Reynott Academy

Branch Office : 265-A, Lajpat Nagar, Opp. Mission Hospital, Jalandhar

RAISE

(Reynott Academics and Intelligence Scholarship Examination)

SAMPLE PAPER

Class - 12th (NEET)

Syllabus of the Test : Physics, Chemistry & Biology of Class 11th

Time : 2 Hrs. **MM : 480**

GENERAL INSTRUCTIONS :

1. All questions are compulsory.
2. Blank paper, clipboard, log tables, calculators, cellular phones and electronic gadgets in any form are not allowed inside the examination hall.
3. Use only Black/Blue Ball Pen for filling the OMR. Do not use Gel/ Ink/ Felt pen as it might smudge the OMR.
4. For each right answer you will be **awarded 4 marks** if you darken the bubble corresponding to the correct answer and zero marks if no bubble is darkened. In case of bubbling of incorrect answer, **NO NEGATIVE MARK** will be awarded.
5. This Question Paper consists of 90 questions. Please check before starting to attempt. The question paper consists of five Sections, Section-A (Physics: 1 to 30), Section-B (Chemistry: 31 to 60), Section-C (Botany : 61 to 90), Section-D (Zoology : 91 to 120).

SECTION-A (PHYSICS)

1. The unit of Planck's constant is
   (A) Joule (B) Joule/s
   (C) Joule/m (D) Joule- s
2. Dimensions of potential energy are
   (A) MLT^{-1} (B) ML^2T^{-2}
   (C) $ML^{-1}T^{-2}$ (D) $ML^{-1}T^{-1}$
3. Which of the two have same dimensions
   (A) Force and strain (B) Force and stress
   (C) Angular velocity and frequency (D) Energy and strain
4. A physical quantity x depends on quantities y and z as follows: x = Ay + B tan (Cz), where A, B and C are constants. Which of the following do not have the same dimensions
   (A) x and B (B) C and z^{-1}
   (C) y and B/A (D) x and A
5. A particle moves along x-axis in such a way that its coordinate x varies with time t according to the equation $x = (2 - 5t + 6t^2)$ m. The initial velocity of the particle is
   (A) – 5 m/s (B) 6 m/s
   (C) – 3 m/s (D) 3 m/s
6. When a particle moves with uniform velocity, which of the following relations are correct
   (I) Average speed = average velocity
   (II) Instantaneous speed = instantaneous velocity
   (III) Distance covered = magnitude of displacement
   (A) I, II, III (B) I, II
   (C) II, III (D) I, III

7. If the body covers one-third distance at speed v_1, next one third at speed v_2 and last one third at speed v_3, then average speed will be

(A) $\frac{v_1 v_2 + v_2 v_3 + v_3 v_1}{v_1 + v_2 + v_3}$ (B) $\frac{v_1 + v_2 + v_3}{3}$

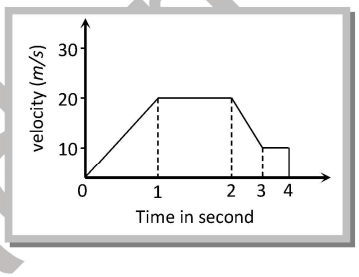
(C) $\frac{v_1 v_2 v_3}{v_1 v_2 + v_2 v_3 + v_3 v_1}$ (D) $\frac{3v_1 v_2 v_3}{v_1 v_2 + v_2 v_3 + v_3 v_1}$

8. The displacement of the particle varies with time according to the relation $x = \frac{k}{b}[1 - e^{-bt}]$. Then the velocity of the particle is

(A) $k(e^{-bt})$ (B) $\frac{k}{b^2 e^{-bt}}$

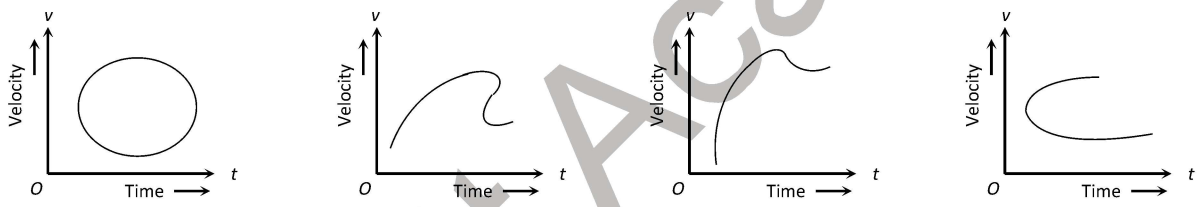
(C) kbe^{-bt} (D) None of these

9. The variation of velocity of a particle with time moving along a straight line is illustrated in the following figure. The distance travelled by the particle in four seconds is



(A) 60 m
(B) 55 m
(C) 25 m
(D) 30 m

10. Which of the following velocity time graphs is possible.



(A) (B) (C) (D)

11. A particle moves in the X-Y plane according to the law x = kt and y = kt (1 – αt), where k and α are positive constants and t is time. What is the equation of trajectory of the particle

(A) $y = kx$ (B) $y = x - \frac{\alpha x^2}{k}$

(C) $y = \frac{\alpha x^2}{k}$ (D) $y = \alpha x$

12. The equation of motion of a projectile is $y = 12x - \frac{3}{4}x^2$. Given that g =10 ms^{-2}, what is the range of the projectile

(A) 12.4 m (B) 16 m
(C) 30.6 m (D) 36.0 m

13. A body of mass m is thrown upwards at an angle θ with the horizontal with velocity v. While rising up the velocity of the mass after t seconds will be

(A) $\sqrt{(v\cos\theta)^2 + (v\sin\theta)^2}$

(B) $\sqrt{(v\cos\theta - v\sin\theta)^2 - gt}$

(C) $\sqrt{v^2 + g^2t^2 - (2v\sin\theta)gt}$

(D) $\sqrt{v^2 + g^2t^2 - (2v\cos\theta)gt}$

14. A boy throws a ball with a velocity V_0 at an angle α to the horizontal. At the same instant he starts running with uniform velocity to catch the ball before it hits the ground. To achieve this, he should run with a velocity of

(A) $V_0 \cos \alpha$ (B) $V_0 \sin \alpha$

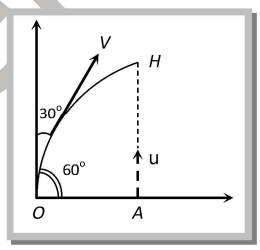
(C) $V_0 \tan \alpha$ (D) $\sqrt{V_0^2 \tan \alpha}$

15. An aeroplane is moving with a horizontal velocity u at a height h above the ground. If a packet is dropped from it the speed of the packet when it reaches the ground will be

(A) $(u^2 + 2gh)^{1/2}$ (B) $(2gh)^{1/2}$

(C) $(u^2 - 2gh)^{1/2}$ (D) $2gh$

16. A particle is projected with a speed V from a point O making an angle of 30° with the vertical. At the same instant, a second particle is thrown vertically upwards with velocity u from a point A. The two particle reach H, the highest point on the parabolic path of particle simultaneously. Then ratio $\frac{V}{u}$ is



(A) $3\sqrt{2}$

(B) $2\sqrt{3}$

(C) $\frac{2}{\sqrt{3}}$

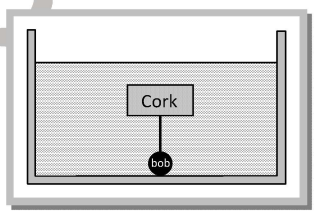
(D) $\frac{\sqrt{3}}{2}$

17. A stone is thrown at an angle θ to the horizontal reaches a maximum height h. The time of flight of the stone is

(A) $\sqrt{(2h\sin\theta)/g}$ (B) $2\sqrt{(2h\sin\theta)/g}$

(C) $2\sqrt{(2h)/g}$ (D) $\sqrt{(2h)/g}$

18. A cork and a metal bob are connected by a string as shown in the figure. If the beaker is given an acceleration towards left then the cork will be thrown towards



(A) Right (B) Left

(C) Upwards (D) Downwards

19. The action and reaction forces referred in Newton's third law of motion

(A) Must act on the same body

(B) Must act on different bodies

(C) Need not be equal in magnitude but must have the same line of action

(D) Must be equal in magnitude but need not have the same line of action

20. A bomb at rest explodes into a large number of tiny fragments. The total momentum of all the fragments

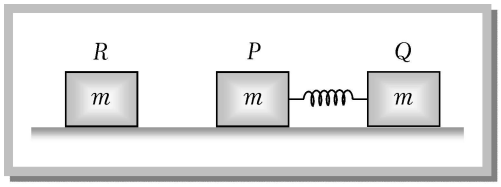
(A) Is zero

(B) Depends on the total mass of all the fragments

(C) Depends on the speeds of various fragments

(D) Is infinity

21. Two elastic blocks P and Q of equal mass m are connected by a massless spring rest on a smooth horizontal surface. A third block R of the same mass m strikes the block P after this collision P and Q will



(A) Always move in opposite direction

(B) Sometimes move in the same direction and sometimes move in opposite direction

(C) Always move in the same direction

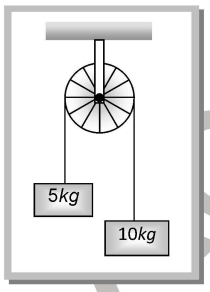
(D) Be at rest with respect to each other

22. If a body of mass m is carried by a lift moving with an upward acceleration a, then the forces acting on the body are (i) the reaction R on the floor of the lift upwards (ii) the weight mg of the body acting vertically downwards. The equation of motion will be given by

(A) R = mg – ma (B) R = mg + ma

(C) R = ma – mg (D) R = mg

23. Two masses of 5 kg and 10 kg are connected to a pulley as shown. What will be the acceleration of the system
(g = acceleration due to gravity)



(A) g (B) $\frac{g}{2}$

(C) $\frac{g}{3}$ (D) $\frac{g}{4}$

24. **Statement-1 :** If the rectangular components of a force are 8 N and 6 N, then the magnitude of the force is 10 N. **Statement-2 :** If $|\vec{A}|=|\vec{B}|=1$ then $|\vec{A}\times\vec{B}|^2+|\vec{A}.\vec{B}|^2=1$.

(A) **Statement-1** is True, Statement-2 is True; Statement-2 is a correct explanation for **Statement-1**

(B) **Statement-1** is True, Statement-2 is True; Stateent-2 is NOT a correct explanation for Statement-1

(C) **Statement-1** is True, Statement-2 is False

(D) **Statement-1** is False, Statement-2 is True

25. A particle moves from position $\vec{r}_1=3\hat{i}+2\hat{j}-6\hat{k}$ to position $\vec{r}_2=14\hat{i}+13\hat{j}+9\hat{k}$ under the action of force $4\hat{i}+\hat{j}+3\hat{k}$ N. The work done will be

(A) 100 J (B) 50 J

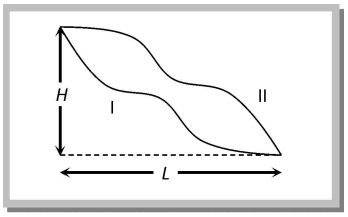
(C) 200 J (D) 75 J

26. A body of mass 3 kg is under a force which causes a displacement in it given by $S=\frac{t^2}{3}$ (in m) find the work done by the force in first 2 seconds

(A) 2 J (B) 3.8 J

(C) 5.2 J (D) 2.6 J

27. A body is lifted over route I and route II such that force is always tangent to the path. Coefficient of friction is same for both the paths. Work done



(A) On both routes is same
(B) On route I is more
(C) On route II is more
(D) On both routes is zero

28. The force on a particle varies as $F = \frac{9}{x^2}$. The work done in displacing the particle from x = 1 to x = 3 is

(A) 4 J (B) 3 J
(C) 5 J (D) 6 J

29. The displacement x of a particle of mass m kg moving in one dimension, under the action of a force, is related to the time t by the equation $t = \sqrt{x} + 3$ where x is in metres and *t* is in seconds. The work done by the force in the first six second in joules is

(A) 0 (B) 3m
(C) 6m (D) 9m

30. The velocity of a particle moving along a line varies with distance as $v = a\sqrt{x}$ where a is a constant. The work done by all forces when the particle moves from x = 0 to x = L (metre) is (mass of the particle is *m*)

(A) 0 (B) ma^2L
(C) $\frac{1}{2}ma^2L$ (D) $\frac{1}{3}maL$

SECTION-B (CHEMISTRY)

31. Which of the following compound does not follow octet rule?

(A) CO_2 (B) PCl_3
(C) ICl (D) ClF_3.

32. When two atoms combine to form a molecule

(A) energy released (B) energy absorbed
(C) energy is neither released nor absorbed (D) energy may either absorbed or released

33. Lattice energy of an ionic compound depends upon

(A) Charge on the ion and size of the ion (B) Packing of ions only
(C) Size of the ion only (D) Charge on the ion only

34. Which of the following have been arranged in increasing order of bond order as well as bond dissociation energy ?

(A) $O_2^{-2} < O_2^{-} < O_2^{+} < O_2$ (B) $O_2^{-2} < O_2^{-} < O_2 < O_2^{+}$
(C) $O_2 < O_2^{+} < O_2^{2-} < O_2^{-}$ (D) $O_2^{+} < O_2^{2-} < O_2^{-} < O_2$

35. Combination of two AO's lead to the formation of

(A) two MO's (B) one MO
(C) three MO's (D) four MO's

36. Consider following acid

$ClCH_2COOH$, CH_3COOH, CH_3CH_2COOH
I II III

Correct order of theIr pH value.

(A) III < II < I (B) I < II < III
(C) I < III < II (D) II < I < III

37. When 2 g of a gas 'A' is introduced into an evacuated flask kept at 25°C, the pressure is found to be 1 atm. If 3 g of another gas 'B' is then added to the same flask, the total pressure becomes 1.5 atm. Assuming ideal gas behaviour, calculate the ratio of molar masses $M_A : M_B$

(A) 1 : 3 (B) 1 : 4

(C) 4 : 1 (D) 3 : 1

38. 380 mL of a gas at 27°C, 800 mm of Hg weights 0.455 g. The mol. wt. of gas is :

(A) 27 (B) 28

(C) 29 (D) 30

39. KE per unit volume of an ideal gas is

(A) $\frac{3P}{2}$ (B) $\frac{3}{2}(RT)$

(C) $\frac{3}{2}\left(\frac{RN}{N_0}\right)$ (D) $\frac{3}{2}\left(\frac{RT}{N}\right)$

40. IP_2 for an element is invariably higher than IP_1 because

(A) The size of cation is smaller than its atoms (B) It is difficult to remove e from cation

(C) Effective nuclear charge is more for cation (D) All the above

41. The electron affinity order for halogen is

(A) F < Cl < Br < I (B) F > Cl < Br < I

(C) F < Cl > Br > I (D) F > Cl > Br > I

42. The size of ionic species is correctly given in the order:

(A) $Cl^{7+} > Si^{4+} > Mg^{2+} > Na^{+}$ (B) $Na^{+} > Mg^{2+} > Si^{4+} > Cl^{7+}$

(C) $Na^{+} > Mg^{2+} > Cl^{7+} > Si^{4+}$ (D) $Cl^{7+} > Na^{+} > Mg^{3+} > Si^{4+}$

43. What is the correct order of electronegativity

(A) $M^{+1} < M^{+2} < M^{+3} < M^{+4}$ (B) $M^{+1} > M^{+2} > M^{+3} > M^{+4}$

(C) $M^{+1} < M^{+2} > M^{+3} < M^{+4}$ (D) $M^{+4} < M^{+2} < M^{+3} < M^{+1}$

44. Among LiCl, $BeCl_2$, BCl_3 and CCl_4 the covalent bond character follows the order

(A) $LiCl > BeCl_2 > BCl_3 > CCl_4$ (B) $LiCl < BeCl_2 < BCl_3 < CCl_4$

(C) $LiCl > BeCl_2 > CCl_4 > BCl_3$ (D) $BeCl_2 > LiCl > BCl_3 > CCl_4$

45. The IUPAC name of the compound $CH_3CH = CHCH = CHC \equiv CCH_3$ is :

(A) 4,6-octadiene-2-yne (B) 2, 4-octadiene-6-yne

(C) 2-octyn-4, 6-diene (D) 6-octyn-2, 4-diene

46. 0.5 mole of H_2SO_4 is mixed with 0.2 mole of $Ca(OH)_2$. The maximum number of moles of $CaSO_4$ formed is

(A) 0.2 (B) 0.5

(C) 0.4 (D) 1.5

47. The vapour density of gas A is four times that of B. If molecular mass of B is M, then molecular mass of A is

(A) M (B) 4M

(C) $\frac{M}{4}$ (D) 2M

48. Total no. of atoms in 44 gm of CO_2 is

(A) 6.02×10^{23} (B) 6.02×10^{24}

(C) 1.806×10^{24} (D) 18.06×10^{22}

49. The mass of 70% pure H_2SO_4 required for neutralisation of 1 mol of NaOH

(A) 49 gm (B) 98 gm

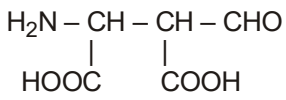
(C) 70 gm (D) 34.3 gm

50. How many moles of magnesium phosphate, $Mg_3(PO_4)_2$ will contain 0.25 mole of oxygen atoms?

(A) 3.125×10^{-2} (B) 1.25×10^{-2}

(C) 2.5×10^{-2} (D) 0.02

51. The IUPAC name of the structure is:



(A) 3-amino-2-formyl butane-1, 4-dioic acid (B) 3-amino-2, 3-dicarboxy propanal

(C) 2-amino-3-formyl butane-1, 4-dioic acid (D) 1-amino-2-formyl succinic acid

52. Steam distillation is a better method of purification for.....compounds-

(A) Liquids (B) Steam volatile

(C) Non-volatile (D) Miscible with water

53. In which orbit of the hydrogen atom is the speed of the electron is maximum?

(A) n = 2 (B) n = 1

(C) n = 3 (D) n = 4

54. For an electron, the product vn (velocity × principal quantum number) will be independent of the

(A) principal quantum number (B) velocity of the electron

(C) energy of the electron (D) frequency of its revolution

55. The number of electrons in sulphur atom having n + l = 3

(A) 2 (B) 4

(C) 6 (D) 8

56. The orbital angular momentum of an electron in 2s-orbital is

(A) h/4p (B) zero

(C) h/2p (D) $\sqrt{2h} / 2\pi$

57. The ratio of energy of the electron in ground state of hydrogen to the electron in first excited state of Be^{+3} is

(A) 4 : 1 (B) 1 : 4

(C) 1 : 8 (D) 8 : 1

58. Heterolytic fission of carbon-chlorine bond produces:

(A) two free radicals (B) two carbonium ions

(C) two carbonions (D) one cation and one anion

59. The energy of a photon having wavelength 700 nm is

(A) 1.77 eV (B) 2.47 eV

(C) 700 eV (D) 3.57 eV

60. The law of conservation of mass holds good for all of the following except

(A) All chemical reactions (B) Nuclear reactions

(C) Endothermic reactions. (D) Exothermic reactions.

SECTION-C (BOTANY)

61. Mannitol is the stored food in
(A) Chara (B) Poryphyra
(C) Fucus (D) Gracillaria

62. Bryophytes are called amphibians of plant kingdom because
(A) They need a layer of water for reproduction (B) They are found in mostly aquatic condition
(C) They have vascular tissues (D) All of these

63. In the five kingdom classification, Chlamydomonas and Chlorella have been included in
(A) Protista (B) Algae
(C) Plantae (D) Monera

64. An alga which can be employed as food for human being is
(A) Ulothrix (B) Chlorella
(C) Spirogyra (D) Polysiphonia

65. The basic unit of classification is
(A) Species (B) Genus
(C) Family (D) Phylum

66. The photosynthetic or assimilatory roots are observed in
(A) Banyan (B) Vanda
(C) Cuscuta (D) Tinospora

67. A horizontal underground stem is a
(A) Corm (B) Phylloclade
(C) Rhizome (D) Rhizoid

68. An example of false fruit is
(A) Apple (B) Banana
(C) Grapes (D) Mango

69. Stems modified into flat green organs performing the function of leaves are known as
(A) Cladodes (B) Phyllodes
(C) Phylloclades (D) Scales

70. Which of the following is made up of dead cells?
(A) Collenchyma (B) Phellem
(C) Phloem (D) Xylem parenchyma

71. Cell drinking is
(A) Exocytosis (B) Pinocytosis
(C) Phagocytosis (D) None of these

72. A cell swells up when kept in
(A) Isotonic solution (B) Hypertonic solution
(C) Hypotonic solution (D) Any of these

73. Cell theory was proposed by
(A) Virchow (B) Schleiden and schwann
(C) Robert Hooke (D) B. Mc Clintock

74. Plasmodesmata are
(A) Lignified cedmented layers between cells
(B) Locomotory structures
(C) Membranes connecting the nucleus and plamalemma
(D) Connections between adjacent cells

75. Middle lamella is mainly composed of
(A) Hemicellulose (B) Muramic acid
(C) Calcium pectate (D) Phosphoglycerides

76. Acid hydrolases are found in
(A) Golgi body (B) ER
(C) Lysosomes (D) Vacuole

77. The phenomenon of plasmolysis is evedent when cells are kept in
(A) Hypotonic solution (B) Hypertonic solution
(C) Isotonic solution (D) None of these

78. Which of these is wrongly matched?
(A) Chloroplasts - chlorophyll (B) Elaioplasts - starch
(C) Chromoplats - carotenoids (D) Amyloplasts - carbohydrates
(E) Aleuroplasts - proteins

79. Cell theory is not applicable for
(A) Bacteria (B) Fungus
(C) Algae (D) Virus

80. Cells divide and new cells are formed from pre-existing cells. This concept was given by
(A) Malthias schleiden (B) Theodore schwann
(C) Malthias schleiden & T. Schwann (D) Rudolf Virchow

81. $Na^+ \setminus K^+$ pump in a cell is an example of
(A) Osmosis (B) Diffusion
(C) Passive transport (D) Active transport

82. Term plasmalemma was given by
(A) Strasburger (B) Plowe
(C) Hooke (D) Robertson

83. Spindle fibres are made up of
(A) Tubulin (B) Humulin
(C) Intermediate filament (D) Flagellin

84. Main protein of mitotic spindle fibres is
(A) Tubulin (B) Myosin
(C) Tropomyosin (D) Dynein

85. Crossing over occurs in
(A) Zygotene (B) Leptotene
(C) Pachytene (D) Deplotene

86. In Meiosis, the chromosomes replicate during
(A) Prophase (B) Metaphase
(C) Anaphase (D) Interphase

87. Chromosomes are visible with chromatids at one of the following phases of mitosis
(A) Interphase (B) Prophase
(C) Metaphase (D) Anaphase

88. Synapsis occurs between
(A) A male and a female gamete (B) mRNA and ribosomes
(C) Spindle fibres and centromere (D) Two homologous chromosomes

89. Variations appear during meiosis due to

(1) Independent assortment

(2) Crossing over

(3) Linkage

(4) Glycolysis

(A) 1, 2 and 3 are correct (B) 1 and 2 are correct

(C) 2 and 4 are correct (D) 1 and 3 are correct

90. Mitosis is

(1) Reduction in chromosome number

(2) Karyokinesis

(3) Formation of four daughter nuclei

(4) Cytokinesis

(A) 1, 2 and 3 are correct (B) 1 and 2 are correct

(C) 2 and 4 are correct (D) 1 and 3 are correct

SECTION-D (ZOOLOGY)

91. In some animal groups, the body is found divided into compartments with at least some organs/ organ repeate(D) This characteristic feature is named

(A) Segmentation (B) Metamerism

(C) Metagenesis (D) Metamorphosis

92. Which one of the following sets of animals share a four chambered heart?

(A) Amphibian, Reptiles, Birds (B) Crocodiles, Birds, Mammals

(C) Crocodiles, Lizards, Turtles (D) Lizards, Mammals, Birds

93. Which one of the following sets of animals belong to a single taxonomic group?

(A) Cuttlefish, Jellyfish, Silverfish, Dogfish, Starfish (B) Bat, Pigeon, Butterfly

(C) Monkey, Chimpanzee, Man (D) Silkworm, Tapeworm, Earthworm

94. Which one of the following is oviparous?

(A) Platypus (B) Flying fox (Bat)

(C) Elephant (D) Whale

95. Body cavity is the cavity present between body wall and gut wall. In some animals the body cavity is not lined by mesoderm. Such animals are called

(A) Acoelomate (B) Pseudocoelomate

(C) Coelomate (D) Haemocoelomate

96. Match the column A with column B and choose the correct option

Column A	**Column B**
A. Porifera	i. Canal system
B. Aschelminthes	ii. Water-vascular system
C. Annelida	iii. Muscular Pharynx
D. Arthropoda	iv. Jointed appendages
E. Echinodermata	v. Metameres

(A) A-ii, B-iii, C-v, D-iv, E-i (B) A-ii, B-v, C-iii, D-iv, E-i

(C) A-i, B-iii, C-v, D-iv, E-ii (D) A-i, B-v, C-iii, D-iv, E-ii

97. Which one of the following types of cell is involved in making of the inner walls of large blood vessels?
(A) Cuboidal epithelium (B) Columnar epithelium
(C) Squamous epithelium (D) stratified epithelium

98. Which one of the following is not a connective tissue?
(A) Bone (B) Cartilage
(C) Blood (D) Muscles

99. Setae help in locomotion in earthworm but not uniformly present in all the segments. Select among the following that represents setae.
(A) 1st segment (B) Last segment
(C) Clitellar segment (D) 20th - 22nd segment

100. Which one of the following statements is true for cockroach?
(A) The number of ovarioles in each ovary are ten. (B) The larval stage is called caterpillar
(C) Anal styles are absent in females (D) They are ureotelic

101. Match the following with reference to Cockroch and choose the correct option

A. Phallomere	i. Chain of developing ova
B. Gonopore	ii. Bundles of sperm
C. Spermatophore	iii. Opening of the ejaculatory dust
D. Ovarioles	iv. The external genitalia

Options:
(A) A-iii, B-iv, C-ii, D-i (B) A-iv, B-iii, C-ii, D-i
(C) A-iv, B-ii, C-iii, D-i (D) A-ii, B-iv, C-iii, D-i

102. Match the followings and choose the correct answer

A. Touch	i. Nasal epithelium
B. Smell	ii. Foramen magnum
C. Cranial nerves	iii. Sensory papillae
D. Medulla oblongata	iv. Peripheral nervous system

Options:
(A) A-iii, B-i, C-ii, D-iv (B) A-ii, B-i, C-iv, D-iii
(C) A-iii, B-iv, C-ii, D-i (D) A-iii, B-i, C-iv, D-ii

103. Many elements are found in living organisms either free or in the form of compounds. One of the following is not, found in living organisms.
(A) Silicon (B) Magnesium
(C) Iron (D) Sodium

104. When we homogenise any tissue in an acid the acid soluble pool represents
(A) Cytoplasm (B) Cell membrane
(C) Nucleus (D) Mitochondria

105. The most abundant chemical in living organisms could be
(A) Protein (B) Water
(C) Sugar (D) Nucleic acid

106. A homopolymer has only one type of building block called monomer repeated 'n' number of times. A heteropolymer has more than one type of monomer. Proteins are heteropolymers made of aminoacids. While a nucleic acid like DNA or RNA is made of only 4 types of nucleotide monomers, proteins are made of
(A) 20 types of monomers (B) 40 types of monomers
(C) 3 types of monomers (D) only one type of monomer

107. Glycogen is a homopolymer made of
(A) Glucose units (B) Galactose units
(C) Ribose units (D) Aminoacids

108. A pure protein should normally have
(A) Two ends (B) One end
(C) Three ends (D) No ends

109. Select what is not true of intestinal villi among followings
(A) They possess microvilli
(B) They increase the surface area
(C) They are supplied with capillaries and the lacteal vessels
(D) They only participate in digestion of fats

110. One of the following is not a common disorder associated with digestive system
(A) Tetanus (B) Diarrhoea
(C) Jaundice (D) Dysentery

111. Match the two columns and select the correct among options given

Column I	**Column II**
A. Biomacromolecules of food	i. Alimentary canal and associated gland
B. Human digestive system	ii. Embedded in jawbones.
C. Stomach	iii. Outer wall of visceral organs
D. Thecodont	iv. Converted into simple substances
E. Serosa	v. J-shaped bag like structure

Options:
(A) A-ii, B-i, C-v, D-iii, E-iv (B) A-iv, B-i, C-v, D-ii, E-iii
(C) A-i, B-ii, C-iii, D-iv, E-v (D) A-i, B-iii, C-ii, D-iv, E-v

112. Match the two columns and select the right one among options given

Column I	Column II
A. Duodenum	i. A cartilaginous flap
B. Epiglottis	ii. Small blind sac
C. Glottis	iii. 'U' shaped structure emerging from the stomach
D. Caecum	iv. Opening of wind pipe

Options:
(A) A-i, B-ii, C-iii, D-iv (B) A-iv, B-iii, C-ii, D-i
(C) A-iii, B-i, C-iv, D-ii (D) A-ii, B-iv, C-i, D-iii

113. Liver is the largest gland and is associated with various functions, choose one which is not correct
(A) Metabolism of carbohydrate (B) Digestion of fat
(C) Formation of bile (D) Secretion of hormone called gastri

114. Mark the right statement among the following
(A) Trypsinogen is an inactive enzyme (B) Trypsinogen is secreted by intestinal mucosa
(C) Enterokinase is secreted by pancrease (D) Bile contains trypsin

115. Respiration in insects is called direct because
(A) The tissues exchange O_2/ CO_2 directly with the air in the tubes
(B) The tissues exchange O_2/ CO_2 directly with coelomic fluid
(C) The tissues exchange O_2/ CO_2 directly with the air outside through body surface
(D) Tracheal tubes exchange O_2/ CO_2 directly with the haemocoel which then exchange with tissues

116. A person suffers punctures in his chest cavity in an accident, without any damage to the lungs its effect could be

(A) Reduced breathing rate (B) Rapid increase in breathing rate

(C) No change in respiration (D) Cessation of breathing

117. A person breathes in some volume of air by forced inspiration after having a forced expiration. This quantity of air taken in is

(A) Total lung capacity (B) Tidal volume

(C) Vital capacity (D) Inspiratory capacity

118. Incidence of Emphysema – a respiratory disorder is high in cigarette smokers. In such cases

(A) The bronchioles are found damaged (B) The alveolar walls are found damaged

(C) The plasma membrane is found damaged (D) The respiratory muscles are found damaged

119. Identify the correct and incorrect match about respiratory volume and capacities and mark the correct answer

i. Inspiratory capacity (IC) = Tidal Volume + Residual Volume

ii. Vital Capacity (VC) = Tidal Volume (TV) + Inspiratory Reserve Volume (IRV) + Expiratory Reserve Volume (ERV).

iii. Residual Volume (RV) = Vital Capacity (VC) – Inspiratory Reserve Volume (IRV)

iv. Tidal Volume (TV) = Inspiratory Capacity (IC) – Inspiratory Reserve Volume (IRV)

Options:

(A) (i) Incorrect, (ii) Incorrect, (iii) Incorrect, (iv) Correct

(B) (i) Incorrect, (ii) Correct, (iii) Incorrect, (iv) Correct

(C) (i) Correct, (ii) Correct, (iii) Incorrect, (iv) Correct

(D) (i) Correct, (ii) Incorrect, (iii) Correct, (iv) Incorrect

120. The oxygen - haemoglobin dissociation curve will show a right shift in case of

(A) High pCO_2 (B) High pO_2

(C) Low pCO_2 (D) Less H+ concentration

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RAISE

(Reynott Academics and Intelligence Scholarship Examination)

SAMPLE PAPER

Class - 12th (NEET)

ANSWER KEY

1.	(D)	25.	(A)	49.	(C)	73.	(B)	97.	(C)
2.	(B)	26.	(D)	50.	(A)	74.	(D)	98.	(D)
3.	(C)	27.	(A)	51.	(C)	75.	(C)	99.	(D)
4.	(D)	28.	(D)	52.	(B)	76.	(C)	100.	(C)
5.	(A)	29.	(A)	53.	(B)	77.	(B)	101.	(B)
6.	(A)	30.	(C)	54.	(A)	78.	(B)	102.	(D)
7.	(D)	31.	(D)	55.	(D)	79.	(D)	103.	(A)
8.	(A)	32.	(A)	56.	(B)	80.	(D)	104.	(A)
9.	(B)	33.	(A)	57.	(B)	81.	(D)	105.	(B)
10.	(C)	34.	(B)	58.	(D)	82.	(B)	106.	(A)
11.	(B)	35.	(A)	59.	(A)	83.	(A)	107.	(A)
12.	(B)	36.	(B)	60.	(B)	84.	(A)	108.	(A)
13.	(C)	37.	(A)	61.	(A)	85.	(C)	109.	(D)
14.	(A)	38.	(B)	62.	(A)	86.	(D)	110.	(A)
15.	(A)	39.	(A)	63.	(B)	87.	(C)	111.	(B)
16.	(C)	40.	(D)	64.	(B)	88.	(D)	112.	(C)
17.	(C)	41.	(C)	65.	(A)	89.	(B)	113.	(D)
18.	(B)	42.	(B)	66.	(D)	90.	(C)	114.	(A)
19.	(B)	43.	(A)	67.	(C)	91.	(B)	115.	(D)
20.	(A)	44.	(B)	68.	(A)	92.	(B)	116.	(D)
21.	(C)	45.	(B)	69.	(B)	93.	(C)	117.	(A)
22.	(B)	46.	(A)	70.	(B)	94.	(A)	118.	(B)
23.	(C)	47.	(B)	71.	(B)	95.	(B)	119.	(B)
24.	(B)	48.	(C)	72.	(C)	96.	(C)	120.	(B)

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