resultant of the following three forces is



① zero ② $(2-\sqrt{2})$F ③ 2 F ④ $(2+\sqrt{2})$F

39. Component of the vector $\vec{A} = 2\hat{i} + 3\hat{j}$ along the vector $\vec{B} = \hat{i} + \hat{j}$ is

① $\frac{5}{\sqrt{2}}$ ② $4\sqrt{2}$ ③ $\frac{\sqrt{2}}{3}$ ④ none of these

40. The condition $(\vec{a} \cdot \vec{b})^2 = a^2b^2$ when

① a is parallel to b ② $a \neq b$ ③ a . b = 1 ④ $a \perp b$

41. Two force hare magnitude in ratio 3 : 5 and the angle between their direction is 60. If their resultant is 35 N, their magnitudes are

① 12 N, 20 N ② 15 N, 25 N ③ 18 N, 30 N ④ 21 N, 28 N

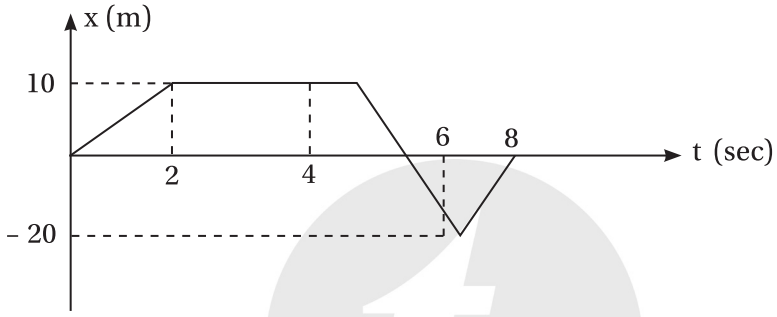
42. If A = B + C and the magnitudes of A, B, C are 5, 4, 3 units respectively, the angle between A & C is

① $\cos^{-1}(3/5)$ ② $\cos^{-1}(4/5)$ ③ $\sin^{-1}(3/4)$ ④ $\pi/2$

43. Match the column

Column – I		Column – II	
A.	Displacement of the particle at t = 1 sec	p.	60 m
B.	Total distance covered by the particle	q.	5 m
C.	Total displacement of the particle	r.	4.67 or $^{14}/_{3}$ sec.
D.	The instant i.e. time when particle cross is initial position	s.	zero

A particle moves along x-axis. Its position (x) is shown as function of time on following graph.



① A – (p, q) B – (q, s) C – (p, r) D – (q, r)

② A – (p, r) B – (q, r) C – (r) D – (p)

③ A – (q) B – (p) C – (s) D – (r)

④ A – (q) B – (r) C – (s) D – (q)

44. **Assertion (A) :** 'Speeding up' of the body can be associated with negative acceleration of a body.

Reason (R) : Increase in speed of a moving body is independent of its direction of motion.

① If both Assertion & Reason are True Reason is the correct explanation of the Assertion.

② If both Assertion & Reason are True but Reason is not the correct explanation of the Assertion.

③ If Assertion is true but Reason is False.

④ If Assertion is False but the Reason is True.

45. **Assertion (A):** When a body is dropped or thrown horizontally from the same height, it reaches the ground at the same time.

Reason (R): They hare same acceleration and same initial speed in vertical direction.

① If both (A) & (R) are True & (R) is the correct explanation of the (A).

② If both (A) & (R) are true but (R) is not the correct explanation of the (A)

③ If (A) is True but (R) is False.

④ If (A) is False but the (R) is True.

CHEMISTRY

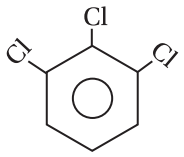
46. $AlCl_3$ is covalent while AlF_3 is ionic. This fact can be justified on the basis of:

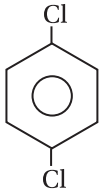
① Valence bond ② Crystal structure ③ Lattice energy ④ Fajan's results

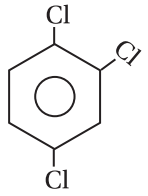
47. The observed dipole moment of HCl is 1.03 D. Bond length is 1.275 Å then percentage of ionic character is:

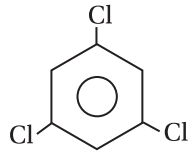
① 16.83% ② 2.1% ③ 30.72% ④ 14.21%

48. Which of the following would have maximum dipole moment

① 

② 

③ 

④ 

49. Consider the following species: CN^+, CN^-, NO & CN.
which one of these will have the highest bond order?

① NO ② CN^- ③ CN ④ CN^+

50. Which one of the following pairs of species have the same bond order?

① CO, NO ② O_2, NO^+ ③ $CN^{\ominus}$, CO ④ N_2, O_2^-

51. Decreasing order of stability of O_2, O_2^-, O_2^+ and O_2^{2-} is:

① $O_2 > O_2^+ > O_2^{2-} > O_2^-$ ② $O_2^- > O_2^{2-} > O_2^+ > O_2$

③ $O_2^+ > O_2 > O_2^- > O_2^{2-}$ ④ $O_2^{2-} > O_2^- > O_2 > O_2^+$

52. In which of the following pairs, both the species are isostructural?

① NH_3, PH_3 ② XeF_4, XeO_4

③ $SiCl_4$, PCl_4^+ ④ Diamond, silicon carbide

53. Maximum bond angle at Nitrogen is present in which of the following?

① NO_3^- ② NO_2 ③ $NO_2^{\ominus}$ ④ NO_2^+

54. Which of the following options represents the correct bond order?

① $O_2^- < O_2 > O_2^+$ ② $O_2^- > O_2 > O_2^+$ ③ $O_2^- < O_2 < O_2^+$ ④ $O_2^- > O_2 < O_2^+$

55. Which of the following molecules has the maximum dipole moment?

① CO_2 ② CH_4 ③ NH_3 ④ NF_3

56. Which of the following is paramagnetic?

① O_2^- ② $CN^{\ominus}$ ③ NO^+ ④ CO

57. Bond order of 1.5 is shown by:

① O_2^{2-} ② O_2 ③ O_2^+ ④ O_2^-

58. Which of the following has the minimum bond length?

① O_2 ② O_2^+ ③ O_2^- ④ O_2^{2-}

59. The correct order of (C–O) bond length among CO, CO_3^{2-} CO_2 is:

① $CO < CO_2 < CO_3^{2-}$ ② $CO_2 < CO_3^{2-} < CO$

③ $CO < CO_3^{2-} < CO_2$ ④ $CO_3^{2-} < CO_2 < CO$

60. The correct order in which the O–O bond length increase in the following is:

① $H_2O_2 < O_2 < O_3$ ② $O_3 < H_2O_2 < O_2$ ③ $O_2 < O_3 < H_3O_2$ ④ $O_2 < H_2O_2 < O_3$

61. Which of the following is not expected react with sodium hydroxide?

① B_2O_3 ② CaO ③ SiO_2 ④ BaO

Assertion–Reason Questions (Q.17–Q.25):

(A) Both (A) and (R) are correct but (R) is not the correct explanation of (A)

(B) (A) is correct but (R) is not correct

(C) (A) is not correct but (R) is correct

(D) Both (A) and (R) are correct and (R) is the correct explanation of (A)

62. **Assertion:** Electron gain enthalpy becomes less negative as we go down the group.

Reason: Size of the atom increases on going done the group and the added electron would be further from nucleus.

① A ② B ③ C ④ D

63. **Assertion:** Noble gases have large positions electron gain enthalpy.

Reason: Electron has to enter the next higher principal quantum level.

① A ② B ③ C ④ D

64. **Assertion:** The molality of the solution does not change with change in temperature.

Reason: The molality of the solution is expressed in units of moles per 1000 g of solvent.

① A ② B ③ C ④ D

65. **Assertion:** When 4 moles of H_2 reacts with 2 moles of O_2, then 4 moles of water is formed.

Reason: O_2 will act as limiting.

① A ② B ③ C ④ D

66. **Assertion:** The radius of second orbit of He^+ is equal that of first orbit of hydrogen.

Reason: The radius of an orbit in hydrogen like species is directly proportional to a and inversely proportional to Z.

① A ② B ③ C ④ D

67. **Assertion:** Energy of electron is taken negative.

Reason: Energy of electron at infinity is zero.

① A ② B ③ C ④ D

68. **Assertion:** Bohr's orbits are also called stationary states.

Reason: Electron are stationary in an orbit.

① A ② B ③ C ④ D

69. **Assertion:** Ba and Ad show diagonal relationship.

Reason: Ba and Al are diagonal to each other in the periodic table.

① A ② B ③ C ④ D

70. **Assertion:** H–F forms stronger hydrogen bond than H_2O.

Reason: F is more electronegative than oxygen.

① A ② B ③ C ④ D

71. The density of $4\%\left(\frac{W}{V}\right)$ NaOH solution is 1.02 g/mL. What is the molality of the solution?

① 1.89 m ② 1.02 m ③ 2.8 m ④ 5 m

72. Calculate the molarity of a solution of ethanol in water in which the mole fraction of ethanol is 0.04.

[Given $dH_2O = 1$ g/cl]

① 2.1 M ② 0.04 M ③ 5.55 M ④ 4 M

73. $CaCO_3$ is 90% pure. Volume of CO_2 collected at S.T.P when 10 g of $CaCO_3$ is decomposed, is

① 20.16 L ② 1.008 L ③ 2.96 L ④ 2.016 L

74. In a gas phase reaction, 50 kg of Nitrogen and 10 kg of Hydrogen are mixed to produce ammonia. The maximum amount of ammonia produced is:

① 46.67 kg ② 50 kg ③ 56.67 kg ④ 10 kg

75. 2g of a mixture of CO and CO_2 on reaction with excess I_2O_5 produce 2.54 g I_2. What would be the mass % of CO_2 in the original mixture?

equation: $5CO + I_2O_5 \longrightarrow 5CO_2 + I_2$

① 60 ② 30 ③ 70 ④ 35

76. The molarity of a solution obtained by mixing 750 ml of 0.5 (M) HCl with 250 ml of 2(M) HCl will be:

① 0.975 M ② 0.875 M ③ 1.00 M ④ 1.75 M

77. What is the work function (W) of the metal whose threshold frequency (2s) is $5.2 \times 10^{14}\ s^{-1}$?

① 4.33×10^{-19} J ② 4.33×10^{-9} J ③ 3.44×10^{-19} J ④ 3.44×10^{-9} J

78. A 100 watt bulb emits monochromatic light of wavelength 400 nm. Calculate the number of photons emitted per second by the bulb.

① $2 \times 10^{+10}$ photons per sec ② $2 \times 10^{+25}$ photons per sec

③ 2×10^{5} photons per sec ④ 2×10^{20} photons per sec

79. The energy of hydrogen atom in the ground state is –13.6 eV. Its energy corresponding to the quantum number n = 5 is:

① – 0.54 eV ② –5.40 eV ③ –0.85 eV ④ –2.72 eV

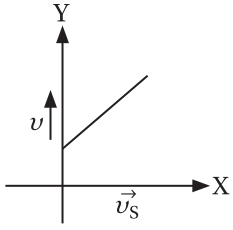
80. In a sample, electron jumps from 5^{th} excited state to ground state then number of spectral lines in visible range will be:

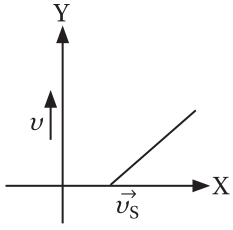
① 4 ② 3 ③ 2 ④ 5

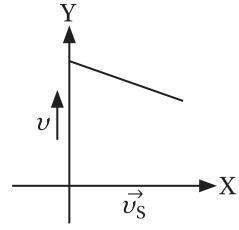
81. How many electrons with $\ell = 2$, are there in an atom having atomic number 54?

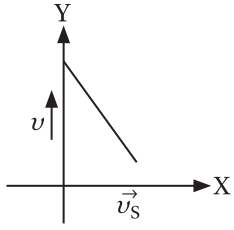
① 3 ② 10 ③ 14 ④ 20

82. Graph of incident frequency with stopping potential in photoelectric effect is:

① 

② 

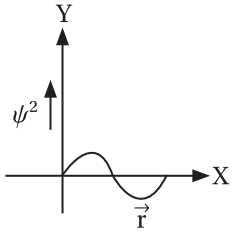
③ 

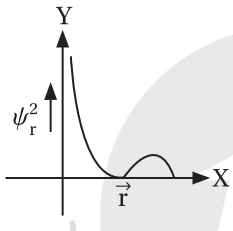
④ 

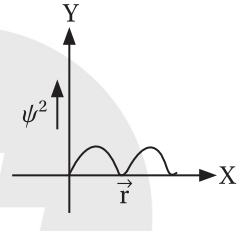
83. The correct set of quantum numbers for the unpaired electron of chlorine atom is:

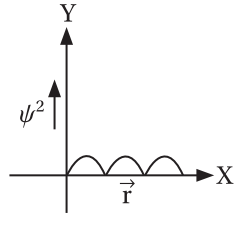
① n = 2, l = 1, m = 0 ② n = 2, l = 1, m = 1 ③ n = 3, l = 1, m = 1 ④ n = 3, l = 0, m = 0

84. Which of the following graph is correct for 3p?

① 

② 

③ 

④ 

85. A piece of Mg is dissolved in 40 ml of $\frac{N}{10}$ HCl completely. The excess of acid was neutralized by 15 ml of $\frac{N}{5}$ NaOH. The weight of Mg is:

① 0.24 g ② 0.024 g ③ 0.012 g ④ 0.40 g

86. The energy required to break one mole of Cl–Cl bonds in Cl_2 is 242 KJ $(mole)^{-1}$. The longest wavelength of light capable of breaking a single Cl–Cl bond is (C = 3×10^8 m/s) and Na = 6.02×10^{23} $mole^{-1}$).

① 494 nm ② 594 nm ③ 640 nm ④ 700 nm

87. The correct set of form quantum numbers for the valence electron of rubidium atom (Z = 37) is:

① 5, 0, 1, $+\frac{1}{2}$ ② 5, 0, 0, $+\frac{1}{2}$ ③ 5, 1, 0, $+\frac{1}{2}$ ④ 5, 1, 1, $+\frac{1}{2}$

88. Uncertainty in position of a minute particle of mass 25 g in space is 10^{-5} m. What is the uncertainty in its velocity (in ms^{-1}), (h = 6.6×10^{-34} J : S)

① 2.1×10^{-34} ② 0.5×10^{-34} ③ 2.1×10^{-28} ④ 0.5×10^{-23}

89. Which one of the following ions has the highest value of ionic radius?

① Li^+ ② B^{3+} ③ O^{2-} ④ $F^{\ominus}$

90. Electronegativity of an element on Mulliken Scale is 'X' times to that on Pauling scale. What is the value of 'X'?

① 2.8 ② 4 ③ 1 ④ 3.8

Biology

91. Choose the universal major waste products out of the options given:

① NH_3 and urea ② Urea and water ③ NH_3 and CO_2 ④ CO_2 and water

92. Which of the following is not an example of homeostasis?

① Thermoregulation ② Osmoregulation

③ Regulation of blood pH ④ Urination

93. Biological death occurs when there is

① non availability of nutrients by cells ② degeneration of brain and other body parts

③ non availability of oxygen ④ All of the above

94. Which of the following is most appropriate to explain a living organism?

① Cell division and growth ② Metabolism

③ To reproduce and increase its gene pool ④ All of the above

95. Maximum life span of 507 years is found in ocean Quahog. Minimum life span of 1–2 weeks is found in

① Cicada ② Butterfly ③ *Culex* ④ Mayfly

96. The term 'taxonomy' was coined by

① Hugo de Vries ② G. J. Mendel ③ A.P. de Candolle ④ Carolus Linnaeus

97. Taxonomy is the study of

① evolution ② the classification of life forms based on their similarities and dissimilarities

③ genetics ④ the history of Biology

98. Which among the following requires a theoretical approach?

① Classification and identification ② Nomenclature and identification

③ Identification ④ Nomenclature

99. ICNB stands for

① International Code for Botanical Nomenclature ② International Code for Nomenclature of Biology

③ International Code for Nomenclature of Bacteria ④ International Code for Nomenclature of Bats

100. Which one of the following scientific names represent both trionomial nomenclature and autonym?

① *Acacia nilotica indica* ② *Pisum sativum*

③ *Corvus splendens splendens* ④ *Brassica oleracca botrytes*

101. Select the statement which is incorrect about tautonyms?

① They are not valid for plants

② They are names with the same generic and specific epithets

③ They are names in which specific epithet and intraspecific epithet are identical

④ These are commonly used for zoological names.

102. A division is placed between

① genus and order ② class and kingdom ③ species and family ④ order and kingdom

103. The word 'species' was coined by

① Aristotle ② Linnaeus ③ John Ray ④ Engler

104. Taxonomic group of any rank is

① taxon ② tribe ③ race ④ variety

105. Which of the following is correctly sequenced?

① Phylum, Class, Order, Family ② Phylum, Order, Class, Genus

③ Phylum, Class, Family, Order ④ Phylum, Order, Family, Class

106. Family is placed between

① genus and species ② order and class ③ class and genus ④ order and genus

107. ICBN stands for

① Indian Congress of Biological Names ② International Code of Botanical Nomenclature

③ International Congress of Biological Names ④ Indian Code of Botanical Nomenclature

108. Given below are two statements, one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**. Choose the correct option:

(A) Both A and R are correct and R is the correct explanation of A.

(B) Both A and R are correct but R is not the correct explanation of A.

(C) A is correct but R is not correct

(D) A is not correct but R is correct

Assertion (A): Scientific names are printed in italics.

Reason (R): The name of author is written in abbreviated form after the specific epithet.

① A ② B ③ C ④ D

109. **Assertion (A):** Cytotaxonomy involves the cytological information for classification purposes.

Reason (R): Chemotaxonomy is based on the chemical constituents of plants.

① A ② B ③ C ④ D

110. **Assertion (A):** Generic name is written in capital letters.

Reason (R): Specific name is written in small letters.

① A ② B ③ C ④ D

111. **Assertion (A):** Each taxonomic group can have two or more names.

Reason (R): Name should be short, precise and easy to pronounce.

① A ② B ③ C ④ D

112. **Assertion (A):** Binomial system of Nomenclature was proposed by Theophrastus for plants.

Reason (R): The idea of Binomial System of Nomenclature was first introduced by Gaspard Bauhin.

① A ② B ③ C ④ D

113. A system of classification, which takes into account all noticeable characters in morphology is

① phylogenetic system ② natural system ③ artificial system ④ cytotaxonomy

114. Two kingdom and Three Kingdom Classification system was given by _____ respectively

① Whittaker and Copeland ② Linnaeus and Haeckel

③ Copeland and Haeckel ④ None of the above

115. Viruses are small infective particles which are primarily made up of—

① nucleic acids and polysaccharides ② lipids and proteins

③ nucleic acids and lipids ④ nucleic acids and proteins

116. The fact that supports the living nature of virus is that they

① are made up of common chemicals ② duplicate themselves

③ cause diseases ④ penetrate cell membrane

117. Most specificity of a virus is due to—

① its nucleic acid ② an external envelope on the virus

③ its protein coat ④ mesosome

118. Enveloped virus containing glycoprotein are helpful in

① binding to the host surface ② phagocytosis

③ protection ④ fusion with plasma membrane of host

119. The largest animal virus is

① HIV ② Foot and mouth disease virus

③ Small pox virus ④ Rabies virus

120. Which one of the following is not classified as a true bacteria?

① Mycoplasma ② Halophiles ③ Rickettsia ④ Spirochaetes

121. Which of the following is not correct?

① Coccus – Spherical ② Bacillus – Rod shaped ③ Vibrio – T shaped ④ Spirillum – Spiral

122. The bacterial cell wall is not composed of

① Peptidoglycan ② lipid ③ murein ④ mucopeptide

123. Gram negative bacteria differ from gram positive bacteria in having

① simpler wall ② complex wall

③ thicker wall ④ wall without L-lysine

124. Plasmids—

① replicate independently of the main chromosome

② often contain antibiotic resistance genes

③ are transferred from one bacterium to another by conjugation

④ All of the above

125. The percentage of plankton constituted by protists is

① 95% ② 85% ③ 80% ④ 70%

126. The protistan flagella exhibits _____ organisation

① 9 + 2 ② 7 +2 ③ 8 + 1 ④ 6 + 2

127. Which among the following are the light sensitive organelles in dinoflagellates?

① Stigma ② Cnidoblasts ③ Nematocysts ④ Trichocysts

128. Red tide is mostly caused by

① *Gonyaulax* ② *Gymnodinium* ③ *Symbiodinium* ④ *Nematodinium*

129. The cell wall is absent in

① dinoflagellates ② diatoms ③ englenoids ④ None of the above

130. The term 'Fungi' was given by

① E.J. Butler ② P.A. Micheli ③ Anton de Bary ④ Gaspard Bauhin

131. Most parasitic fungi derive their nutrition from the host by a structure called _____

① haustorium ② septum ③ sclerotium ④ infective hair

132. An obligate parasite that causes downy mildews in *Cucurbita* is

① *Peronospora* ② *Botrytis cenera* ③ *Phytophthora infestans* ④ *Penicillium*

133. Specialised aerial branches on which non-motile thin walled asexual spores, develop, characteristic to *Aspergillus* and *Penicillium,* are

① conidiophores ② sterigmata ③ sporangiophores ④ oidium

134. The sexual cycle of a fungi does not involve

① karyogamy ② plasmogamy ③ conidiospore ④ reduction division

135. Botanical name of peat moss is

① *Sphagnum* ② *Funaria* ③ *Anthoceros* ④ *Polytrichum*

136. The plants having vascular tissues, but lacking seeds are placed under

① algae ② bryophytes ③ pteridophytes ④ gymnosperms

137. Iodine is found in algae

① *Ulva* ② *Ulothrix* ③ *Chlorella* ④ *Laminaria*

138. The smallest angiospermic flower is

① *Wolffia* ② *Ranunculus* ③ *Rafflesia* ④ *Stellaria*

139. In *Funaria* capsule, dispersal of spores occurs through—

① peristomial teeth ② annulus ③ calyptra ④ operculum

140. Fern spores are usually

① haploid ② diploid ③ triploid ④ tetraploid

141. Given below are two statements, one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**. Choose the correct option:

(A) Both A and R are correct and R is the correct explanation of A.

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(C) A is correct but R is not correct

(D) A is not correct but R is correct

Assertion (A): *Chlorella* serves as an essential source of food.
Reason (R): When dried, *Chlorella* has 15% protein, 45% fat, 10% carbohydrate, 20% fibre and 10% minerals and vitamins.

① A ② B ③ C ④ D

142. Which of the following is an algal parasite?

① *Volvox* ② *Ulothrix* ③ *Porphyra* ④ *Cephaleuros*

143. Agar–agar is obtained from—

① *Chlorella* ② *Spirogyra* ③ *Ulothrix* ④ *Gelidium*

144. In which of the following features, *Cycas* resembles angiosperms?

① Presence of vessels ② Circinate venation
③ Dichotomously branched leaves ④ Pollen tube is the carrier of male gametes

145. 'Club moss' belongs to

① Algae ② Pteridophyta ③ Fungi ④ Bryophyta

146. Coralloid root is the feature of

① *Cycas* ② *Pinus* ③ *Marchantia* ④ *Selaginella*

147. In the prothallus of vascular cryptogams, the antherozoids and eggs mature at different times. As a result,

① there is no change in success rate of fertilization ② there is high degree of sterility
③ one can conclude that the plant is apomictic ④ self fertilization is prevented

148. In gymnosperms, the pollen chamber represents—

① a cell in the pollen grain, in which sperms are formed
② a cavity in the ovule, in which pollen grains are stored after pollination
③ an opening in the megagametophyte through which pollen tube approaches an egg
④ the megasporangium, in which pollen grains develop

149. Select the correctly matched ones—

I. Phaeophyceae – Mannitol
II. Rhodophyceae – *Dictyota*
III. Chlorophyceae – Non motile gametes
IV. Rhodophyceae – r–phycoerythrin

Codes

① I, II, III ② II, III, IV ③ I and IV ④ III and IV

150. The type of pollination in *Cycas* is

① entomophily ② hydrophily ③ anemophily ④ None of these

151. Read the following statements:

I. In Porifera, excretion mainly occurs by diffusion
II. Sponges are ammonotelic animals

III. Sponges are filter feeders

Which of the statements given above are correct?

① I and II ② I and III ③ II and III ④ I, II and III

152. Which of the following phyla possess multicellular organ grade level of organisation?

I. Platyhelminthes II. Porifera III. Nematoda IV. Protozoa

Codes

① I, II and III ② I and II ③ II and IV ④ I and III

153. Which of the following animals have a single opening to the outside that serves both as mouth and anus?

① *Octopus* ② *Asterias* ③ *Ascidia* ④ *Fasciola*

154. Which one of the following animals possess high regeneration capacity?

① *Planaria* ② *Taenia* ③ *Salpa* ④ *Periplaneta*

155. The pseudocoelomate among these is:

① Porifera ② Annelida ③ Aschelminthes ④ Mollusca

156. A bilaterally symmetrical deuterostome is classified in the phylum

① Annelida ② Chordata ③ Arthropoda ④ Echinodermata

157. The causitive agent of filaria is

① *Wuchereria bancrofti* ② *Leishmania donovani*

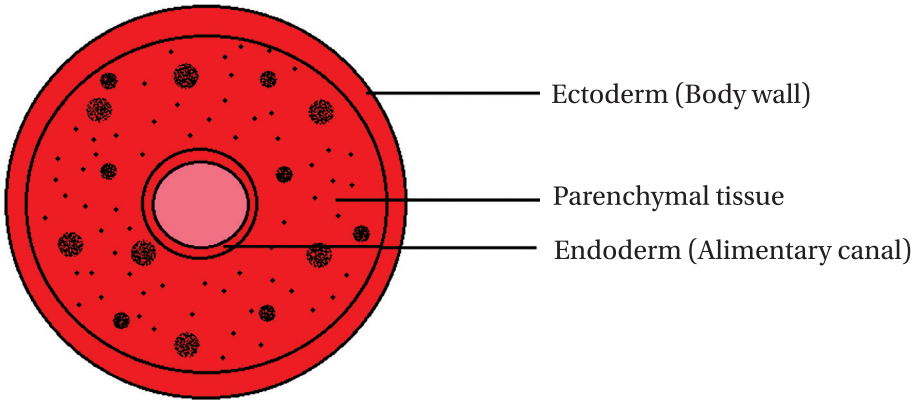
③ *Plasmodium vivax* ④ *Trypanosoma gambiense*

158. Portugese man of war is—

① *Pennatula* ② *Obelia* ③ *Physalia* ④ None of the above

159. The cross section of the body of an invertebrate is given below

Identify the animal possessing this



① Cockroach ② Roundworm ③ *Planaria* ④ Earthworm

160. Turbullerians are free living

① nematodes ② cestodes ③ flatworms ④ trematodes

161. Given below are two statements, one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**. Choose the correct option:

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Assertion (A): Keber's organ in *Unio* is situated in front of the pericardium.

Reason (R): Keber's organ has an important role in circulation.

① A ② B ③ C ④ D

162. **Assertion (A):** Point of an arrow larva is seen in some molluscs.

Reason (R): Point of an arrow larva is the characteristic of fresh water mussel.

① A ② B ③ C ④ D

163. **Assertion (A):** All *Pila* are ammonotelic.

Reason (R): *Pila* excrete uric acid.

① A ② B ③ C ④ D

164. **Assertion (A):** Tube feet are characteristic of Echinodermata

Reason (R): Tube feet have only role in respiration.

① A ② B ③ C ④ D

165. **Assertion (A):** Water vascular system is characteristic of echinoderms.

Reason (R): Main function of water vascular system is locomotion.

① A ② B ③ C ④ D

166. **Assertion (A):** Ossicles around the mouth of sea urchin form the Aristotle's lantern.

Reason (R): Teeth of Aristotle's lantern are analogous to human teeth, as both are masticatory in function.

① A ② B ③ C ④ D

167. The members of which of the following phyla are exclusively marine?

① Arthropoda ② Echinodermata ③ Annelida ④ Mollusca

168. The adult animal in this phylum is radially symmetrical but the larva exhibits bilateral symmetry

① Protozoa ② Echinodermata ③ Coelenterata ④ Arthropoda

169. Hemimetabolous insect, which is nocturnal and sanguivorous, is

① *Cimex* ② *Musca* ③ *Anopheles* ④ *Apis*

170. Taxonomically, which of the following sets is matched correctly?

① Cuttlefish, jellyfish, silver fish ② Bat, pigeon, kite

③ Lobster, spider, shrimp ④ Oyster, otter, octopus

171. Match the following columns:

Column I		Column II	
A.	Nucleated RBCs	1.	Aves
B.	Sweat glands	2.	Mammary glands
C.	Carnivora	3.	Dogs, cats, tigers
D.	Cetacea	4.	Aquatic mammals

Codes

	A	B	C	D
①	1	2	3	4
②	4	3	2	1
③	1	2	4	3
④	3	2	1	4

172. Given below are two statements, one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**. Choose the correct option:

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(C) A is correct but R is not correct

(D) A is not correct but R is correct

Assertion (A): Cyclostomes belong to Agnatha.

Reason (R): True jaws are absent in cyclostomes.

① A ② B ③ C ④ D

173. **Assertion (A):** Urochordates are called tunicates.

Reason (R): Their body is covered with a protective sac or tunic.

① A ② B ③ C ④ D

174. **Assertion (A):** Birds have one ovary.

Reason (R): This reduces the body weight which is important for flight.

① A ② B ③ C ④ D

175. **Assertion (A):** The duck billed platypus and spiny ant eaters are oviparous, yet they are grouped under mammals.

Reason (R): Both have 7 cervical vertebrae and 12 pairs of cranial nerves.

① A ② B ③ C ④ D

176. **Assertion (A):** Marine lampreys migrate to river for spawning.

Reason (R): Marine lampreys return to sea water after spawning.

① A ② B ③ C ④ D

177. Which one is the National Aquatic Animal of India?

① River dolphin ② Blue whale ③ Sea horse ④ Gangetic shark

178. Connecting link between fish and amphibia is

① lung fish *Protopterus* ② *Latimeria*

③ *Seymouria* and *Sphenodon* ④ All of the above

179. Post anal tail is present in

① cobra ② earthworm ③ scorpion ④ mussels

180. Which one of the following has exoskeleton of scales and paired copulatory organ or penis?

① Sharks ② Lizards ③ Urodela ④ Urochordata