S.DAT
(SCHOLARS DEN ADMISSION TEST)

SCHOLARS DEN
IIT JEE | Medical
quality education

11 YEARS OF EXCELLENCE

घर के पास
सफलता और संस्कार

Sample Paper

Class XI Studying (NEET)
Time: 2 Hours | Max. Marks: 480

PHYSICS, CHEMISTRY & BOTANY AND ZOOLOGY

Do not open this Test Booklet until you are asked to do so.

Read carefully the Instructions on the Back Cover of this Test Booklet.

***Important Instructions*:**

1. Immediately fill in the particulars on this page of the Test Booklet with Blue/ Black Ball Point Pen. Use of pencil is strictly prohibited.
2. The Answer Sheet is kept inside this Test Booklet. When you are directed to open the Test Booklet, take out the Answer Sheet and fill in the particulars carefully.
3. The test is of **2 hours** duration.
4. The Test Booklet consists of **140** questions. The maximum marks are **480**.
5. There are **four** parts in the question paper A, B, C & D consisting of **Physics, Chemistry, Botany and Zoology** having 35 questions in each part.
6. Each subject will have two sections. **Section A** will be of Multiple - Choice Question (MCQs) in which only one option is correct and **Section B** will be of Multiple - Choice Question (MCQs) in which only one option is correct . In Section B, candidates have to attempt any 10 questions out of 15.
7. Candidates will be awarded four marks for every correct response. ¼ (one fourth) marks will be deducted for indicating incorrect response for section A and section B.
8. Filling up more than one response in any question will be treated as wrong response and marks for wrong response will be deducted accordingly as per instruction 7 above.
9. Use **Blue/ Black Ball Point Pen only** for writing particulars/ marking responses on the Answer Sheet. **Use of pencil is strictly prohibited.**
10. No candidate is allowed to carry any textual material, printed or written, bits of papers, pager, mobile phone, any electronic device, etc. except the Admit Card inside the examination room/hall.
11. Rough work is to be done in the space provided for this purpose in the Test Booklet only. This space is given at the bottom of each page and two pages at the end of the booklet.
12. On completion of the test, the candidates must hand over the Answer Sheet to the Invigilator on duty in the Room/ Hall. **However, the candidates are allowed to take away this Test Booklet with them.**

PHYSICS

SECTION-A

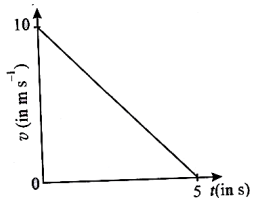
01. Following sets of three forces act on a body. In which case the resultant cannot be zero?
(1) 10 N, 10 N, 10 N
(2) 10 N, 10 N, 20 N
(3) 10 N, 20 N, 20 N
(4) 10 N, 20 N, 40 N

02. A stone is dropped from the top of a 20 m high cliff. One second later another stone is thrown downwards from the cliff. Both the stones reach the ground simultaneously. The initial speed of the second stone is ($g = 10\ m/s^2$)
(1) 10 m/s (2) 15 m/s
(3) 20 m/s (4) 25 m/s

03. A particle moves along a straight line such that its displacement x at any time t is given by $x = t^3 - 6t^2 + 3t + 4$ metres, t being in seconds. The velocity when the acceleration is zero is
(1) 3 m/s (2) –12 m/s
(3) 42 m/s (4) –9 m/s

04. A book is lying on the table. What is the angle between the action of the book on the table and the reaction of the table on the book?
(1) 0° (2) 180° (3) 45° (4) 90°

05. A block of mass 1 kg is given a push horizontally so that it starts sliding on a rough horizontal plane. The velocity–time graph of the motion is shown. The coefficient of sliding friction between the plane and the block is ($g = 10\ m/s^2$)



(1) 0.4 (2) 0.2 (3) 0.04 (4) 0.02

06. The radius of the blade of a fan is 0.30 m. It is making 1200 rev/min. The acceleration of a particle at the trip of the blade is approximately
(1) 1600 m/s^2 (2) 4740 m/s^2
(3) 2370 m/s^2 (4) 5055 m/s^2

07. The ratio of the angular speeds of the minute–hand and the hour–hand of a watch is
(1) 60 : 1 (2) 12 : 1
(3) 1 : 60 (4) 1 : 12

08. Two spheres of the same size, one of mass 5 kg and the other of mass 10 kg, are dropped simultaneously from a tower. When they are about to touch the ground, they have the same
(1) momentum (2) kinetic energy
(3) potential energy (4) acceleration

09. A pump can take out 36000 kg of water per hour from a 100 m deep well. If the efficiency of the pump is 50%, its power is ($g = 10\ m/s^2$)
(1) 5 kW (2) 10 kW
(3) 15 kW (4) 20 kW

10. A car of mass m is driven with acceleration a along a straight level road against a constant external resistive force R. When the velocity of the car is V, the rate at which the engine of the car is doing work is
(1) RV (2) maV
(3) (R + ma)V (4) (ma – R) V

11. A sphere has perfectly elastic oblique collision with another identical sphere which is initially at rest. The angle between their velocities after the collision is
(1) 30° (2) 45° (3) 60° (4) 90°

12. A bomb of mass M at rest explodes into three pieces, two of which of mass M/4 each, are thrown off in perpendicular directions with speeds of 3 m/s and 4 m/s. The third piece is thrown off with a speed
(1) 1.5 m/s (2) 2.0 m/s
(3) 2.5 m/s (4) 5.0 m/s

Space for rough work

13. One end of a rod of length 3 m is at the origin. If linear density of the rod varies as $\lambda = 2 + x$, then the position of the centre of mass of the rod is

(1) $\frac{7}{3}$m (2) $\frac{12}{7}$m (3) $\frac{10}{7}$m (4) $\frac{18}{7}$m

14. A ring and a disc, having the same mass, roll without slipping with the same linear velocity. If the kinetic energy of the ring is 8 J, that of the disc must be

(1) 2 J (2) 4 J (3) 6 J (4) 16 J

15. Two uniform circular discs A and B of equal masses and thickness are made of materials of densities d_A and d_B respectively. If their moments of inertia about an axis passing through the centre and normal to the circular face I_A and I_B, respectively, then I_A/I_B =

(1) d_B/d_A (2) d_A/d_B

(3) d_B^2/d_A^2 (4) d_A^2/d_B^2

16. A solid sphere and a spherical shell roll down an inclined plane from rest from the same height. The ratio of the times taken by them is

(1) $\sqrt{\frac{21}{25}}$ (2) $\frac{21}{25}$ (3) $\sqrt{\frac{25}{21}}$ (4) $\frac{25}{21}$

17. A metal sheet with a circular hole is heated. The hole will

(1) contract
(2) expand
(3) remain unaffected
(4) contract or expand depending on the value of the linear expansion coefficient

18. The length of a metal rod at 0°C is 0.5m. When it is heated, its length increases by 2.7 mm. The final temperature of the rod is (Coefficient of linear expansion of the metal = 90×10^{-6}/°C)

(1) 20° C (2) 30°C
(3) 40° C (4) 60° C

19. A liquid with coefficient of volume expansion γ is filled in a container of a material having coefficient of linear expansion α. If the liquid overflows on heating, then

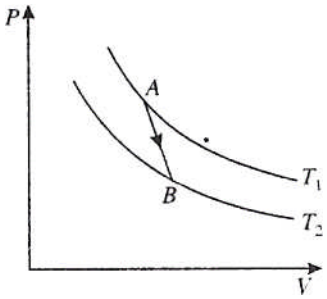
(1) $\gamma = 3\alpha$ (2) $\gamma > 3\alpha$
(3) $\gamma < 3\alpha$ (4) $\gamma = \alpha^3$

20. When water is heated from 0°C to 10°C, its volume

(1) decreases
(2) increases
(3) first increases and then decreases
(4) first decreases and then increases

SECTION-B

21. The figure shows isotherms for a given mass of a gas at two temperatures T_1 and T_2. In a process the state of the gas changes from A to B in such a way that the change of heat, Q, is zero. The process is



(1) isothermal (2) isobaric
(3) isochoric (4) adiabatic

22. A mass m attached to a spring oscillates with a period of 3 s. If the mass is increased by 1 kg the period increases by 1 s. The initial mass m is

(1) $\frac{7}{9}$kg (2) $\frac{9}{7}$kg (3) $\frac{14}{9}$kg (4) $\frac{18}{7}$kg

23. The displacement equation of an oscillator is $y = 5\sin(0.2\pi t + 0.5\pi)$ in SI units. The time period of oscillation is

(1) 10 s (2) 1 s
(3) 0.2 s (4) 0.5 s

Space for rough work

24. Two masses m_1 and m_2 are suspended together by a massless spring of constant k. When the masses are in equilibrium, m_1 is gently removed. Then the angular frequency of oscillation of m_2 is

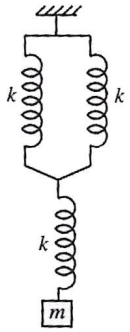
(1) $\sqrt{k/m_1}$

(2) $\sqrt{k/m_2}$

(3) $\sqrt{k/(m_1+m_2)}$

(4) $\sqrt{k/(m_2-m_1)}$

25. The frequency of vertical oscillation of the three spring mass system, shown in the figure, is



(1) $\frac{1}{2\pi}\sqrt{\frac{3k}{2m}}$ (2) $\frac{1}{2\pi}\sqrt{\frac{2k}{3m}}$

(3) $\frac{1}{2\pi}\sqrt{\frac{3k}{m}}$ (4) $\frac{1}{2\pi}\sqrt{\frac{k}{m}}$

26. The force required to stretch a steel wire 1 cm^2 in cross section to double its length is (given $Y = 2 \times 10^{11}$ N/m^2)

(1) 10^7 N

(2) 2×10^7 N

(3) 10^{11} N

(4) 2×10^{11} N

27. Two wires of the same material and length, having diameters in the ratio 2 : 1, are stretched by the same force. The potential energy per unit volume stored in the two wires will be in the ratio

(1) 1 : 4 (2) 4 : 1

(3) 16 : 1 (4) 1 : 16

28. Two wires of copper have length in the ratio 1 : 2 and radii in the ratio 2 : 1. Their Young's moduli are in the ratio

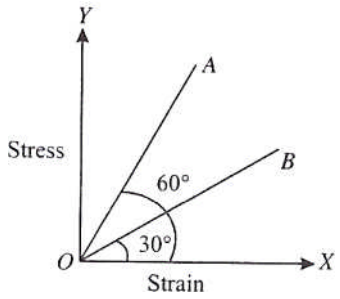
(1) 1 : 1

(2) 1 : 8

(3) 8 : 1

(4) 1 : 4

29. The stress versus strain graphs for wires of two materials A and B are as shown in the figure. If Y_A and Y_B are the respective Young's moduli of the materials, then



(1) $Y_B = 2Y_A$ (2) $Y_A = 2Y_B$

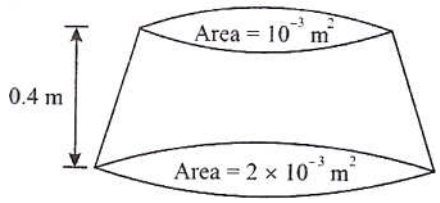
(3) $Y_B = 3Y_A$ (4) $Y_A = 3Y_B$

30. A body A floats in water with half its volume immersed. Another body B floats in a liquid of specific gravity 1.5 with two–third of its volume immersed. The ratio of the density of A to that of B is

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

Space for rough work

31. A uniformly tapering vessel, shown in the figure, is filled with a liquid of density 900 kg/m^3. The thrust on the base of the vessel due to the liquid is ($g = 10$ m/s^2)



(1) 3.6 N (2) 7.2 N
(3) 10.8 N (4) 14.4 N

32. A cork of density 200kg/m^3 floats in a liquid with one–third of its volume immersed. The density of the liquid is
(1) 450 kg/m^3 (2) 600 kg/m^3
(3) 750 kg/m^3 (4) 800 kg/m^3

33. Water Ventura meter works on the principle of
(1) Newton's third Law of motion
(2) Stoke's Formula
(3) Bernouli's Theorem
(4) Hooke's Law

34. The viscous drag on a small spherical body moving with a speed v is proportional to
(1) v (2) $\sqrt{v}$
(3) $1/\sqrt{v}$ (4) v^2

35. The amount of work done in forming a soap film of size 10 cm × 10 cm is
(surface tension of soap = 3×10^{-2} N/m)
(1) 6×10^{-4} J (2) 3×10^{-4} J
(3) 6×10^{-3} J (4) 3×10^{-2} J

CHEMISTRY
SECTION-A

36. He and a gas X having the same volume, diffuse through a porous partition in 15 and 30 seconds respectively. The gas X can be
(1) H_2 (2) O_2 (3) CH_4 (4) SO_2

37. Path function among the following is
(1) U (2) U + PV
(3) H – TS (4) W

38. Conjugate acid of HCO_3^- is
(1) CO_3^{2-} (2) H_2CO_3
(3) $C_2O_4^{2-}$ (4) CO_2

39. For a given reaction, $\Delta H = 30$ kJ mol^{-1} and $\Delta S = 40$ JK^{-1} mol^{-1}. The reaction is spontaneous at
(1) 300 K
(2) 550 K
(3) 800 K
(4) 650 K

40. Consider the following equilibrium reactions,
$X \rightleftharpoons Y, K = 2$
$Y \rightleftharpoons Z, K' = 0.2$
Equilibrium constant for the reaction, $X \rightleftharpoons Z$ is
(1) 0.4 (2) 0.1
(3) 2.2 (4) 10

41. Oxidation states of N is NH_3,N_2O and N_2O_3 respectively are respectively are
(1) –3, +1, –3
(2) +3, +1, +3
(3) –3, –1, –3
(4) –3, +1, +3

Space for rough work

42. The weight of 25% (w/w) aqueous solution of HCl required to react completely with 50 g of $CaCO_3$ is
(1) 146 g (2) 71 g
(3) 106.5 g (4) 35.5 g

43. The total number of valence electrons present in 6.4 g of S^{2-} ion is
(1) 3.2 N_A
(2) 0.8 N_A
(3) 2.4 N_A
(4) 1.6 N_A

44. Oxidation state of sulphur in Caro's acid is
(1) +4 (2) +5 (3) +6 (4) +8

45. For a reversible reaction, $A_{(g)} \rightleftharpoons 2B_{(g)}$, If volume of the container is halved, then equilibrium constant will
(1) Become 2 times
(2) Become 4 times
(3) Become $\frac{1}{2}$
(4) Remain same

46. An element with atomic number 21 is a
(1) halogen
(2) representative element
(3) transition element
(4) alkali metal

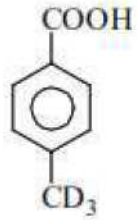
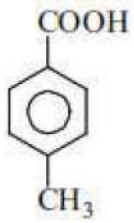
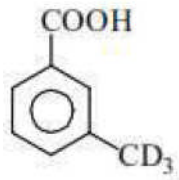
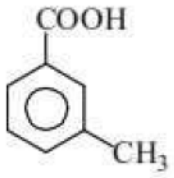
47. The correct order of ionization enthalpy of C, N,O and F is
(1) F < N < C < O (2) C < O < N < F
(3) C < F < N < O (4) F < O < N < C

48. Among the following, the set of isoelectronic ions is
(1) Na^+, Mg^{2+}, F^-, Cl^-
(2) Na^+, Ca^{2+}, F^-, O^{2-}
(3) Na^+, Mg^{2+}, F^-, O^{2-}
(4) Na^+, K^+, S^{2-}, Cl^-

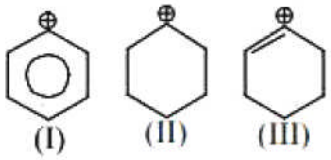
49. Electron affinity is maximum for
(1) Cl (2) F (3) Br (4) I

50. Hardness of water is due to the presence of salts of
(1) Na^+ and K^+ (2) Ca^{2+} and Mg^{2+}
(3) Ca^{2+} and K^+ (4) Ca^{2+} and Na^+

51. Which is the correct order of stability of carbanion?
(P) $F-CH_2-CH_2-\overset{\ominus}{C}H_2$
(Q) $O_2N-CH_2-CH_2-\overset{\ominus}{C}H_2$
(R) $Cl-CH_2-CH_2-\overset{\ominus}{C}H_2$
(S) $Me_3\overset{\oplus}{N}-CH_2-CH_2-\overset{\ominus}{C}H_2$
(1) P > R > Q > S (2) S > P > R > Q
(3) S > Q > P > R (4) S > R > P > Q

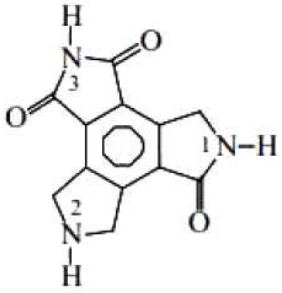
52. Which of the following is least acidic ?
(1) 
(2) 
(3) 
(4) 

Space for rough work

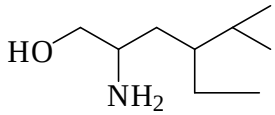
53. 

Correct order of stability of these carbocations is (1) I > II > III (2) I > III > II
(3) II > I > III (4) II > III > I

54. Correct order of basicity of marked N in following compound is:



(1) 1 > 2 > 3 (2) 2 > 1 > 3
(3) 2 > 3 > 1 (4) 3 > 2 > 1

55. 

IUPAC name for given compound is :
(1) 2-Amino-4-ethyl-5-methyl hexan-1-ol
(2) 2-Amino-4-isopropyl-hexan-1-ol
(3) 5-Amino-3ethyl-2-methyl hexan-6-ol
(4) 4-Ethyl-2-amino-5-methyl hexan-1-ol

SECTION-B

56. Which of the following relations is correct?
(1) $\Delta G = \Delta G^\circ + RT \log K$
(2) $\Delta G = \Delta G^\circ + RT \log Q$
(3) $\Delta G = \Delta G^\circ + RT \ln Q$
(4) $\Delta G^\circ = \Delta G + RT \ln Q$

57. $\Delta_r G^\circ$ for the following reaction

$I_2(s) + H_2S(g) \longrightarrow 2HI(g) + S(s)$ at 298 K is,

Given that, $\Delta_f G^\circ HI(g) = 1.8 \text{ kJ mol}^{-1}$,

$\Delta_f G^\circ H_2S(g) = 33.8 \text{ kJ mol}^{-1}$

(1) 30200 kJ
(2) 30.2 kJ
(3) – 30200 J
(4) –302 J

58. In which of the following, entropy increases?
(1) Vaporisation of camphor
(2) Crystallization of sugar from solution
(3) Freezing of water
(4) Stretching of rubber

59. The second law of thermodynamics states that
(1) In any spontaneous process, entropy of the universe always increases
(2) Energy can neither be created nor be destroyed
(3) Energy of the universe remains constant
(4) $\Delta S_{universe} < 0$ for a spontaneous reaction

60. In a reaction, ΔH and ΔS both are more than zero. Then, in which of the following cases, the reaction would be spontaneous?
(1) $\Delta H > T\Delta S$ (2) $T\Delta S > \Delta H$
(3) $\Delta H = T\Delta S$ (4) $\Delta G > 0$

Space for rough work

61. The compound which contains both ionic and covalent bonds is

(1) CH_4 (2) H_2

(3) KCN (4) KCl

62. Which species does not exist?

(1) $[BF_6]^{3-}$ (2) $[AlF_6]^{3-}$

(3) $[GaF_6]^{3-}$ (4) $[InF_6]^{3-}$

63. The correct increasing order of the stability of Al^+, Ga^+, In^+, Tl^+ ions is

(1) $Al^+ < Ga^+ < Tl^+ < In^+$

(2) $Al^+ < Ga^+ < In^+ < Tl^+$

(3) $Tl^+ < In^+ < Ga^+ < Al^+$

(4) $Tl^+ < Al^+ < Ga^+ < In^+$

64. Thermodynamically, the most stable allotrope of C is

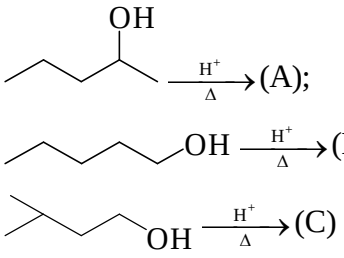
(1) diamond (2) graphite

(3) coal (4) fullerenes

65. Which of the following molecules is planar?

(1) NF_3 (2) NCl_3

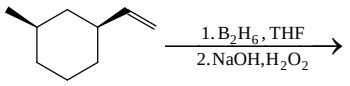
(3) PH_3 (4) BF_3

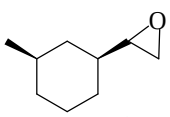
66. 

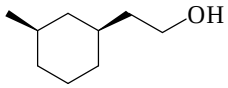
Sum of α–Hydrogen in A + B + C is:

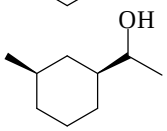
(1) 17 (2) 18 (3) 19 (4) 20

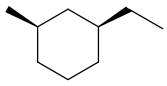
67. What is the product of the following reaction ?



(1) 

(2) 

(3) 

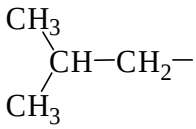
(4) 

68. Which of the following is 3° chloride?

(1) $CH_3—CH_2—Cl$ (2) $(CH_3)_2CHCl$

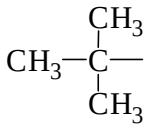
(3) $(CH_3)_3CCl$ (4) $(CH_3)_3CCH_2Cl$

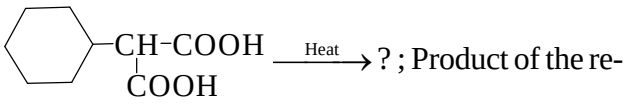
69. The structure of iso–butyl group in an organic compound is

(1) 

(2) $CH_3–CH_2–CH_2–CH_3$

(3) $CH_3–CH_2–CH_2–CH_2–$

(4) 

70.  ? ; Product of the reaction is:

(1) toluene

(2) benzoic acid

(3) phenylacetic acid

(4) cyclohexylacetic acid

Space for rough work

BOTANY

SECTION-A

71. Which of the following multiply through fragmentation?
    (1) Fungi
    (2) Filamentous algae
    (3) Planaria
    (4) All of these
72. Which of the following organism does not reproduce?
    (1) Mules
    (2) Sterile worker bees
    (3) Sterile human couple
    (4) All of these
73. Kingdom monera contains
    (1) Bacteria
    (2) Dinoflagellate
    (3) Slime moulds
    (4) Euglenoid
74. Motile bacteria possess
    (1) Cilia
    (2) Flagella
    (3) Both (1) and (2)
    (4) None of these
75. Mode of nutrition in euglenoids is
    (1) Autotropic (2) Heterotropic
    (3) Symbiotic (4) Mixotropic
76. Which of the following are example of fungus?
    (1) Toadstool (2) Puccinia
    (3) Yeast (4) All of these
77. The modes of reproduction found in algae are
    (1) Vegetative
    (2) Asexual
    (3) Sexual
    (4) All of these
78. Vegetative reproduction in algae is by
    (1) Binary fusion
    (2) Fragmentation
    (3) Budding
    (4) Cyst formation
79. The male sex organ of bryophyte is called
    (1) Antherozoids
    (2) Testes
    (3) Globule
    (4) None of these
80. Peat used in transshipment is a product obtained by
    (1) Liverworts
    (2) Phaeophyceae
    (3) Mosses
    (4) None of these
81. Adventitious roots arise from part other than
    (1) Hypocotyl (2) Epicotyl
    (3) Plumule (4) Radicle
82. What is the number of regions in which a root is divided?
    (1) 1 (2) 2
    (3) 3 (4) 4
83. Prop or pillar roots are found in
    (1) Carrot (2) Sweet potato
    (3) Banyan tree (4) Maize
84. Seed is made up of
    (1) Seed coat
    (2) Embryo
    (3) Both (1) & (2)
    (4) None of these

Space for rough work

85. Axillary bud is
(1) Present in axil of leaf
(2) Capable of forming branch
(3) Capable of forming flower
(4) All of these

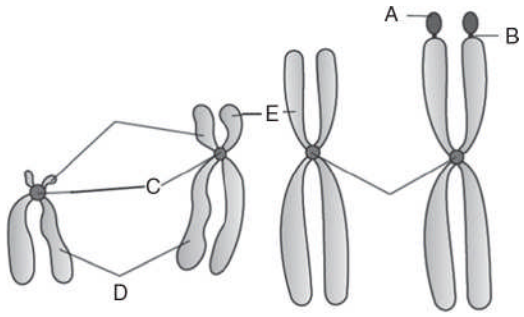
86. Find the example of lateral meristem.
(1) Fascicular cambium
(2) Interfascicular cambium
(3) Cork-cambium
(4) All of these

87. Which tissue is usually dead and without protoplast?
(1) Parenchyma
(2) Collenchyma
(3) Sclerenchyma
(4) All of these

88. The functions of xylem are
(1) Conduct water from root to stem and leaves
(2) Conduct mineral from root to stem and leaves
(3) Provide mechanical strength to plant
(4) All of these

89. What kind of ribosome is seen in mitochondria?
(1) 80S
(2) 70S
(3) Both (1) and (2)
(4) None of these

90. Identify A, B, C, D, E, F and G given in the figure.



(1) A–Satellite, B–Secondary constriction, C–Centromere, D–Long arm, E–Short arm
(2) A–Secondary constriction, B–Satellite, C–Long arm, D–Centromere, E–Short arm
(3) A–Centromere, B–Satellite, C–Long arm, D–Short arm, E–Secondary constriction
(4) A–Satellite, B–Short arm, C–Long arm, D–Centromere, E–Secondary constriction

SECTION-B

91. Photosynthesis is a
(1) Physical process
(2) Chemical process
(3) Physico–chemical process
(4) Physiological process

92. All living forms on earth depend on _____ for energy.
(1) Sun (2) Hydrothermal vent
(3) Volcanic eruption (4) Moon

93. Photosynthesis is important because
(1) It is the primary source of all food on earth
(2) It is responsible for the release of O_2
(3) Both (1) and (2)
(4) None of these

Space for rough work

94. Select the incorrect statement from the following:
(1) All animals including human depend on plant for their food.
(2) The use of energy from sunlight by plants doing photosynthesis is the basis of life on earth.
(3) Green plants carry out photosynthesis.
(4) None of the above

95. Which of the following is required for photosynthesis?
(1) CO_2 (2) Chlorophyll
(3) Light (4) All of these

96. In plant the end product of photosynthesis is
(1) Sucrose (2) Starch
(3) Glycogen (4) Glucose

97. The enzyme which converts sucrose to glucose and fructose.
(1) Maltase (2) Invertase
(3) Lactase (4) Hexokinase

98. Yeast poisons themselves to death when alcohol concentration reaches to _____ in alcoholic fermentation.
(1) 2% (2) 10%
(3) 13% (4) 20%

99. The first step of glycolysis is:
(1) Breakdown of glucose
(2) Phosphorylation of glucose
(3) Conversion of glucose into fructose
(4) Dehydrogenation of glucose

100. What occurs due to the plants growth and development?
(1) Leaves, flowers, fruits, etc., arise in an orderly pattern
(2) Increase in girth
(3) Falling of leaves and fruits
(4) All the above

101. Development consists of
(1) Growth (2) Differentiation
(3) Both (1) and (2) (4) None of these

102. All cells of the plants are descendants of
(1) Zygote
(2) Seeds
(3) gametes
(4) Both (1) & (2)

103. What is an irreversible permanent increase in size of an organ or its part or even of an individual cell?
(1) Development (2) Differentiation
(3) Growth (4) Maturation

104. Why the growth of a plant is unique?
(1) The plant retains the capacity of unlimited growth.
(2) The plant can regenerate the same characters.
(3) There is no change in offspring's characters.
(4) None of the above

105. Growth is accompanied by
(1) Anabolism (2) Catabolism
(3) Both (1) and (2) (4) None of these

ZOOLOGY

SECTION-A

106. If cardiac output of a person at a time is 6400 ml and his heart rate is 80 per minute, the stroke volume of the person will be
(1) 52 mL (2) 72 mL
(3) 80 mL (4) 60 mL

107. During each cardiac cycle, two prominent sounds are produced which can be easily heard by stethoscope. The second heart sound is associated with
(1) Closing of the atrioventricular valves
(2) Opening of the tricuspid valves
(3) Closing of the semilunar valves
(4) Opening of the semilunar valves

Space for rough work

108. Role of (A) in the regulation of respiratory rhythm is quite insignificant (A) is
(1) Pneumotaxic centre
(2) H^+
(3) CO_2
(4) O_2

109. A bond which is formed between two monosaccharides, is known as
(1) Ester bond
(2) Peptide bond
(3) Glycosidic bond
(4) Phosphodiester bond

110. Mark correct respiratory equation?
(1) IRV = TV + ERV
(2) EC = TLC – RC
(3) FRC = RV + ERV
(4) RV = TLC + IRV

111. Which of the following statements is correct regarding the given diagram?

(1) Muscle fibres are unbranched
(2) Muscle fibres are multinucleated and joined to each other by intercalated discs
(3) Cells are fusiform in shape
(4) All cells are functionally single unit

112. Find out the incorrect match
(1) Trygon – Sting ray
(2) Carcharodon – Saw fish
(3) Petromyzon – Lamprey
(4) Myxine – Hag fish

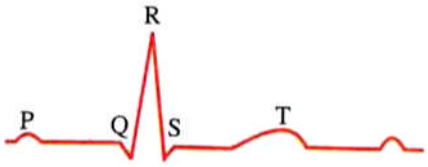
113. An autoimmune disorder affecting neuromuscular junction leading to fatigue, weakening and paralysis of skeletal muscle is
(1) Myasthenia gravis
(2) Muscular dystrophy
(3) Tetany
(4) Arthritis

114. Columns of Bertini are
(1) Extensions of medulla into cortex of kidney
(2) Extensions of calyces into pelvis of kidney
(3) Extensions of pelvis into ureter
(4) Extensions of cortex in between the medul lary pyramids

115. On an average _____ of urea is excreted out per day.
(1) 40-60 gm (2) 10-20 gm
(3) 25-30 gm (4) 30-40 gm

116. Which of the following is **incorrect** match w.r.t. bone and its total number in the adult human body?
(1) Ribs – 24
(2) Vertebrae – 20
(3) Carpals – 8
(4) Radius – 2

117. Following is a diagrammatic presentation of a standard ECG.



Mark the incorrect statement-
(1) P-wave represents repolarization of atria
(2) QRS complex represents depolarization of left ventricle only
(3) The end of T-wave marks the end of systole
(4) By counting QRS complexes,one can determine the no heart beats of a person

Space for rough work

118. Uric acid is the chief nitrogenous component of the excretory products of
(1) man
(2) earthworm
(3) cockroach
(4) frog

119. Choose the one which is not a secondary metabolite:
(1) Morphine
(2) Rubber
(3) Amino acids
(4) Monoterpenes

120. Name the pulamonary disease in which alveolar surface area in the alveolar walls
(1) Emphysema
(2) Pneumonia
(3) Asthma
(4) Pleurisy

121. Which of the following is the correct route through which impulse travels in human heart?
(1) AV node → SA node → Heart muscles → Purkinje fibres → Bundle of His
(2) SA node → AV node → Bundle of His → Heart muscles → Purkinje fibres
(3) SA node → AV node → Bundle of His → Purkinje fibres → Heart muscles
(4) Bundle of His → SA node → AV node → Purkinje fibres → Heart muscles

122. Select the incorrect match.
(1) Glycosuria – Presence of glucose in urine
(2) Glomerulo-nephritis – Inflammation of DCT the kidneys
(3) Haematuria – Presence of blood in urine
(4) Ketonuria – Presence of ketone bodies in urine

123. Damage of which tissue will affect the absorption glucose, ions and water from the filtrate present in the PCT of nephron.
(1) Ciliated cuboidal epithelium
(2) Urothelium
(3) Brush Bordered Columnar epithelium
(4) Brush Bordered Cuboidal epithelium

124. Which of the following statement about the skeletal muscles is correct?
(1) They are striated muscles
(2) They are voluntary muscles
(3) They are primarily involved in locomotory action
(4) All

125. I. Decreased bone mass and increased chances of fracture.
II. Deficiency of estrogen is common.
The above characters are associated with
(1) Gout (2) Osteoporosis
(3) Arthritis (4) Polio

SECTION-B

126. Fats are stored in human body as
(1) cubiodal epithelium
(2) adipose tissue
(3) bones
(4) cartilage

127. Bone matrix is rich in
(1) fluride and calcium
(2) calcium and phosphorus
(3) calcium and potassium
(4) phosphorus and potassium

128. Respiratory Rhytum centre is located in:
(1) Pons (2) Medulla
(3) Brain stem (4) Hypothalamus

Space for rough work

129. Identify the correct sequence of air passage in man
(1) External nares → larynx → Pharynx → Trachea → Bronchi → Bronchioles → Alveoli
(2) External nares → Larynx → Nasopharynx → Trachea → Bronchi → Bronchioles → Alveoli
(3) External nares → Nasopharynx → Larynnx → Trachea → Bronchi → Bronchioles → Alveoli
(4) External nares → Nasopharynx → Larynx → Trachea → Bronchioles → Bronchi → Alveoli

130. A person comes to a chest physician with a complain of difficulty in breathing mainly during expiration. On further investigation he is found to have a long history of smoking. Which disease he is likely to suffer?
(1) Asthma (2) Bronchitis
(3) Pneumonia (4) Emphysema

131. Prolonged hyperglycemia leads to a complex disorder called diabetes mellitus which is associated with
(1) Glucosuria (2) Ketoacidosis
(3) Both (1) & (2) (4) Renal calculi

132. A spriometer can be used to measure directly
(1) IC
(2) RV
(3) Total lung capacity
(4) None of these

133. Functional residual volume of lungs is
(1) TV + ERV
(2) RV + ERV
(3) RV + TV
(4) RV + ERV + IRV + TV

134. On an average, a healthy human breathes
(1) 12-16 times/minute
(2) 10-20 times/minute
(3) 8-12 times/minute
(4) 6-14 times/minute

135. Cortisol is secreted by
(1) Pancrease (2) Thyroid
(3) Adrenal (4) Thymus

136. A hormone responsible for the normal sleep-wake cycle is
(1) Epinephrine (2) Gastrin
(3) Melatonin (4) Insulin

137. Bilateral symmetry, metameric segmentation, coelom and open circulatory system characterized by which of the following phylum?
(1) Annelida (2) Mollusca
(3) Arthropoda (4) Echinodermata

138. Which one of the following statements about certain given animals is correct?
(1) Round worms are pseudo–coelomates
(2) Molluscs are acoelomates
(3) Insects are pseudo–coelomates
(4) flatworms are coelomates

139. Stinging capsules (nematocysts) are found in
(1) wasp and honeybee
(2) scorpion and cobra
(3) sea pen and sea fan
(4) cactus and Venus flytrap

140. The complete conjugate enzyme, consisting of an apoenzyme and a cofactor, is called
(1) Isoenzyme (2) Holoenzyme
(3) Riboenzyme (4) Zymogen

Space for rough work

Batch: Class XI Studying (NEET)

ANSWER KEY

PHYSICS

01.	(4)	02.	(2)	03.	(4)	04.	(2)	05.	(2)	06.	(2)	07.	(2)
08.	(4)	09.	(4)	10.	(3)	11.	(4)	12.	(3)	13.	(2)	14.	(3)
15.	(1)	16.	(1)	17.	(2)	18.	(4)	19.	(2)	20.	(4)	21.	(4)
22.	(2)	23.	(1)	24.	(2)	25.	(2)	26.	(2)	27.	(4)	28.	(1)
29.	(4)	30.	(1)	31.	(2)	32.	(2)	33.	(3)	34.	(1)	35.	(1)

CHEMISTRY

36.	(3)	37.	(4)	38.	(2)	39.	(3)	40.	(1)	41.	(4)	42.	(1)
43.	(4)	44.	(3)	45.	(4)	46.	(3)	47.	(2)	48.	(3)	49.	(1)
50.	(2)	51.	(3)	52.	(2)	53.	(4)	54.	(2)	55.	(1)	56.	(3)
57.	(3)	58.	(1)	59.	(1)	60.	(2)	61.	(3)	62.	(1)	63.	(2)
64.	(2)	65.	(4)	66.	(3)	67.	(2)	68.	(3)	69.	(1)	70.	(4)

BOTANY

71.	(4)	72.	(4)	73.	(1)	74.	(2)	75.	(4)	76.	(4)	77.	(4)
78.	(2)	79.	(1)	80.	(3)	81.	(4)	82.	(3)	83.	(3)	184.	(3)
85.	(4)	86.	(4)	87.	(3)	88.	(4)	89.	(2)	90.	(1)	91.	(3)
92.	(1)	93.	(3)	94.	(4)	95.	(4)	96.	(1)	97.	(2)	98.	(3)
99.	(1)	100.	(4)	101.	(3)	102.	(1)	103.	(3)	104.	(1)	105.	(3)

ZOOLOGY

106.	(3)	107.	(3)	108.	(4)	109.	(3)	110.	(3)	111.	(2)	112.	(2)
113.	(1)	114.	(4)	115.	(3)	116.	(2)	117.	(1)	118.	(3)	119.	(3)
120.	(1)	121.	(3)	122.	(2)	123.	(4)	124.	(4)	125.	(2)	126.	(2)
127.	(3)	128.	(2)	129.	(3)	130.	(4)	131.	(3)	132.	(3)	133.	(2)
134.	(1)	135.	(3)	136.	(3)	137.	(3)	138.	(1)	139.	(3)	140.	(2)

For any correction or query related to answer key, contact +91 81262 61333

सिर्फ तैयारी के लिए ज़िन्दगी नहीं
ज़िन्दगी के लिए तैयारी