Code - B

Aakash
Medical | IIT-JEE | Foundations
(Divisions of Aakash Educational Services Limited)

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MM : 720

Test Series for NEET - 2020
Test – 1

Time : 3 Hrs.

Topics Covered :

Physics **:** Physical World, Units & Measurements, Motion in a Straight Line, Motion in a Plane

Chemistry : Some Basic Concepts of Chemistry, Structure of Atom

Botany **:** The Living World, Biological Classification, Plant Kingdom

Zoology **:** Animal Kingdom

Instructions :

(i) Use Blue/Black ballpoint pen only to darken the appropriate circle.
(ii) Mark should be dark and should completely fill the circle.
(iii) Dark only one circle for each entry.
(iv) Dark the circle in the space provided only.
(v) Rough work must not be done on the Answer sheet and do not use **white-fluid** or any other **rubbing material** on Answer sheet.
(vi) Each question carries 4 marks. For every wrong response 1 mark shall be deducted from total score.

PHYSICS

Choose the correct answer :

1. If A, B and C are physical quantities, having different dimensions, which of the following combination can never be a meaningful quantity?
   (1) $(A - B)/C$
   (2) $AB - C$
   (3) AB/C
   (4) $AB - C^2$

2. The scientific principle involved in LASER is
   (1) Kepler's law
   (2) Faraday's law of electrolysis
   (3) Lenz law
   (4) Amplification by population inversion

3. A body is moving with speed (10.00 ± 0.01) m/s. The distance covered in time (5.00 ± 0.01) s is
   (1) $(50.0 \pm 0.3\%)$ m (2) $(2.00 \pm 0.3\%)$ m
   (3) $(20.0 \pm 0.3\%)$ m (4) $(50.0 \pm 2\%)$ m

4. Side of a square is 1.05 m. The area of square upto correct significant figures will be
   (1) 1.1025 m^2 (2) 1.10 m^2
   (3) 1.1 m^2 (4) 1.102 m^2

5. A person measures the length of a rod as 10 cm, 11 cm, 10 cm, 10 cm, 9 cm. The true value of length of rod is
   (1) 10 cm (2) 11 cm
   (3) 9 cm (4) 10.8 cm

6. The numbers 2.735 and 2.785 on rounding off to three significant figurs will be respectively
   (1) 2.73 and 2.78 (2) 2.74 and 2.79
   (3) 2.74 and 2.78 (4) 2.73 and 2.79

7. If $P = x^m y^n z^{-\ell}$, then the maximum relative error in P is given as

(1) $\frac{\Delta x}{x}+\frac{\Delta y}{y}+\frac{\Delta z}{z}$ (2) $\frac{\Delta x}{x}+\frac{\Delta y}{y}-\frac{\Delta z}{z}$

(3) $m\frac{\Delta x}{x}+n\frac{\Delta y}{y}-\ell\frac{\Delta z}{z}$ (4) $m\frac{\Delta x}{x}+n\frac{\Delta y}{y}+\ell\frac{\Delta z}{z}$

8. Which of the following has dimensional formula same as time (R = Resistance, L = Inductance, C = Capacitance)?

(1) RC (2) $\frac{L}{R}$

(3) $\sqrt{LC}$ (4) All of these

9. The order of magnitude of diameter of earth (1.28×10^7 m) is

(1) 7 (2) 8

(3) 10^6 (4) 10^8

10. A particle moves for the first one third of the total time of journey with speed 30 km/h and with speed 15 km/h for the remaining time. Average speed during total journey is

(1) 17 km/h (2) $\frac{45}{2}$ km/h

(3) 20 km/h (4) 25 km/h

11. The number of significant figure in 0.02300 is

(1) 2 (2) 3

(3) 4 (4) 5

12. A particle is moving in a straight line under constant acceleration. If the particle starts from rest then the ratio of displacement in 5 seconds to that in the 5^{th} second is

(1) $\frac{25}{16}$ (2) $\frac{25}{9}$

(3) $\frac{9}{25}$ (4) $\frac{16}{25}$

13. A vernier calliper has each main scale division equal to 1 mm. 20 vernier scale divisions are equal to 16 main scale divisions. The least count of this vernier calliper is

(1) 0.1 mm (2) 0.2 mm

(3) 0.02 mm (4) 0.04 mm

14. If a particle moves in a straight line such that its position varies with time as $x = 5(t-2) + 6(t-2)^2$, then initial acceleration is (Assume all quantities in SI units)

(1) 6 m/s^2 (2) 5 m/s^2

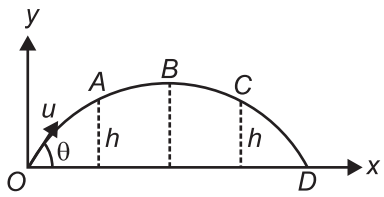
(3) 12 m/s^2 (4) 3 m/s^2

15. If the initial velocity of a particle is u and its acceleration is given as $a = At^3$, where A is constant and t is time, then its instantaneous velocity v as a function of time is given as

(1) $v = u + At^4$ (2) $v = u + \frac{At^4}{4}$

(3) $v = u + At^3$ (4) $v = u + \frac{At^3}{3}$

16. A particle is thrown with speed 'u' at an angle of projection 'θ' with horizontal as shown in figure. Choose the correct statement.



(1) Average velocity during O to D is $u\cos\theta$

(2) Average velocity between A and C is $u\cos\theta$

(3) Vertical components of velocities at A and C are a pair of negative vectors

(4) All of these

17. Two cars A and B are approaching each other head-on with speeds 20 m/s and 10 m/s respectively. When their separation is X then A and B start braking at 4 m/s^2 and 2 m/s^2 respectively. Minimum value of X to avoid collision is

(1) 60 m (2) 75 m

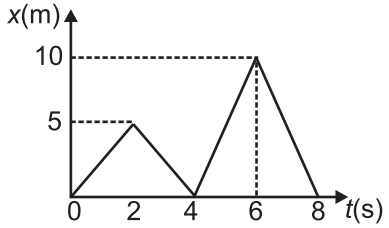
(3) 80 m (4) 90 m

18. A projectile is projected with a speed 30 m/s at an angle 30° with the vertical. The speed of the projectile when its direction of motion makes an angle 30° with the horizontal is

(1) 10 m/s (2) 20 m/s

(3) $10\sqrt{3}$ m/s (4) $20\sqrt{3}$ m/s

19. The position-time (x-t) graph for a particle moving along x-axis is as shown in the graph. Average speed of the particle between time t = 0 and t = 8 s is



(1) Zero (2) 8 m/s

(3) 3.75 m/s (4) 4.25 m/s

20. Which of the following pair have same dimensional formula?

(1) Angular momentum and Planck's constant

(2) Impulse and Torque

(3) Energy density and Surface Tension

(4) Specific gravity and density

21. If $P = P_0 e^{-\left(\frac{\alpha t}{x+\beta}\right)}$, where t is time and x is displacement. Then dimension of $\left[\frac{\alpha^2}{\beta}\right]$ is same as

(1) Velocity

(2) Acceleration

(3) (Displacement)^2

(4) Time

22. 10 N of force is to be converted in a new system of units in which unit of mass is 10 kg, unit of length is 10 m and unit of time is 10 s. The numerical value of given force in new system of units is

(1) 10 (2) 100

(3) 1000 (4) 1

23. A balloon carrying a stone is moving upward with a constant speed 10 m/s. When balloon is at height 75 m, the stone is dropped. The time taken by the stone to reach the ground after release is (g = 10 m/s^2)

(1) 4 s (2) $\sqrt{15}$ s

(3) 5 s (4) 6 s

24. If random error in an experiment for 10 observations is e, then random error in experiment for 60 observations will be

(1) e (2) $\frac{e}{6}$

(3) 6 e (4) $\frac{e}{36}$

25. A policeman is moving with constant speed on a straight road. When he is at distance 250 m behind a car, the car starts accelerating from rest and move with a constant acceleration 2 m/s^2. The minimum speed of the policeman such that he can catch the car is

(1) 10 m/s (2) $10\sqrt{5}$ m/s

(3) $10\sqrt{10}$ m/s (4) $10\sqrt{2}$ m/s

26. Acceleration of a particle moving in a straight line is varying with time as $a = (6t^2 + 4t + 2)$ m/s^2. Initial velocity of particle is 5 m/s the velocity at time t = 1 s is

(1) 6 m/s (2) 11 m/s

(3) 5 m/s (4) Zero

27. A particle is projected at an angle 30° with the horizontal with speed 20 m/s. How high will it strike a wall $8\sqrt{3}$ m away from point of projection? (g = 10 m/s^2)

(1) 5 m (2) 4.8 m

(3) 2.4 m (4) 9.6 m

28. The speed at the maximum height of a projectile is half of its initial speed of projection (u). The horizontal range of the projectile is

(1) $\frac{\sqrt{3}\,u^2}{2g}$ (2) $\frac{\sqrt{3}\,u^2}{g}$

(3) $\frac{u^2}{\sqrt{3}\,g}$ (4) $\frac{2u^2}{\sqrt{3}\,g}$

29. A man can swim in still water with speed 5 m/s. He wants to cross a 100 m wide river flowing with speed 3 m/s. To reach the point directly opposite to his starting point, in which direction should he try to swim?

(1) 37° with the river flow

(2) 153° with the river flow

(3) 90° with the river flow

(4) 127° with the river flow

30. If density D, frequency F and velocity V are taken as fundamental quantities, then the dimensional formula for kinetic energy should be

(1) [DF^{-3}V^5] (2) [D^{-2}F^{2}V^{-3}]

(3) [D^{-3}F^{5}V] (4) [DFV^{-3}]

31. A ball A is thrown up vertically with a speed u and at the same instant another ball B is released from a height h. At time t $\left(t < \sqrt{\frac{2h}{g}}\right)$, speed of A relative to B is

(1) u (2) $2u$

(3) $u - gt$ (4) $\sqrt{u^2 - gt}$

32. A bird is flying to and fro between two cars A and B moving towards each other on a straight road with speed 18 km/h and 36 km/h respectively. The bird starts moving from car A towards car B, when the two cars were separated by 54 km. The displacement of bird till two cars meet is (Neglect dimensions of car)

(1) 54 km

(2) 18 km

(3) 36 km

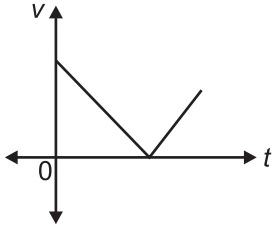
(4) Data insufficient

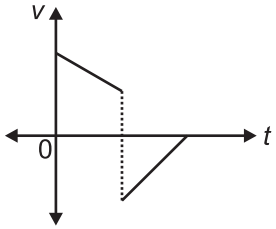
33. A particle is moving along a circular path of radius 5 m with a constant speed of $\frac{5}{2}$ m/s. The average acceleration over a quarter circle is

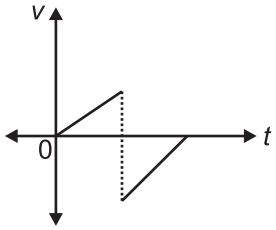
(1) $\frac{10}{\pi}$ m/s^2 (2) $\frac{5\sqrt{2}}{\pi}$ m/s^2

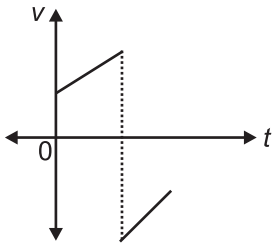
(3) $\frac{5}{\pi}$ m/s^2 (4) $\frac{5}{\sqrt{2}\pi}$ m/s^2

34. A ball is thrown vertically down from a certain height with some speed. After rebound with ground it is caught at the same point with same speed at which it was thrown. Its velocity-time (*v*-*t*) graph (Taking vertically downward direction as positive) is best represented by

(1) 

(2) 

(3) 

(4) 

35. For a projectile projected from ground at an angle θ with horizontal, $gT^2 = \frac{2R}{\sqrt{3}}$, where *T* is time of flight, *R* is horizontal range of projectile, *g* is acceleration due to gravity. The angle of projection (θ) is

(1) 30º

(2) 60º

(3) 45º

(4) 90º

36. A particle is thrown vertically up such that distance travelled by it in 2nd second and 9th second is same. Maximum height upto which the particle rises is (g = 10 m/s^2)

(1) 80 m

(2) 125 m

(3) 180 m

(4) 45 m

37. A fighter plane is flying horizontally at an altitude of 2000 m with speed 720 km/h. At a particular angle of sight (with respect to horizontal) when target is seen, the pilot drops a bomb in order to attack the target. This angle is

(1) $\tan^{-1}(1/2)$ (2) $\tan^{-1}(1)$

(3) $\tan^{-1}(1/4)$ (4) $\tan^{-1}(2)$

38. A man moves on a horizontal road towards east at a speed of 1 km/h and the rain appears to him falling vertically at a speed of 2 km/h. The actual speed of the rain is

(1) 1 km/h (2) $\sqrt{2}$ km/h

(3) $\sqrt{3}$ km/h (4) $\sqrt{5}$ km/h

39. If a particle is moving along a straight line and its velocity varies with time as $v = 2t - t^2$, (v and t are in SI units) then choose the incorrect option.

(1) Average velocity from t = 0 to $t = \frac{5}{2}$ s is $\frac{5}{12}$ m/s

(2) Acceleration is zero at t = 1 s

(3) Acceleration is 2 m/s^2 at t = 0

(4) Average speed from t = 0 to t = 2 s is $\frac{4}{3}$ m/s

40. If the equation of trajectory of a particle in vertical plane is $y = ax - bx^2$, where a and b are positive constants, then angle of elevation of highest point from the point of projection is

(1) $\tan^{-1}(a)$ (2) $\tan^{-1}\left(\frac{a}{2}\right)$

(3) $\tan^{-1}(b)$ (4) $\tan^{-1}\left(\frac{b}{2}\right)$

41. Choose the incorrect statement from the following.

(1) $(\vec{A} + \vec{B})$ is equal to $(\vec{B} + \vec{A})$

(2) A vector multiplied by zero results into null vector

(3) A unit vector does not have any magnitude

(4) Displacement is a vector quantity

42. Consider the two statements related to circular motion in usual notations.

Statement I : In non-uniform circular motion $\vec{\omega}, \vec{v}$ and $\vec{a}$ are always mutually perpendicular.

Statement II : In uniform circular motion $\vec{v}, \vec{r}$ and $\vec{a}$ are always mutually perpendicular.

(1) Both statements are true

(2) Both statements are false

(3) Statement I is true but statement II is false

(4) Statement II is true but statement I is false

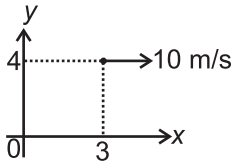
43. When a ball is projected at some angle θ with the horizontal, it has range R and time of flight t_1. If same ball is projected with same speed at an angle θ with the vertical, its time of flight is t_2. Then

(1) $t_1 + t_2 = \frac{2R}{g}$ (2) $t_1 t_2 = \frac{2R}{g}$

(3) $t_1 - t_2 = \frac{R}{g}$ (4) $t_1 t_2 = \frac{R}{g}$

44. A particle is moving with constant speed 10 m/s in x-y plane as shown in the figure. The magnitude of its angular velocity about origin at this instant is

(x and y are in m)



(1) 1.4 rad/s

(2) 1.2 rad/s

(3) 1.6 rad/s

(4) 2.2 rad/s

45. Two balls are thrown horizontally from a 80 m high tower in same direction with velocities 2 m/s and 3 m/s respectively. The separation between the two balls when they hit the ground is (g = 10 m/s^2)

(1) 4 m (2) 8 m

(3) 12 m (4) 20 m

CHEMISTRY

46. The molar concentration of H^+ ion when 300 ml of water is added in 0.1 M 200 ml of H_2SO_4 solution is

(1) 0.08 M (2) 0.1 M

(3) 0.01 M (4) 0.8 M

47. The number of electrons in 0.2 mol of Al^{3+} ion is

(1) 0.2 × N_A (2) 0.1 × N_A

(3) N_A (4) 2 × N_A

48. The maximum amount of magnesium oxide formed when 16 g of Mg is burnt with 16 g of O_2 in a closed vessel is

(1) 26.67 g (2) 40 g

(3) 32 g (4) 24.67 g

49. The maximum number of electrons that can be identified with the quantum number ℓ = 2 for Fe^{3+} ion will be

(1) 3 (2) 4

(3) 5 (4) 6

50. The correct set of four quantum numbers for the 19th electron of gallium (At.no = 31) is

(1) $4, 0, 0, +\frac{1}{2}$ (2) $4, 1, 0, +\frac{1}{2}$

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

51. A polymer consist of 8 atoms of sulphur per molecule which is 2% by mass, The molar mass of the polymer is

(1) 25600 g mol^{-1} (2) 12800 g mol^{-1}

(3) 2560 g mol^{-1} (4) 1280 g mol^{-1}

52. Maximum number of O atom are present in

(1) 2 g molecule of glucose

(2) 2 g molecule of acetone

(3) 2 g molecule of ethanol

(4) 2 g molecule of sucrose

53. How many significant figures are present in 'Avogadro's number' *i.e.*, N_A = 6.022 × 10^{23}?

(1) 3 (2) 10^{23}

(3) 4 (4) 2

54. Which of the following is/are true statement(s)?

a. $\psi^2(r)$ represent probability density of electron

b. RPF (radial probability function) represent probability of electron in spherical region.

c. There is no radial node in 1*s* orbital.

(1) Only a (2) Only a, b

(3) Only b, c (4) a, b & c

55. 280 mL of sulphur vapours weigh 3.2 g at NTP. Calculate the number of atoms present per molecule.

(1) 2 (2) 4

(3) 6 (4) 8

56. Maximum possible electron(s) in Mn, for which n + l + m = 5 is/are

(1) 1 (2) 2

(3) 3 (4) 10

57. One avogram is equal to (N_A = Avogadro's Number)

(1) N_A (2) $\frac{1}{N_A}$

(3) $\frac{N_A}{2}$ (4) $2 \times N_A$

58. Degeneracy of H-atom in 3rd excited state is

(1) 16 (2) 10

(3) 12 (4) 9

59. Zinc and hydrochloric acid react according to equation

$Zn(s) + 2HCl(aq) \longrightarrow ZnCl_2(aq) + H_2(g)$

If 0.3 mole 'Zn' are added to hydrochloric acid containing 0.5 mole HCl, then how many maximum moles of 'H_2' are produced?

(1) 0.12 (2) 0.50

(3) 0.30 (4) 0.25

60. Incorrect statement for discharge tube experiment is

(1) Colour of the light depends upon the nature of gas filled inside the tube

(2) Nature of cathode rays depends upon the gas filled in discharge tube

(3) Cathode rays when strike with heavy metal produce X-rays which cannot be deflected by electric and magnetic field

(4) Gas will be conducting at low pressure only

61. If the mass percentage of glucose in the aqueous solution is 36% then the molality of glucose in the solution will be

(1) 2.1 m (2) 3.1 m

(3) 4.5 m (4) 6.2 m

62. Which of the following cannot be explained by electromagnetic wave theory?

(1) Black body radiation

(2) Photoelectric effect

(3) H-spectrum

(4) All of these

63. Volume of one molecule of oxygen gas at S.T.P. is

(1) 3.7×10^{-20} mL

(2) 2.5×10^{-21} mL

(3) 3.1×10^{-22} mL

(4) 6.1×10^{-23} mL

64. Which of the following statement(s) is/are incorrect?

(a) Emission spectra is always continuous spectra

(b) Atomic spectra is also called line spectra

(c) Absorption spectra gives dark lines on the bright background

(d) Electromagnetic radiations propagate even in the absence of medium

(1) (b) & (c) only (2) (c) & (d) only

(3) (a) only (4) (c) only

65. The number of significant figures in 200 copies is

(1) 3 (2) 1

(3) Infinite (4) Zero

66. What is weight average atomic mass of silicon, if it occurs naturally in 3 isotopes Si^{28}, Si^{29}, Si^{30} with the abundance of 92.2%, 4.7% and 3.1% respectively?

(1) 28.9 amu (2) 28.1 amu

(3) 29.9 amu (4) 29.1 amu

67. A compound consist of 43.4% of Na, 11.32% of C and rest is O. The empirical formula of the compound would be

(1) $Na_2C_2O_4$ (2) $Na_4C_2O_8$

(3) Na_2CO_3 (4) $Na_2C_2O_5$

68. How much water should be added to 300 ml of decinormal HCl solution to make it 0.01 N?

(1) 3000 ml (2) 2700 ml

(3) 300 ml (4) 270 ml

69. The number of mole(s) of $Pb(NO_3)_2$ that should be thermally decomposed completely, to oxidise 2 moles of Na to its oxide is

$2Pb(NO_3)_2(s) \rightarrow 2PbO + NO_2(g) + O_2(g)$

(1) 1 (2) 2

(3) 3 (4) 4

70. 0.1 N solution among the following is

(1) 0.1 M H_3PO_4 (2) 0.1 M H_3PO_3

(3) 0.1 M H_3PO_2 (4) 0.1 M H_2SO_4

71. The equivalent mass of $K_2SO_4 . Al_2(SO_4)_3 . 12\ H_2O$ is (M = Molar mass of salt)

(1) $\frac{M}{12}$ (2) $\frac{M}{10}$

(3) $\frac{M}{8}$ (4) $\frac{M}{6}$

72. The potential energy of an electron in the H-atom is –6.8 eV. In which excited state, the electron is present?

(1) First (2) Second

(3) Third (4) Fourth

73. If the mole fraction of urea in water is 0.15 then molality of urea in the solution will be

(1) 3.4 m (2) 2.5 m

(3) 7.5 m (4) 9.8 m

74. Total number of lines emitted in infrared region when electron is de-excited from 5th excited state to ground state in hydrogen atom is

(1) 3 (2) 4

(3) 5 (4) 6

75. When a metal is burnt with excess of O_2, its weight is increased by 25%. The equivalent weight of the metal is

(1) 40 (2) 32

(3) 8 (4) 48

76. Electron de-excited from 4th level to 2nd level in $He^{\oplus}$ ion and emitted radiations have wavelength 'λ'. Same wavelength will be obtained when electron is de-excited from

(1) 4th level to 1st level in H

(2) 6th level to 3rd level in Li^{2+}

(3) 8th level to 4th level in Be^{3+}

(4) Both (2) & (3)

77. 44 g of an organic compound on complete combustion gives 88 g of CO_2 and 36 g of H_2O. The molecular formula of the compound may be

(1) C_3H_6O (2) C_2H_4O

(3) C_4H_8 (4) C_2H_6O

78. Ratio of energy of electron of 1st orbit of hydrogen, 2nd orbit of $He^{\oplus}$ ion and 3rd orbit of Li^{2+} ion will be

(1) 1 : 2 : 3 (2) 1 : 1 : 1

(3) 1 : 4 : 9 (4) 3 : 2 : 1

79. 20 ml of 1 N HCl, 10 ml of $\frac{N}{2}$ H_2SO_4 and 30 ml of $\frac{N}{3}$ HNO_3 are mixed together and volume made to one litre. The normality of $H^{\oplus}$ in the resulting solution is

(1) $\frac{7}{200}N$ (2) $\frac{7}{10}N$

(3) 5 N (4) $\frac{7}{100}N$

80. Wave mechanical model of the atom incorporates

(1) de-Broglie concept of dual nature of electron

(2) Heisenberg uncertainty principle

(3) Schrodinger wave equation

(4) All of these

81. Which of the following statements is/are correct?

(1) H_3PO_4 is tribasic acid

(2) $NaOH + H_3PO_4 \longrightarrow NaH_2PO_4 + H_2O$, in given reaction equivalent weight of H_3PO_4 is $\frac{M}{3}$ (where M = Molecular weight)

(3) Basicity is the number of replaceable hydrogen atoms in one molecule of the acid

(4) Both (1) & (3)

82. Quantum number which defines the orientation of orbital present in a subshell is

(1) Principal quantum number (n)

(2) Azimuthal quantum number (l)

(3) Magnetic quantum number (m)

(4) Spin quantum number (s)

83. The ratio of specific charge of a proton and α-particle is

(1) 1 : 1 (2) 1 : 2

(3) 2 : 1 (4) 1 : 8

84. 25 g of calcium carbonate contains

(1) 5 g of Ca

(2) 10 g of Ca

(3) 15 g of Ca

(4) 20 g of Ca

85. 0.44 g of gas occupies 224 ml at STP, its vapour density is

(1) 44 (2) 4.4

(3) 22 (4) 2.2

86. Orbital angular momentum of last electron is outermost orbit of phosphorus is

(1) $2\hbar$ (2) $\sqrt{2}\hbar$

(3) $2\sqrt{3}\hbar$ (4) $6\hbar$

87. 6.02×10^{22} atoms of A, 0.2 mole of B and 12.04×10^{22} atoms of C combine to make a compound, the empirical formula of the compound is

(1) A_2B_2C (2) ABC_2

(3) AB_2C_2 (4) A_2BC

88. Total number of node(s) in $4p_x$ orbital is

(1) 1 (2) 2

(3) 3 (4) 4

89. Number of Zn atoms present in 122 g of ZnO is (Atomic wt of Zn = 65).

(1) N_A (2) $\frac{N_A}{2}$

(3) $\frac{3N_A}{2}$ (4) $2\ N_A$

90. Ratio of the radius of first orbit of Li^{2+} to the third orbit of He^{+} ions will be

(1) 1 : 5 (2) 2 : 5

(3) 3 : 8 (4) 2 : 27

BOTANY

91. Growth is a $\frac{(i)}{\quad}$ of all living organisms and it is regarded as $\frac{(ii)}{\quad}$ property in them.

Select the **correct** option to fill in the blanks (i) and (ii).

(1) (i)-Fundamental characteristic
(ii)-Extrinsic

(2) (i)-Fundamental characteristic
(ii)-Intrinsic

(3) (i)-Defining property
(ii)-Extrinsic

(4) (i)-Defining property
(ii)-Intrinsic

92. In binomial nomenclature system, binomial epithet includes

(1) Generic name, species epithet and author citation

(2) Generic name and species epithet only

(3) Common name, generic name and species epithet

(4) Common name and generic name only

93. Which of the following statements is **correct** for the organisms which are also called the 'Jokers of plant kingdom'?

(1) They infect animals only

(2) They have cellulosic cell wall

(3) They have both RNA and DNA

(4) They are sensitive to penicillin

94. Late blight of potato is caused by

(1) *Alternaria solani*

(2) *Ustilago avenae*

(3) *Cystopus candidus*

(4) *Phytophthora infestans*

95. The genetic material in pox virus is

(1) dsDNA

(2) ssDNA

(3) dsRNA

(4) ssRNA

96. Select the **correct** statement from the following.

(1) Zygotic meiosis does not occur in *Volvox*

(2) *Fucus* does not show the same life-cycle pattern as most of the algae show

(3) In both bryophytes and pteridophytes, the dominant phase is diploid sporophyte

(4) All vascular plants are seed bearing plants

97. Non-motile male gametes are found in

(1) *Chara* (2) *Laminaria*

(3) *Porphyra* (4) *Ulothrix*

98. Among kingdom, phylum, class, order and family how many taxonomic categories are common for *Felis* and *Canis*?

(1) Two (2) Three

(3) Four (4) Five

99. Which of the following is **correct** for red tide causing organisms?

(a) Stiff hemicellulosic plates on the inner surface of cell wall

(b) Presence of non-contractile vacuole

(c) Rapid multiplication by spores

(d) Release toxins

(e) Photosynthetic pigments as chlorophyll a & c

(1) (b), (d) & (e)

(2) (a), (b) & (c)

(3) (d) & (e) only

(4) (a), (c) & (e)

100. Sapindales and Poales belong to

(1) Same class and division

(2) Different classes and divisions

(3) Same class but different divisions

(4) Different classes but same division

101. How many of the following diseases are caused by viruses?

Mumps, Cucumber mosaic, Potato leaf roll, Citrus canker, Cholera, Tetanus, Typhoid

(1) Three (2) Four

(3) Five (4) Two

102. In unfavourable conditions, plasmodium of slime mould forms

(1) Fruiting body

(2) Wall-less spores

(3) Mycelium

(4) Biflagellate spores

103. Consider the following statements and select the **correct** ones for *Cycas.*

a. Unbranched stem

b. Monoecious plant

c. Leaves are simple, needle like

d. Nucellus protected by envelope

e. Male gametes are carried by insects.

(1) a, b, c (2) b, c, e

(3) a, c, d, e (4) a, d only

104. The archaebacteria which obtain energy for the synthesis of organic food from the oxidation of sulphur to sulphuric acid under aerobic conditions are also

(1) Capable of tolerating high temperature

(2) Present in the gut of several ruminant animals

(3) Found in extreme saline environment

(4) Responsible for the production of biogas

105. Members of liverworts

(a) Never have leaf like appendages

(b) Have free living sporophyte

(c) Have stomata and food conducting elements

(d) Have sporophyte differentiated into foot, seta and capsule

(1) (d) only (2) (a) & (b) only

(3) (c) & (d) (4) (a), (b) & (c)

106. Euglenoids have

(1) Two flagella of same size

(2) Lipid rich layer called pellicle

(3) Pigments identical to those present in higher plants

(4) Heterotrophic mode of nutrition only in the presence of sunlight

107. Which of the following structures can be shed from the sporophyte during the life cycle of a gymnosperm?

(1) Pollen, ovule

(2) Microspore, Megaspore

(3) Male gametophyte, seed

(4) Ovule, megaspore

108. Both *Neurospora* and *Claviceps* form

(1) Endogenous asexual and exogenous sexual spores

(2) Conidia as asexual and basidiospore as sexual spore

(3) Zoospore as asexual and ascospore as sexual spore

(4) Exogenous asexual and endogenous sexual spores

109. How many of the following are associated with members of red algae?

Floridean starch, Archegonium, Motile male gamete, Oogamous reproduction, Complex post fertilisation development

(1) Three (2) Four

(3) Five (4) Two

110. Read the following statements and choose the option which is true for them.

Statement-1 : All living organisms are linked to one another by sharing the common genetic material but to varying degrees.

Statement-2 : A large population of a single species on earth is referred to as biodiversity.

(1) Only statement-1 is correct

(2) Only statement-2 is correct

(3) Both the statements are correct

(4) Both the statement are incorrect

111. Phylogeny is the _____ of organisms.

Select the **correct** option to fill in the blank.

(1) Embryonic development

(2) Ecological information

(3) Nomenclature

(4) Evolutionary history

112. *Allium* and *Colchicum* are the related genera of family

(1) Anacardiaceae (2) Solanaceae

(3) Liliaceae (4) Poaceae

113. The ability of recipient cell to pick up DNA from the solution is called

(1) Competence (2) Resistance

(3) Inheritance (4) Tolerance

114. Select the **incorrect** match from the following.

(1) Morels – Edible ascocarps

(2) *Neurospora crassa* – Drosophila of plant kingdom

(3) Truffles – Club fungi

(4) *Saccharomyces cerevisiae* – Baker's yeast

115. The number of cells that consist the egg apparatus in angiosperms is

(1) Two (2) Five

(3) Three (4) Four

116. Stem of a pteridophyte plant have been used in scouring and polishing of metals. This plant belongs to the class

(1) Pteropsida (2) Sphenopsida

(3) Psilopsida (4) Lycopsida

117. Select the **odd** ones w.r.t. seven obligate categories of taxonomic hierarchy.

(1) Kingdom, Phylum, Division

(2) Tribe, Variety

(3) Species, Genus, Family

(4) Order, Family, Genus

118. Detailed information about a particular taxon is present in

(1) Manual (2) Catalogue

(3) Monograph (4) Flora

119. Match the following columns and select the **correct** option.

	Column I		**Column II**
a.	Cell wall impregnated with silica	(i)	Dinoflagellates
b.	Whirling whips	(ii)	Chrysophytes
c.	Mixotrophic nutrition	(iii)	Sporozoan protozoa
d.	Endoparasite	(iv)	Euglenoids

(1) a(iv), b(ii), c(iii), d(i) (2) a(ii), b(i), c(iv), d(iii)

(3) a(i), b(ii), c(iii), d(iv) (4) a(iii), b(ii), c(iv), d(i)

120. The kingdom system that did **not** distinguish between the prokaryotes and eukaryotes as well as unicellular and multicellular organisms was given by

(1) Copeland (2) Linnaeus

(3) Carl Woese (4) Whittaker

121. Most common type of life cycle in algae is

(1) Haplontic (2) Diplontic

(3) Also found in *Fucus* (4) Diplo-haplontic

122. Both diatoms and dinoflagellates are protists but differ in

(1) Mode of nutrition (2) Cell wall composition

(3) Body organisation (4) Aquatic habitat

123. Non-vascular terrestrial plants of moist habitat

(1) Form motile asexual spores

(2) Form filamentous juvenile sporophyte

(3) Are heterosporous

(4) May be thalloid or leafy

124. Read the following features.

(a) Nitrogenase activity in vegetative cells under aerobic conditions

(b) Mucilagenous sheath covering

(c) Presence of carbon as well as nitrogen fixing enzymes in heterocysts

(d) Presence of both pigment systems in heterocyst

How many of the given features is/are **correct** for a filamentous blue green alga, *Nostoc*?

(1) One (2) Two

(3) Three (4) Four

125. Large variety of chemical compounds are found in plants. Some of which are used to resolve confusions in classification of plants by taxonomists. This branch of taxonomy also includes

(1) DNA sequence (2) Chromosome structure

(3) Membrane function (4) Flagellation

126. An infectious spore like stage is present in the life cycle of a protozoan which causes

(1) Sleeping sickness (2) Measles

(3) Poliomyelitis (4) Malaria

127. The pteridophytes that show the event precursor to seed habit are

(1) *Lycopodium* and *Dryopteris*

(2) *Selaginella* and *Dryopteris*

(3) *Lycopodium* and *Salvinia*

(4) *Selaginella* and *Salvinia*

128. Select the **incorrect** match w.r.t. brinjal.

(1) Family – Solanaceae

(2) Class – Dicotyledonae

(3) Genus – *Solanum*

(4) Order – Sapindales

129. A new prokaryotic organism was discovered and it is a chemosynthetic autotroph. For giving it a scientific name, one should follow the set of rules given in

(1) ICBN (2) ICVCN

(3) ICZN (4) ICNB

130. The process of categorising different organisms, on the basis of some easily observable characters is known as

(1) Biosystematics (2) Taxonomy

(3) Ontogeny (4) Classification

131. Select the **odd** one from the following.

(1) *familiaris* (2) *lupus*

(3) *aureus* (4) *pardus*

132. Regarding green sulphur bacteria, which of the following statements is **not** correct?

(1) They contain pigment bacterioviridin

(2) Chemical energy is used by them to split H_2O

(3) Electron and proton donor for these bacteria is H_2S

(4) The type of photosynthesis occurs in them is anoxygenic

133. Under favourable conditions, the most common method of reproduction in bacteria is

(1) Binary fission (2) Endospore formation

(3) Transformation (4) Conjugation

134. Kuru disease in humans is caused by

(1) A proteinaceous infectious particle

(2) A virus, containing ssRNA

(3) An infectious RNA particle

(4) A virus, containing dsRNA

135. The multicellular asexual bud in a liverwort responsible for reproduction is

(1) Oosphere

(2) Frond

(3) Gemma

(4) Protonema

ZOOLOGY

136. Read the following characters :

(A) Shed their scales periodically

(B) Sexes are separate

(C) Tympanum represents ear

(D) Three chambered heart

Given characters are **correct** for

(1) *Salamandra* (2) *Calotes*

(3) *Bungarus* (4) *Alligator*

137. Match column I with column II and choose the **correct** option.

	Column I		**Column II**
a.	Hemichordates	(i)	*Chaetopleura*
b.	Echinoderms	(ii)	*Saccoglossus*
c.	Mollusca	(iii)	*Ophiura*
d.	Aschelminthes	(iv)	*Ancylostoma*

(1) a(i), b(ii), c(iii), d(iv)

(2) a(iv), b(iii), c(ii), d(i)

(3) a(ii), b(i), c(iii), d(iv)

(4) a(ii), b(iii), c(i), d(iv)

138. Paired fins, operculum and scales are **not** found in

(1) *Hippocampus* (2) *Exocoetus*

(3) *Petromyzon* (4) *Rohu*

139. Osphradium is a chemoreceptor found in the members of phylum

(1) Echinodermata (2) Porifera

(3) Mollusca (4) Arthropoda

140. Which of the following cell is **not** present in *Obelia*?

(1) Choanocytes

(2) Interstitial cells

(3) Cnidoblasts

(4) Sensory cells

141. Find the **odd** one w.r.t. sexuality of the organism.

(1) *Spongilla* (2) *Hirudinaria*

(3) *Ascaris* (4) *Fasciola*

142. Select the option which does **not** indicate the function of water vascular system of echinoderms.

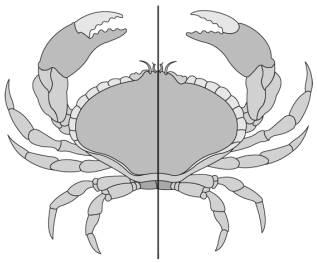
(1) Response to stimulus

(2) Locomotion

(3) Respiration

(4) Capturing of food

143. Which of the following statements is **correct** about the diagram shown below?



(1) The body of animal can be divided into equal halves by any longitudinal plane passing through the centre.

(2) The body can be divided into two equal halves by only a single longitudinal plane passing through the centre

(3) There are no left and right sides observed in the given animal.

(4) Sea anemone represents this type of symmetry.

144. Which of the following does **not** belong to group protostomes?

(1) Mollusca

(2) Hemichordata

(3) Arthropoda

(4) Annelida

145. What is common between *Sycon* and *Euspongia*?

(1) Calcareous spicules

(2) Intracellular digestion

(3) Simplest type of canal system *i.e.*, asconoid type.

(4) Radial symmetry

146. Select the order to which *Delphinus* belongs.

(1) Proboscidea (2) Artiodactyla

(3) Cetacea (4) Chiroptera

147. Parasite among the following is **not**

(1) *Planaria* (2) *Ascaris*

(3) *Fasciola* (4) *Ancylostoma*

148. Select the option representing a **wrong** match in the given table.

	Animal	Characteristics	Taxon
(1)	*Macropus*	Mammary glands	Mammalia
(2)	*Adamsia*	Polyp and medusa stage in lifecycle	Coelenterata
(3)	*Anopheles*	Malpighian tubules	Arthropoda
(4)	*Prawn*	Gills	Crustacea

149. Feature **not** associated with *Hydra* is

(1) Indirect development

(2) Extracellular and intracellular digestion

(3) Absence of alternation of generation

(4) Presence of stinging cells

150. Read the two statements regarding Aschelminthes.

a. Members have a true body cavity.

b. Sexual dimorphism can be established based on presence of excretory pore.

Select the **correct** option.

(1) 'a' is correct but 'b' is incorrect.

(2) Both 'a' and 'b' are correct.

(3) 'a' is incorrect but 'b' is correct.

(4) Both 'a' and 'b' are incorrect.

151. Presence of all is seen in echinoderm **except**.

(1) Calcareous endoskeleton

(2) Excretory system

(3) External fertilisation

(4) Complete digestive system

152. Type of metamorphosis seen in *Periplaneta* is

(1) Paurometabolous

(2) Hemimetabolus

(3) Holometabolous

(4) Hypermetabolous

153. Select the **correct** match.

	Column-I	Column-II
a.	Earth worm	(i) *Wuchereria*
b.	Hook worm	(ii) *Bombyx*
c.	Silkworm	(iii) *Ancylostoma*
d.	Filarial worm	(iv) *Pheretima*

(1) a(iv), b(iii), c(i), d(ii) (2) a(iv), b(iii), c(ii), d(i)

(3) a(iii), b(iv), c(ii), d(i) (4) a(iii), b(iv), c(i), d(ii)

154. *Aplysia* is commonly known as

(1) Sea lily (2) Sea fan

(3) Sea pen (4) Sea hare

155. Select the **odd** one w.r.t. sensory organs of phylum arthropoda.

(1) Antennae (2) Compound eye

(3) Statocyst (4) Amphids

156. Which of the following is **not** a vertebrate?

(1) *Doliolum* (2) *Myxine*

(3) *Pterophyllum* (4) *Bufo*

157. Closed circulatory system is present in all **except**

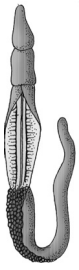
(1) *Petromyzon* (2) *Ascidia*

(3) *Pavo* (4) *Felis*

158. In which of the following animal is the notochord replaced by bony vertebral column?

(1) 

(2) 

(3) 

(4) 

159. Some animals are given in a box.

Pavo, Hyla, Clarias, Platypus, Chelone, Felis, Macaca, Macropus, Testudo, Elephas, Columba, Pteropus, Rattus, Equus

Choose the class from the given option whose examples are maximum in number in the given box.

(1) Chondrichthyes

(2) Reptilia

(3) Aves

(4) Mammalia

160. Among the following set of animals, select the one where both members lack amnion.

(1) *Rana* and *Apteryx* (2) *Hyla* and *Corvus*

(3) *Bufo* and *Catla* (4) *Torpedo* and *Canis*

161. "Alimentary canal is complete with a well developed muscular pharynx". This is true for

(1) *Gorgonia* (2) *Taenia*

(3) *Wuchereria* (4) *Planaria*

162. File-like rasping organ for feeding in *Pila* is called

(1) Mantle

(2) Statocyst

(3) Parapodia

(4) Radula

163. Following is a craniate. Select the character which is **not** applicable to it.

(1) Cranium is made up of cartilage

(2) Migrate for spawning to sea water

(3) Gills facilitate gas exchange in them

(4) Mouth is circular and lacks jaws

164. Which of the following is a connecting link between non-chordates and chordates?

(1) *Ascidia*

(2) *Amphioxus*

(3) *Balanoglossus*

(4) *Echinus*

165. Which one of these is **not** a true fish?

(1) Flying fish (2) Saw fish

(3) Sting ray (4) Cuttlefish

166. Which of the following is an **incorrect** match of the animal and its locomotory structure?

(1) *Asterias* – Tube feet

(2) *Nereis* – Parapodia with setae

(3) *Pila* – Ctenidia

(4) *Pleurobrachia* – Comb plates

167. Both oxygenated and deoxygenated blood drain into the same ventricle in heart of a

(1) Fish (2) Tree frog

(3) Bat (4) Parrot

168. Thecodont dentition and four chambered heart is found in

(1) *Calotes* (2) *Psittacula*

(3) *Crocodilus* (4) *Bufo*

169. The illustration below shows four animals. Use the illustration to answer the question that follows ;

a. 

b. 

c. 

d. 

Which animal has a chitinous exoskeleton?

(1) a (2) b

(3) c (4) d

170. Choose odd one w.r.t. viviparity.

(1) *Trichinella* (2) *Buthus*

(3) *Phrynosoma* (4) *Lepisma*

171. Select the **mismatch**.

(1) *Doliolum* – Retrogressive metamorphosis

(2) *Amphioxus* – Excretion by protonephridia with solenocytes

(3) *Salpa* – Body is enclosed in leathery calcareous shell

(4) *Petromyzon* – Ammocoete larva.

172. *Chimaera* is a connecting link between cartilaginous and bony fishes. Its bony fish character is

(1) Presence of air bladder

(2) Presence of cloaca

(3) Absence of operculum

(4) Presence of distinct anus and urinogenital apertures

173. Notochord is present in all, **except**

(1) Larva of *Ascidia*

(2) Adult of *Salpa*

(3) Larva of *Branchiostoma*

(4) Adult of *Amphioxus*

174. Which of the following character is shared by all members of Animalia kingdom without any exception?

(1) Similar level of organisation

(2) Multicellularity

(3) Presence of neural system

(4) Locomotion

175. Select the **mismatch**.

(1) *Hirudinaria* – Haemocoel

(2) *Loligo* – Schizocoelomate

(3) *Saccoglossus* – Enterocoelomate

(4) *Ancylostoma* – Acoelomate

176. Which of the following is a flightless bird?

(1) *Struthio* (2) *Corvus*

(3) *Psittacula* (4) *Columba*

177. Giraffe is an even toed mammal. Select the **incorrect** option w.r.t. giraffe.

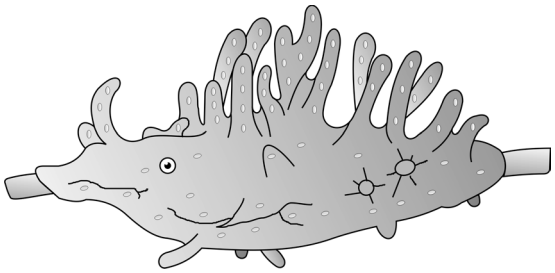
(1) Exhibits pulmonary respiration

(2) Homeothermic animal

(3) Devoid of ear pinna

(4) Seven cervical vertebrae are present

178. Select the **false** statement w.r.t. the animal shown below.



(1) Intracellular digestion is seen

(2) Found in marine water

(3) Hermaphrodite animal

(4) Has water canal system

179. Select the **odd** one w.r.t. level of organisation.

(1) Annelida

(2) Molluscs

(3) Cnidaria

(4) Aschelminthes

180. A true bee product is _____ and obtained from _____. Select the option which fill the blanks **correctly**.

(1) Honey, *Apis* respectively

(2) *Bee wax*, *Laccifer* respectively

(3) Bee wax, *Apis*, respectively

(4) Honey, *Bombyx*

Code - B

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Test Series for NEET - 2020
Test – I

Time : 3 Hrs.

ANSWERS

1. (1)	37. (1)	73. (4)	109. (1)	145. (2)
2. (4)	38. (4)	74. (4)	110. (1)	146 (3)
3. (1)	39. (4)	75. (2)	111. (4)	147. (1)
4. (2)	40. (2)	76. (4)	112. (3)	148. (2)
5. (1)	41. (3)	77. (2)	113. (1)	149. (1)
6. (3)	42. (2)	78. (2)	114. (3)	150. (4)
7. (4)	43. (2)	79. (1)	115. (3)	151. (2)
8. (4)	44. (3)	80. (4)	116. (2)	152. (1)
9. (1)	45. (1)	81. (4)	117. (2)	153. (2)
10. (3)	46. (1)	82. (3)	118. (3)	154. (4)
11. (3)	47. (4)	83. (3)	119. (2)	155. (4)
12. (2)	48. (1)	84. (2)	120. (2)	156. (1)
13. (2)	49. (3)	85. (3)	121. (1)	157. (2)
14. (3)	50. (1)	86. (2)	122. (2)	158. (2)
15. (2)	51. (2)	87. (3)	123. (4)	159. (4)
16. (4)	52. (4)	88. (3)	124. (1)	160. (3)
17. (2)	53. (3)	89. (3)	125. (1)	161. (3)
18. (3)	54. (4)	90. (4)	126. (4)	162. (4)
19. (3)	55. (4)	91. (2)	127. (4)	163. (2)
20. (1)	56. (3)	92. (1)	128. (4)	164. (3)
21. (2)	57. (2)	93. (3)	129. (4)	165. (4)
22. (1)	58. (1)	94. (4)	130. (4)	166. (3)
23. (3)	59. (4)	95. (1)	131. (4)	167. (2)
24. (2)	60. (2)	96. (2)	132. (2)	168. (3)
25. (3)	61. (2)	97. (3)	133. (1)	169. (2)
26. (2)	62. (4)	98. (3)	134. (1)	170. (4)
27. (2)	63. (1)	99. (1)	135. (3)	171. (3)
28. (1)	64. (3)	100. (4)	136. (2)	172. (4)
29. (4)	65. (3)	101. (1)	137. (4)	173. (2)
30. (1)	66. (2)	102. (1)	138. (3)	174. (2)
31. (1)	67. (3)	103. (4)	139. (3)	175. (4)
32. (2)	68. (2)	104. (1)	140. (1)	176. (1)
33. (4)	69. (1)	105. (1)	141. (3)	177. (3)
34. (4)	70. (3)	106. (3)	142. (1)	178. (2)
35. (1)	71. (3)	107. (3)	143. (2)	179. (3)
36. (2)	72. (1)	108. (4)	144. (2)	180. (3)