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Knowledge is Discipline
BJNP
Learning with the Speed of Mumbai and the Tradition of Kota

Max. Marks: 720 **Date: 21.10.2022**

NEET 24 BATCH
PHYSICS : PART TEST SET-B
Topic: FLT

1. The speedometer of a car measures

   (a) Average speed (b) Acceleration

   (c) Instantaneous speed (d) Uniform speed

2. A runner makes one lap around a 200 m circular track in 25 s. The average speed of the runner is

   (a) 0 m/s (b) 16 m/s (c) 4 m/s (d) 8 m/s

3. Magnitude of vector which comes on addition of two vectors, $6\hat{i} + 7\hat{j}$ and $3\hat{i} + 4\hat{j}$ is

   (a) $\sqrt{136}$ (b) $\sqrt{13.2}$ (c) $\sqrt{202}$ (d) $\sqrt{160}$

4. The value of the sum of two vectors $\vec{A}$ and $\vec{B}$ with θ as the angle between them is

   (a) $\sqrt{A^2 + B^2 + 2AB\cos\theta}$ (b) $\sqrt{A^2 - B^2 + 2AB\cos\theta}$

   (c) $\sqrt{A^2 + B^2 - 2AB\sin\theta}$ (d) $\sqrt{A^2 + B^2 + 2AB\sin\theta}$

5. What vector must be added to the two vectors $\hat{i} - 2\hat{j} + 2\hat{k}$ and $2\hat{i} + \hat{j} - \hat{k}$, so that the resultant may be a unit vector along x-axis

   (a) $2\hat{i} + \hat{j} - \hat{k}$ (b) $-2\hat{i} + \hat{j} - \hat{k}$ (c) $2\hat{i} - \hat{j} + \hat{k}$ (d) $-2\hat{i} - \hat{j} - \hat{k}$

6. Which pair of the following forces will never give resultant force of 2 N

   (a) 2 N and 2 N (b) 1 N and 1 N (c) 1 N and 3 N (d) 1 N and 4 N

7. A particle moves from position $3\hat{i} + 2\hat{j} - 6\hat{k}$ to $14\hat{i} + 13\hat{j} + 9\hat{k}$ due to a uniform force of $(4\hat{i} + \hat{j} + 3\hat{k})$ N. . If the displacement in 'metres', then work done will be

   (a) 100 J (b) 200 J (c) 300 J (d) 250 J

Space for Rough Work

8. The angle between the vectors $\vec{a} = 3\vec{i} - 4\vec{j}$ and $\vec{b} = -2\vec{i} + 3\vec{k}$ is

(a) $\cos^{-1}\left(-\frac{1}{3}\right)$ (b) $\cos^{-1}\left(-\frac{1}{4}\right)$ (c) $\cos^{-1}\left(-\frac{1}{2}\right)$ (d) $\cos^{-1}\left(-\frac{1}{6}\right)$

9. When $\vec{A}.\vec{B} = -|A||B|$, then

(a) $\vec{A}$ and $\vec{B}$ are perpendicular to each other (b) $\vec{A}$ and $\vec{B}$ act in the same direction

(c) $\vec{A}$ and $\vec{B}$ act in the opposite direction (d) $\vec{A}$ and $\vec{B}$ can act in any direction

10. What is the unit vector perpendicular to the following vectors $2\vec{i} + 2j - \hat{k}$ and $6\vec{i} - 3j + \hat{2}k$

(a) $\frac{\vec{i} + 10j - 18\hat{k}}{5\sqrt{17}}$ (b) $\frac{\vec{i} - 10j + 18\hat{k}}{5\sqrt{17}}$ (c) $\frac{\hat{i} - 10j - 18\hat{k}}{5\sqrt{17}}$ (d) $\frac{\vec{i} + 10j + 18\hat{k}}{5\sqrt{17}}$

11. Assertion: The familiar equation mg = R for a body on a table is true only if the body is in equilibrium.

Reason: The equality of mg and R has no connection with the third law.

(a) Both assertion and reason are true and the reason is the correct explanation of assertion

(b) Both assertion and reason are true but reason is not the correct explanation of assertion

(c) Assertion is true but reason is false

(d) Both assertion and reason are false

12. A block of mass 4 kg lies over a horizontal surface ($g = 10\ m/s^2$). The normal reaction between the block and the surface is

(a) 10 N (b) 30 N (c) 40 N (d) 1 N

13. A uniform rope of length L lies on a table. If the coefficient of friction is μ, the maximum fractional length of the hanging part of the rope from the edge of the table without sliding down is:

(a) L/μ (b) $L/\mu + 1$ (c) $\frac{\mu}{\mu + 1}$ (d) $\frac{\mu L}{\mu + 1}$

Space for Rough Work

14. A block of weight 100 N is lying on a rough horizontal surface. If the coefficient of friction is $1/\sqrt{3}$, the least possible force that can move the block is:

(a) $\frac{100}{\sqrt{3}}$ (b) $100\sqrt{3}$ (c) $50\sqrt{3}$ (d) 50 N

15. Kinetic friction is always:

A. Less than static friction B. Greater than rolling friction

(a) Both A and B are true (b) Both A and B are false

(c) A is false and B is true (d) B is false and A is true

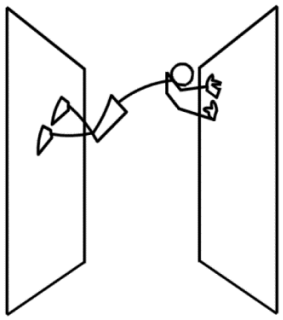
16. A man wants to remain in equilibrium by pushing his hand and feet against two vertical parallel walls as shown in the figure.

A. He must exert equal forces on both walls

B. The forces of friction at both walls must be equal

C. The coefficients of friction between man and wall must be the same at both ends

D. Friction must be present on both walls



(a) A and B are correct (b) A and C are correct

(c) A and B are correct (d) All correct

Space for Rough Work

17. A body of weight 20 N is on a horizontal surface, minimum force applied to pull it when applied force makes an angle 60° with horizontal (angle of friction a = 30°) is

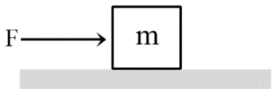
(a) 20 N (b) $20\sqrt{3}$ N (c) $\frac{20}{\sqrt{3}}$ N (d) 30 N

18. Of the following, self adjusting force is

(a) Static friction (b) Normal force

(c) Tension in a string (d) All

19. A horizontal force F acts on the block of mass m and the block remains stationary, the value of friction force is



(a) μ mg (b) μ mg – F (c) F (d) Zero

20. A block of mass m is placed in equilibrium on a moving plank. The maximum horizontal acceleration of the plank for μ = 0.2 is:

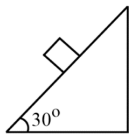
(a) 2 m/s^2 (b) 3 m/s^2

(c) Depends on the mass m (d) None of these

21. A block of mass 3 kg is placed on a rough horizontal surface (μ_s = 0.4). A force of 8.7 N is applied on the block. The force of friction between the block and floor is

(a) 8.7 N (b) 12 N (c) 10 N (d) Zero

22. The time taken by a block of wood, initially at rest to slide down a smooth inclined plane 9.8 m long (angle of inclination = 30°) is:



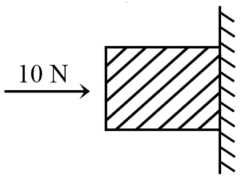
(a) 1/2 s (b) 2 s (c) 4 s (d) 1 s

Space for Rough Work

23. A block of mass 2 kg rests on a rough inclined plane making an angle of 30° with the horizontal. If $\mu_s = 0.6$, what is the frictional force on the block? ($g = 9.8\ m/s^2$)

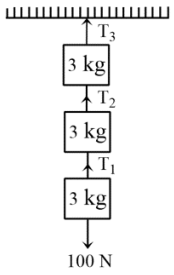
(a) 9.8 N (b) 19.6 N (c) 14.7 N (d) 4.9 N

24. A horizontal force of 10 N is necessary to just hold a block stationary against a wall. The coefficient of friction between the block and the wall is 0.2. The weight of the block is



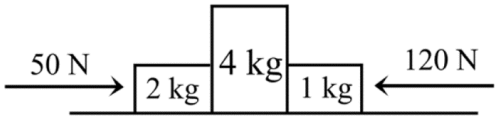
(a) 20 N (b) 50 N (c) 100 N (d) 2 N

25. Three blocks of equal masses (each 3 kg) are suspended by weightless strings as shown. If the applied force is 100 N, then T_1 is equal to : ($g = 10\ m/s^2$)



(a) 130 N (b) 190 N (c) 100 N (d) 160 N

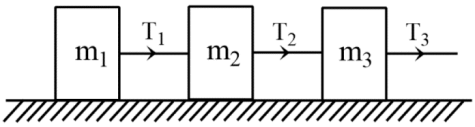
26. Three blocks of masses 1 kg, 4 kg and 2 kg are placed on a smooth horizontal surface. If shown in the figure. Two horizontal forces 120 N and 50 N are applies on the system the acceleration of the system is



(a) 17.5 m/s^2 (b) 10 m/s^2 (c) 24.3 m/s^2 (d) 70 m/s^2

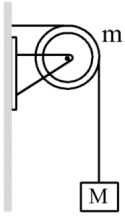
Space for Rough Work

27. Three blocks are connected as shown in the figure on a horizontal frictionless table. If $m_1 = 1$ kg, $m_2 = 8$ kg, $m_3 = 27$ kg and $T_3 = 36$ N, T_2 will be



(a) 18 N (b) 9 N (c) 3.375 N (d) 1.75 N

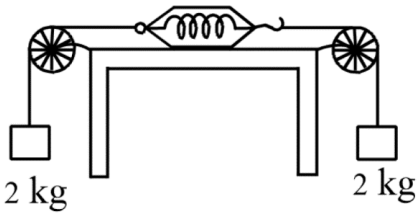
28. A string of negligible mass going over a clamped pulley of mass m supports a block of mass M as shown in the figure. The force on the pulley by the clamp is given by



(a) $\sqrt{2}$ Mg (b) $\sqrt{2}$ mg

(c) $[\sqrt{(M+m)^2 - m^2}]g$ (d) $[\sqrt{(M+m)^2 + M^2}]g$

29. As shown in the figure, two equal masses each of 2 kg are suspended from a spring balance. The reading of the spring balance will be

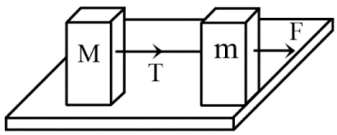


(a) Zero (b) 2 kg

(c) 4 kg (d) Between zero and 2 kg

Space for Rough Work

30. Two masses M and m are connected by a weightless string. They are pulled by a force F on a frictionless horizontal surface. The tension in the string will be



(a) $\frac{FM}{m+M}$ (b) $\frac{F}{M+m}$ (c) $\frac{FM}{m}$ (d) $\frac{Fm}{M+m}$

31. Temperature can be expressed as a derived quantity in terms of

(a) Length and mass (b) Mass and time

(c) Length, mass and time (d) None of these

32. A physical quantity is measured and its value is found to be 'nu' where n = numerical value and u = unit. Then which of the followign relations is true

(a) $n \propto u^2$ (b) $n \propto u$ (c) $n \propto \sqrt{u}$ (d) $n \propto \frac{1}{u}$

33. In the equation $\left(P + \frac{a}{V^2}\right)(V - b)$ = constant, the unit of a is

(a) Dyne × cm^5 (b) Dyne × cm^4 (c) Dyne × cm^3 (d) Dyne × cm^2

34. Two quantities A and B have different dimensions. Which mathematical operation given below is physically meaningful?

(a) A/B (b) A + B (c) A – B (d) None

35. The velocity of a freely falling body changes as $g^p h^q$ where g is the acceleration due to gravity and h is the height. The values of p and q are

(a) $1, \frac{1}{2}$ (b) $\frac{1}{2}, \frac{1}{2}$ (c) $\frac{1}{2}, 1$ (d) 1, 1

Space for Rough Work

36. Force F and density d are related as $F = \frac{\alpha}{\beta + \sqrt{d}}$ then the dimensions of α and β are

(a) $M^{3/2}L^{-1/2}T^{-2}$, $M^{1/2}L^{-3/2}$ respectively (b) $M^{-3/2}L^{1/2}T^{-2}$, $M^{-1/2}L^{3/2}$ respectively

(c) $M^{3/2}L^{-1/2}T^{2}$, $M^{-1/2}L^{3/2}$ respectively (d) $M^{3/2}L^{1/2}T^{-2}$, $M^{1/2}L^{3/2}$ respectively

37. The dimensions of $\frac{a}{b}$ in the equation $P = \frac{a - t^2}{bx}$ where P is pressure, x is distance and t is time, are

(a) $[M^2LT^{-3}]$ (b) $[MT^{-2}]$ (c) $[LT^{-3}]$ (d) $[ML^3T^{-1}]$

38. If force, velocity and time are taken as fundamental quantities, find the dimensions of work.

(a) FVT (b) FVT^2 (c) F^0VT^{-1} (d) FV^2T^{-1}

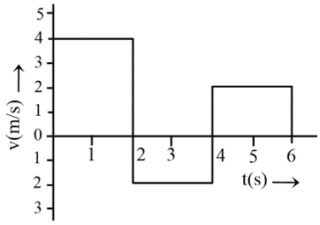
39. An athlete completes one round of a circular track of radius R in 40 s. What will be his displacement at the end of 2 min 20 s?

(a) Zero (b) 2R (c) $2\pi R$ (d) $7\pi R$

40. A wheel of radius 1 metre rolls forward half a revolution on horizontal ground. The magnitude of the displacement of the point of the wheel initially in contact with the ground is

(a) 2π (b) $\sqrt{2}\pi$ (c) $\sqrt{\pi^2 + 4}$ (d) π

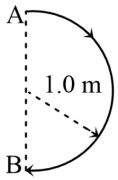
41. The velocity-time graph of a body moving in a straight line is shown in the figure. The displacement and distance travelled by the body in 6 s are respectively



(a) 8 m, 16 m (b) 16 m, 8 m (c) 16 m, 16 m (d) 8 m, 8 m

Space for Rough Work

42. In 1.0 s, a particle goes from point A to point B, moving in a semicircle of radius 1.0 m (see figure). The magnitude of the average velocity is



(a) 3.14 m/s (b) 2.0 m/s (c) 1.0 m/s (d) Zero

43. The ratio of the numerical values of the average velocity and average speed of a body is always

(a) Unity (b) Unity or less (c) Unit or more (d) Less than unity

44. A 10 hr tour is made at an average speed of 40 kph. If during the first half of the distance the average speed of the bus was 30 kph, what was the average speed for the second half of the trip?

(a) 60 kph (b) 50 kph (c) 40 kph (d) 6 kph

45. A particle moving in a straight line covers half the distance with a speed of 3 m/s. The other half of the distance is covered in two equal time intervals with a speed of 4.5 m/s and 7.5 m/s respectively. The average speed of the particle during this motion is

(a) 4.0 m/s (b) 5.0 m/s (c) 5.5 m/s (d) 4.8 m/s

Space for Rough Work

Date: 21.10.2022

NEET 24 BATCH
CHEMISTRY : PART TEST SET-B
Topic: FLT

46. The correct order of second ionization potential of carbon, nitrogen, oxygen and fluorine is

(a) C > N > O > F (b) O > N > F > C (c) O > F > N > C (d) F > O > N > C

47. The first ionization potential of Na is 5.1 eV. The value of electron gain enthalpy of Na^+ will be

(a) –2.55 eV (b) –5.1 eV (c) –10.2 eV (d) +2.55 eV

48. The correct electron affinity order of N, O, S, CI is:

(a) O < N < Cl < S (b) Cl > O > S > N (c) N < O < S < Cl (d) N = Cl > O = S

49. The correct order of electron affinity of B, C, N, O is

(a) O > C > N > B (b) B > N > C > O (c) O > C > B > N (d) O > B > C >N

50. Which of the following element has the highest value of electron affinity?

(a) Carbon (b) Oxygen (c) Fluorine (d) Neon

51. How many litres of oxygen at STP, are required for complete combustion of 39 g of liquid Benzene? (Atomic weights C = 12, H = 1, O = 16)

(a) 84 (b) 22.4 (c) 42 (d) 11.2

52. The mass of carbon dioxide obtained when 2g of pure limestone is calcined is

(a) 44 g (b) 0.22 g (c) 0.88 g (d) 8.8 g

53. The weight of oxygen required to completely react with 27g of aluminium is

(a) 8 g (b) 16 g (c) 32 g (d) 24 g

54. If 0.5 mol of $BaCl_2$ is mixed with 0.2 mol of Na_3PO_4 the maximum number of moles of $Ba_3(PO_4)_2$

(a) 0.7 (b) 0.5 (c) 0.30 (d) 0.10

55. Sodium carbonate of 92% purity is used in the reaction $Na_2CO_3 + CaCl_2 \rightarrow CaCO_3 + 2NaCl$. The number of grams Na_2CO_3 requires to yield 1 gm of $CaCO_3$

(a) 8.5 g (b) 10.5 g (c) 11.52 g (d) 1.152 g

Space for Rough Work

56. The ratio of area covered by second orbital to the first orbital is

(a) 1 : 2 (b) 1 : 16 (c) 8 : 1 (d) 16 : 1

57. The ratio of highest possible wavelength to lowest possible wavelength of Lyman series is

(a) 4/3 (b) 9/8 (c) 27/5 (d) 16/5

58. A photon of wavelength 4×10^{-7} m strikes on metal surface, the work function of the metal being 2.13 ev. Then kinetic energy of emitted electron is

(a) 3.093 ev (b) 0.56 ev (c) 2.97 ev (d) 0.97 ev

59. The number of nucleons in chlorine-37 is

(a) 17 (b) 20 (c) 54 (d) 37

60. The ratio of the energies of photons of 2000 Å to that of 4000 Å is

(a) 2 (b) 4.0 (c) 1/2 (d) 1/4

61. The sub-energy level which can accommodate maximum number of electrons with parallel spin values is

(a) 4p (b) 6s (c) 3d (d) 6p

62. Critical temperature and critical pressure values of four gases are given:

Gas	Critical Temp(K)	Critical pressure(atm)
P	5.1	2.2
Q	33	13
R	126	34
S	135	40

Which of the gas/gases can be liquefied at 100 K and 50 atm?

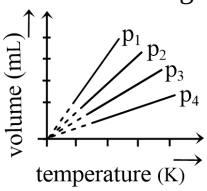
(a) S only (b) P only (c) R and S (d) P and Q

63. The de-Broglie wavelength of a tennis ball of mass 60g moving with a velocity of 10m/s is approximately (Planck's constant, $h = 6.63 \times 10^{-34}$ Js)

(a) 10^{-33} m (b) 10^{-31} m (c) 10^{-16} m (d) 10^{-25} m

Space for Rough Work

64. A plot of volume (V) versus temperature (T) for a gas at constant pressure is a straight line passing through the origin. The plots at different values of pressure are shown in Fig. Which of the following order of pressure is correct for this gas?



(a) $p_1 > p_2 > p_3 > p_4$ (b) $p_1 = p_2 = p_3 = p_4$ (c) $p_1 < p_2 < p_3 < p_4$ (d) $p_1 < p_2 = p_3 < p_4$

65. Match the compression factor under different condition in Column I with its value in Column II

Column I	Column II
A) Compressibility factor (Z) for ideal gas	1) 3/8
B) Z for real gas at low p	2)(1 + pb/RT)
C) Z for real gas at high p	3) 1
D) Z for critical state	4) (1 − a/RTV)

(a) A-3, B-4, C-2, D-1 (b) A-1, B-2, C-4, D-3 (c) A-4, B-3, C-2, D-1 (d) A-2, B-1, C-4, D-3

66. Correct statement among the given

(a) Isotopes of an element have same physical properties

(b) ${}^{14}_{6}C$ and ${}^{16}_{8}O$ are isobars

(c) Volume of an atom is 10^5 times less than that of the nucleus

(d) ${}^{1}_{1}H$ and ${}^{2}_{1}H$ occupy the same position in the periodic table.

67. If the angular momentum of an electron is $\frac{h}{\pi}$, then the electron is in which Bohr's orbit of H-atoms?

(a) 1st (b) 2nd (c) 3rd (d) 4th

68. The wave length of infinity line in Lyman series of H-Spectrum is

(a) $\frac{3R}{9}$ (b) R (c) $\frac{R}{2}$ (d) $\frac{1}{R}$

Space for Rough Work

69. The ratio of masses of oxygen and nitrogen in a particular gaseous mixture 1:4. The ratio of number of their molecules is

(a) 1 : 8 (b) 3 : 16 (c) 1 : 4 (d) 7 : 32

70. Match the mass of elements given in column I with the no. of moles given in column II and mark the appropriate choice

Column I	Column II
A) 28 g of He	i) 2 moles
B) 46 g of Na	ii) 7 moles
C) 60 g of Ca	iii) 1 mole
D) 27 g of Al	iv) 1.5 moles

(a) A → iv, B → iii, C → ii, D → i (b) A → i, B → iii, C → ii, D → iv

(c) A → iii, B → ii, C → i, D → iv (d) A → ii, B → i, C → iv, D → iii

71. The first ionization potential will be maximum for

(a) Lithium (b) Hydrogen (c) Uranium (d) Iron

72. Which of the following represents the correct order of increasing first ionization enthalpy for Ca, Ba, S, Se and AI?

(a) Ca < S < Ba < Se < AI (b) S < Se < Ca < Ba < AI

(c) Ba < Ca < AI < Se < S (d) Ca < Ba < S < Se < AI

73. The ionisation energy and electron affinity of an element are 13.0 eV and 3.8 eV respectively. Its electronegativity is

(a) 2.8 (b) 3.0 (c) 3.5 (d) 4.0

74. If the ionisation energy and electron affinity of an element is 275 and 86 Kcals mol^{-1} respectively, the electronegativity of that element on the Mulliken scale is

(a) 2.8 (b) 0.0 (c) 4.0 (d) 1.9

Space for Rough Work

75. Which of the following is not the reason for the higher EA_1 of halogens

I. high nuclear charge
II. large atomic size
III. Easy to get octet configuration, ns^2np^6
IV. Half filled p-orbitals

The correct answer is

(a) I and IV (b) I, II and III (c) II and IV (d) II and III

76. On heating 4.9g of $KClO_3$, it shows a weight loss of 0.384g. What percentage of $KClO_3$ has decomposed?

(a) 8.6 % (b) 75 % (c) 41.8 % (d) 20 %

77. 0.2 g mole of an unsaturated hydrocarbon on complete combustion produces 26.4 gm of CO_2. The molecular weight of hydrocarbon is

(a) 42 (b) 88 (c) 46 (d) 30

78. For the reaction $X + 2Y \rightarrow Z$, 5 moles of X and 9 moles of Y will produce

(a) 5 moles of Z (b) 8 moles of Z (c) 14 moles of Z (d) 4.5 moles of Z

79. How many Cs atoms can be converted to Cs^+ ions by1 joule energy if IE_1 for Cs is 376 Kj $mole^{-1}$

(a) 1.6×10^{18} (b) 1.6×10^{10} (c) 5.8×10^{14} (d) 5.8×10^{25}

80. For C, N, 0, and F, which of the following orders is correct for IP?

(a) F > O > C > N (b) O > F > N > C (c) F > N > O > C (d) N > F > O > C

81. Equal masses of H_2, O_2 and methane have been taken in a container of volume V at temperature 27°C in identical conditions. The ratio of the volumes of gases $H_2 : O_2$: methane would be:

(a) 16 : 8 : 1 (b) 16 : 1 : 2 (c) 8 : 1 : 2 (d) 8 : 16 : 1

82. What is the temperature at which the kinetic energy of 0.3 moles of helium is equal to the kinetic energy of 0.4 moles of argon at 400 K

(a) 400 K (b) 873 K (c) 533 K (d) 300 K

83. The % rise in temperature needed to expand a gas by 40% at constant pressure is

(a) 20% (b) 40% (c) 60% (d) 80%

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84. One would expect proton to have very large

(a) Ionization potential (b) Radius

(c) Charge (d) Hydration energy

85. Among the following which is not isoelectronic with others

(a) HF (b) H_2O (c) NH_3 (d) CO

86. A proton and an alpha particle are accelerated through the same potential difference. The ratio of the wavelengths associated with the proton to that associated with the alpha particle is

(a) 4 (b) 2 (c) $\sqrt{8}$ (d) $\frac{1}{\sqrt{8}}$

87. Which of the following is false?

(a) The energy of an electron in an orbital of a hydrogen like species depends only on the principal quantum number n.

(b) The angular momentum of an electron in an orbital of a multi electron atom depends on the quantum numbers / and m.

(c) The expression of 'angular momentum of an electron in an orbital is given as $\sqrt{l(l+1)}\left(\frac{h}{2\pi}\right)$

(d) The z-component of angular momentum of an electron in an orbital is given as m $\left(\frac{h}{2\pi}\right)$

88. A sample of gas is at 0ºC. The temperature at which its rms speed of the molecule will be doubled is

(a) 103ºC (b) 273ºC (c) 723ºC (d) 819ºC

89. Isobars differ in

(a) Nucleons (b) mass number (c) atomic number (d) both (a) & (c)

90. If n = 6, the correct sequence for filling of electrons will be

(a) ns→(n – 1)d →(n – 2)f → np (b) ns → (n – 2) f → np → (n – 1)d

(c) ns → np → (n – 1)d → (n – 2)f (d) ns → (n – 2)f → (n – 1)d → np

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Knowledge is Discipline
BJNP
Learning with the Speed of Mumbai and the Tradition of Kota

Date: 21.10.2022

NEET 24 BATCH
BIOLOGY : PART TEST SET-B
Topic: FLT

91. Sweet potato is a modified

(a) stem (b) adventitious root

(c) taproot (d) rhizome.

92. Assertion: Presence of pneumatophores is a special adaptation of hydrophytes.

Reason : Pneumatophores are positively geotropic shoots that have lenticels and help in gaseous exchange.

(a) Both assertion and reason are true and reason is the correct explanation of assertion.

(b) Both assertion and reason are true but reason is not the correct explanation of assertion.

(c) Assertion is true but reason is false.

(d) Both assertion and reason are false.

93. The modified supporting roots called prop roots and stilt roots are seen respectively in

(i) banyan and maize (ii) banyan and sugarcane

(iii) maize and banyan (iv) sugarcane and maize

(a) (i) only (b) (ii) only (c) (iii) only (d) (i) and (ii) only

(e) (i) and (iv) only

94. Roots play insignificant role in absorption of water in

(a) pea (b) wheat (c) sunflower (d) *Pistia*.

95. Stilt roots are found in

(a) *Rhizophora* (b) maize (c) banyan (d) *Colocasia*.

96. The roots hanging from the branches of banyan tree are

(a) primary roots (b) fibrous roots (c) prop roots (d) pneumatophores.

97. Which of the following is correctly matched?

(a) *Monstera* - Fibrous root (b) *Dahlia* - Fasciculated root

(c) *Azadirachta* - Adventitious root (d) *Basil* - Prop roots

98. Photosynthetic roots are found in

(a) Mirabilis (b) Trapa (c) Vanda (d) Ficus.

99. Stilt roots are found in

(a) banyan (b) screw pine (c) mango (d) spinach.

100. Select the correct statements.

(A) From the region of elongation, some of the epidermal cells form root hairs.

(B) Pneumatophores are seen in *Rhizophora*.

(C) Adventitious roots are seen in the banyan tree

(D) Maize and sugarcane have prop roots.

(a) (A) and (D) (b) (A), (C) and (D) (c) (C) and (D) (d) (B) and (C)

(e) (A), (B) and (D)

101. Find the incorrect match.

(a) Tap root: Carrot (b) Adventitious root: Sweet potato

(c) Prop root: Banyan tree (d) Stilt root: Turnip

102. The 'eyes' of potato are located at the ___.

(a) root apex (b) leaf apex (c) nodes (d) inter-nodes

103. In *Bougainvillea*, thorns are the modifications of

(a) adventitious root (b) stem (c) leaf (d) stipules.

104. Select the mismatched pair out of the following.

(a) Rhizome - *Dryopteris, Nelumbo nucifera*

(b) Corm - *Crocus sativus, Amorphophallus*

(c) Sucker - *Curcuma domestica, Zingiber officinale*

(d) Tuber - *Helianthus tuberosus, Solatium tuberosum*

105. Which of the following is not a stem modification?

(a) Tendrils of cucumber (b) Flattened structures of *Opuntia*

(c) Pitcher *of Nepenthes* (d) Thorns of citrus

106. Stems modified into flat green organs performing the functions of leaves are known as

(a) phylloclades (b) scales (c) cladodes (d) phyllodes.

107. Leafy green stems of limited growth modified to perform photosynthesis are called as

(a) phyllode (b) phylloclade (c) cladode (d) foliar stipules.

108. In one plant, underground stems are modified to store food and in another plant, the stem tendrils develop from axillary buds to help plants climb. They are

(a) ginger, cucumber
(b) carrot, jasmine
(c) sweet potato, *Bougainvillea*
(d) *Opuntia, Eichhornia*
(e) sweet potato, mint.

109. An example of edible underground stem is

(a) carrot (b) groundnut (c) sweet potato (d) potato.

110. Match the plants in column I with their modification types in column II and choose the right options given below.

	Column I		Column II
(A)	Ginger	(i)	Flattened stem
(B)	Pumpkin	(ii)	Thorns
(C)	*Bougainvillea*	(iii)	Stem tendrils
(D)	*Opuntia*	(iv)	Underground stem

(a) (A)-(iv), (B)-(iii), (C)-(ii), (D)-(i)
(b) (A)-(iv), (B)-(i), (C)-(ii), (D)-(iii)
(c) (A)-(ii), (B)-(iv), (C)-(i), (D)-(iii)
(d) (A)-(iii), (B)-(iv), (C)-(ii), (D)-(i)
(e) (A)-(ii), (B)-(i), (C)-(iv), (D)-(iii)

111. In one plant adventitious roots are modified for storage and in the other plant a lateral branch with short internodes and each node bearing a rosette of leaves and a tuft of roots is found. They are

(a) sweet potato and *Pistia*
(b) *Eichhornia* and jasmine
(c) carrot and mint
(d) turnip and *Chrysanthemum*
(e) sweet potato and mint.

112. Match the vegetative propagules listed under column I with the plants given under column II. Choose the appropriate option from the given choices.

	Column I		Column II
A.	Rhizome	p.	Agave
B.	Offset	q.	*Bryophyllum*
C.	Sucker	r.	Ginger
D.	Leaf buds	s.	Chrysanthemum
		t.	*Eichhornia*

(a) A-r, B-t, C-s, D-q
(b) A-r, B-s, C-p, D-q
(c) A-q, B-p, C-t, D-s
(d) A-s, B-t, C-q, D-r

113. The plant of arid region that modifies its stem into a flattened structure with chlorophyll pigments to carry out photosynthesis is

(a) *Euphorbia* (b) *Qpuntia* (c) *Citrus* (d) *Bougainvillea*

(e) *Cohcasia*.

114. Cladode is

(a) a modified green stem capable of photosynthesis and usually one internode long

(b) a specialised reproductive shoot

(c) flattened green stem of unlimited growth

(d) a perennial fleshy underground stem.

115. The "eyes" of the potato tuber are

(a) root buds (b) flower buds (c) shoot buds (d) axillary buds.

116. Green leaf-like modified aerial stems/branches with a single internode are called

(a) bulbils (b) cladodes (c) phylloclades (d) phyllodes.

117. A tree that has strong erect stem with hollow internodes and solid nodes is known as

(a) caudex (b) deliquescent (c) scape (d) culm.

118. Which of the following plants have long slender and coiled stem tendrils developed from axillary buds?

(a) Grapevine and pumpkins (b) Australian *Acacia* and watermelon

(c) *Bougainvillea* and cucumber (d) Strawberry and grapevine

(e) *Alstonia* and pumpkins

119. Match the following and select the correct combination from the options given below.

	Column I (Stem Modifications)		Column II (Found in)
A.	Underground stem	1.	*Euphorbia*
B.	Stem tendril	2.	*Opuntia*
C.	Stem thorns	3.	Potato
D.	Flattened stem	4.	*Citrus*
E.	Fleshy cylindrical stem	5.	Cucumber

(a) A-l, B-2, C-3, D-5, E-4 (b) A-2, B-3, C-4, D-5, E-1

(c) A-3, B-4, C-5, D-l, E-2 (d) A-3, B-5, C-4, D-2, E-1

(e) A-5, B-3, C-4, D-1, E-2

120. Which of the following is the subaerial stem modification with long intemode?

(a) Rhizome (b) Offset (c) Runner (d) Sucker

121. Example of corm is

(a) ginger (b) *Colocasia* (c) onion (d) potato.

122. The structure which contain vascular bundle and is modification of stem is

(a) bristles (b) thorn (c) prickle (d) spine.

123. Which one of the following is a modified stem that performs photosynthesis?

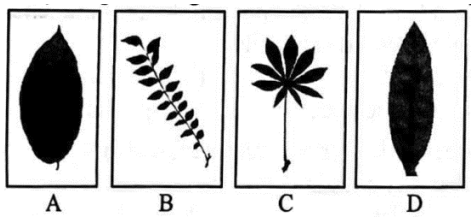
(a) Tendrils (b) Bulbils (c) Phylloclades (d) Prickles

124. Find out the wrongly matched pair.

(a) Tuber - Potato (b) Rhizome - Ginger (c) Bulbil - *Agave* (d) Leaf buds - Banana

(e) Offset - Water hyacinth

125. Identify the given diagrams and mark the correct option.



(a) A, D are compound leaves while B, C are simple leaves.

(b) A, D are simple leaves while B, C are compound leaves.

(c) A, B are simple leaves while C, D are compound leaves.

(d) A, B are compound leaves while C, D are simple leaves. *(AIMS)*

126. Match the following.

	Column I		Column II
A.	Phyllode	(i)	Australian Acacia
B.	Phylloclade	(ii)	*Curcuma*
C.	Adventitious food storage root	(iii)	Sweet potato
D.	Rhizome	(iv)	*Opuntia*

(a) A-(i), B-(iv), C-(iii), D-(ii) (b) A-(ii), B-(i), C-(iv), D-(iii)

(c) A-(iii), B-(ii), C-(i), D-(iv) (d) A-(iv), B-(iii), C-(ii), D-(i)

127. Assertion: In opposite phyllotaxy two leaves are borne on the opposite sides of a single node.

Reason : Opposite phyllotaxy is seen in China rose and oleander.

(a) Both assertion and reason are true and the correct explanation of assertion.

(b) Both assertion and reason are true but reason not the correct explanation of assertion.

(c) Assertion is true but reason is false.

(d) Both assertion and reason are false.

128. Which of these plants has pinnately compound leaf at a node?

(a) *Alstonia* (b) *Calotropis* (c) Guava (d) Mustard

(e) Neem

129. Leaf tendrils are found in

(a) peas (b) cucumber (c) grapevine (d) all of these.

130. Consider the following statements.

A. In leguminous plants, leaf base becomes swollen, called pulvinus.

B. The fleshy leaves of onion and garlic store food

C. The buds in Australian *Acacia* tree become green and synthesise food.

D. In *Alstonia*, leaves show alternate phyllotaxy.

Of the above statements

(a) B and D are correct (b) A and C are correct

(c) A and B are correct (d) A and D are correct

(e) B and C are correct.

131. Match the modification in column I with the part modified in column II and choose the right option.

	Column I		Column II
A.	Pneumatophores in *Rhizophora*	(i)	Axillary buds
B.	Tendrils in pea	(ii)	Roots
C.	Thorns in *Citrus*	(iii)	Leaves

(a) A-(ii), B-(i), C-(iii) (b) A-(iii), B-(i), C-(ii)

(c) A-(iii), B-(ii), C-(i) (d) A-(ii), B-(iii), C-(i)

(e) A-(i), B-(ii), c-(iii)

132. The pattern of arrangement of leaves on the stem is known as

(a) heterophylly (b) phyllode (c) phyllotaxy (d) phylloclade

133. How many plants among China rose, *Ocimum*, sunflower, mustard, *Alstonia*, guava, *Calotropis* and *Nerium* (oleander) have opposite phyllotaxy?

(a) Three (b) Four (c) Five (d) Two

134. Phyllode is present in

(a) *Asparagus* (b) *Euphorbia* (c) *Australian Acacia* (d) *Opuntia*.

135. Foliaceous stipules are found in

(a) rose (b) wild pea (c) castor (d) kadam.

136. The figures given below show the types of coelom. Identify them and select the correct group of organisms which possess them.

	A	B	C
(a)	Annelids	Aschelminthes	Platyhelminthes
(b)	Molluses	Arthropods	Platyhelminthes
(c)	Echinoderms	Aschelminthes	Annelids
(d)	Echinoderms	Arthropods	Platyhelminthes

137. Match the following and select the correct option from the codes given below.

	Column I		Column II
A.	Physalia	(i)	Sea anemone
B.	Meandrina	(ii)	Brain coral
C.	Gorgonia	(iii)	Sea fan
D.	Adamsia	(iv)	Portuguese man-of-war

(a) A-(iii), B-(ii), C-(i), D-(iv) (b) A-(iv), B-(iii), C-(ii), D-(i)

(c) A-(iv), B-(ii), C-(iii), D-(i) (d) A-(ii), B-(iii), C-(i), D-(iv)

138. Given below are three statements regarding Aschelminthes.

(i) They are bilaterally symmetrical and triploblastic

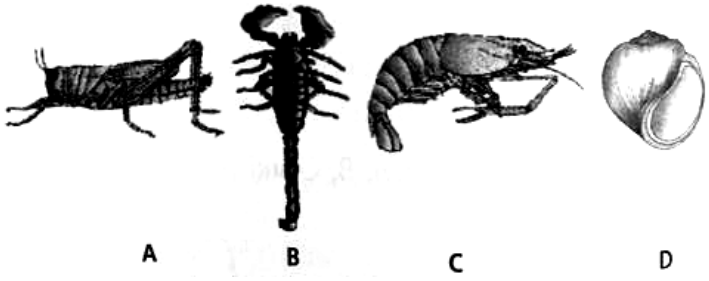
(ii) They are dioecious

(iii) All are plant or animal parasites.

Select the option that has both the correct statements.

(a) (i) and (ii) (b) (i) and (iii) (c) (ii) and (iii) (d) None of these

139. Identify the figures A, B, C and D given below and select the correct option.



(a) A-Locust, B-Scorpion, C-Prawn, D-Pila (b) A-Locust, B-Prawn, C-Scorpion, D-Pila

(c) A-Locust, B-Scorpion, C-Prawn, D-Snail (d) A-Butterfly, B-Scorpion, C-Prawn, D-Pila

140. In which one of the following, the genus name, its two characters and its phylum are not correctly matched?

	Genus name	Characters	Phylum
(a)	Pila	(i) Body segmented (ii) Mouth with radula	Mollusca
(b)	Asterias	(i) Spiny skinned (ii) Water vascular system	Echinodermata
(c)	Sycon	(i) Pore bearing (ii) Canal system	Porifera
(d)	Periplaneta	(i) Joined appendages (ii) Chitinous exoskeleton	Arthropoda

141. Read the given statements and select the correct option.

Statement 1: Urochordates and cephalochordates are often called invertebrate chordates.

Statement 2: They are a connecting link between the invertebrates and the chordates.

(a) Both statements 1 and 2 are correct

(b) Statement I is correct but statement 2 is incorrect

(c) Statement 1 is incorrect but statement 2 is correct

(d) Both statements 1 and 2 are incorrect

142. In some chordates, the notochord is modified as the vertebral column. Such animals are called vertebrates. Which one of the following statements makes sense?

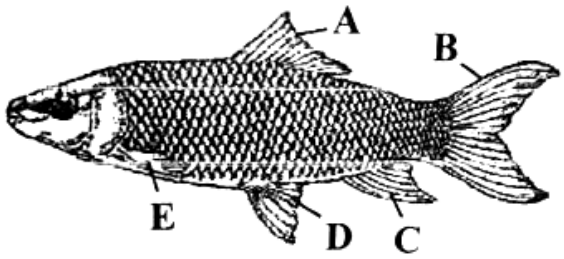
(a) All chordates are vertebrates but all vertebrates are not chordates

(b) All vertebrates are chordates and all chordates are vertebrates

(c) All vertebrates are chordates but all chordates are not vertebrates

(d) Chordates are not vertebrates and vertebrates are not chordates

143. The figure of Labeo rohita is given below. Identify the parts labelled as A, B, C, D and E.



	A	B	C	D	E
(a)	Anal fin	Dorsal fin	Caudal fin	Pectoral fin	Pelvic fin
(b)	Anal fin	Caudal fin	Dorsal fin	Pectoral fin	Pelvic fin
(c)	Dorsal fin	Caudal fin	Anal fin	Pelvic fin	Pectoral fin
(d)	Dorsal fin	Caudal fin	Pectoral fin	Anal fin	Pelvic fin

144. Which of the following classes is incorrectly matched with its general characters?

(a) Cyclostomata: Lack jaws and paired fins and body is covered with placoid scales

(b) Osteichthyes: Four pairs of gills are covered with an operculum and skin is covered with cycloid scales

(c) Reptilia: Tympanum represents ear and fertilization is internal

(d) Aves: Endoskeleton is fully ossified and long bones are hollow with air cavities called as pneumatic bones

145. Which one of the following categories of animals, is correctly described with no single exception in it?

(a) All reptiles possess scales, have a three chambered heart and are cold blooded (poikilothermal)

(b) All bony fishes have four pairs of gills and an operculum on each side

(c) All sponges are marine and have collared cells

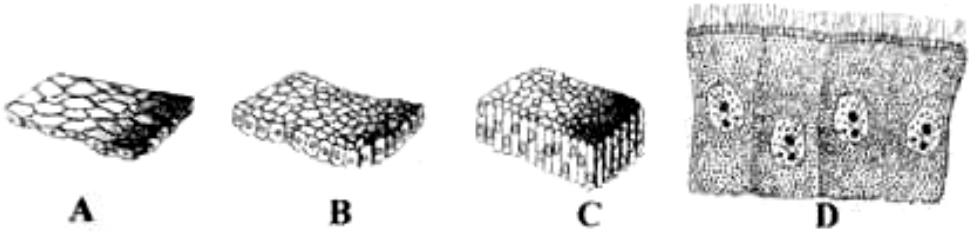
(d) All mammals are viviparous and possess diaphragm for breathing

146. Match column I with column II and select the correct option from the given codes.

	Column I		Column II
A.	Protochordata	(i)	Delphinus
B.	Limbless amphibian	(ii)	Myxine
C.	Oviparous mammal	(iii)	Omithorhynchus
D.	Aquatic mammal	(iv)	Doliolum
E.	Jawless vertebrate	(v)	Ichthyophis

(a) A-(iv), B-(iv), C-(iii), D-(i), E-(ii)
(b) A-(iv), B-(v), C-(iii), D-(i), E-(ii)
(c) A-(iv), B-(v), C-(iii), D-(ii), E-(i)
(d) A-(v), B-(iii), C-(i), D-(ii), E-(iv)

147. Identify the following simple epithelial tissues and select the correct option.



	A	B	C	D
(a)	Cuboidal	Squamous	Columnar	Ciliated columnar
(b)	Squamous	Cuboidal	Columnar	Ciliated columnar
(c)	Squamous	Columnar	Cuboidal	Ciliated cuboidal
(d)	Squamous	Columnar	Cuboidal	Pseudostratified columnar (ciliated)

148. Which of the following statements about cell junctions are correct?

(i) All the cells of the epithelium are held together with little intercellular materials
(ii) In almost all animal tissues specialized junctions provide both structural and functional link between their individual cells
(iii) Tight junctions prevent substances from leaking across a tissue
(iv) Adhering junctions provide cementing to keep neighbouring cells together
(v) Gap junctions provide cytoplasmic channels between cells for passage of ions, small molecules and sometimes big molecules

(a) (ii) and (iii)
(b) (i), (ii) and (iii)
(c) (iv) and (v)
(d) (i), (ii), (iii), (iv) and (v)

149. Which of the following statements is/are not correct regarding connective tissues?

(i) They are most abundant and widely distributed in the body of complex animals

(ii) They connect and support other tissues

(iii) They include diverse tissues such as bones, cartilage, tendons, adipose and other loose connective tissues

(iv) They form the internal and external lining of many organs

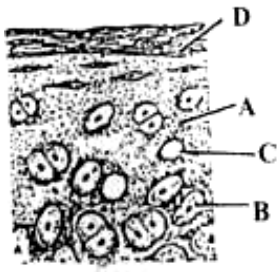
(v) In all connective tissue except blood, the cells secrete fibres of structural proteins like collagen and elastin

(a) (iv) only (b) (v) only (c) (i) and (ii) (d) (iii) and (v)

150. Cartilage is formed by

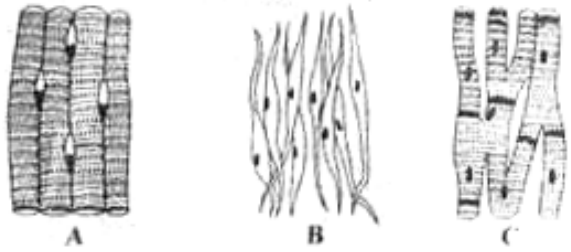
(a) chondrocytes (b) osteoblasts (c) osteoclasts (d) fibroblasts

151. In the given diagram of a section of hyaline cartilage, the different parts have been indicated by alphabets. Choose the answer in which these alphabets correctly match with the parts they indicate.



	A	B	C	D
(a)	Perichondrium	Chondrocyte	Lacuna	Capsular matrix
(b)	Blood vessel	Chondrocyte	Lacuna	Perichondrium
(c)	Matrix	Chondrocyte	Lacuna	Perichondrium
(d)	Matrix	Lucuna	Chondrocyte	Capsular matrix

152. Identify the figures A, B, C showing different types of muscle and select the correct option.



	A	B	C
(a)	Smooth muscle	Striated muscle	Cardiac muscle
(b)	Cardiac muscle	Smooth muscle	Striated muscle
(c)	Striated muscle	Smooth muscle	Cardiac muscle
(d)	Involuntary muscle	Voluntary muscle	Heart muscle

153. Consider the following four statements (i) – (iv) and select the correct option stating which ones are true (T) and which ones are false (F).

(i) The epithelium of proximal convoluted tubule (PCT) of nephron in the kidney has microvili

(ii) Simple epithelium covers the dry surface of the skin, the moist surface of buccal cavity, pharynx, inner lining of ducts of salivary glands and of pancreatic ducts

(iii) The wall of internal organs such as the blood vessels, stomach and intestine contains skeletal muscle

(iv) Bone marrow in some bones is the site of production of blood cells

	(i)	(ii)	(iii)	(iv)
(a)	T	F	F	T
(b)	F	F	T	T
(c)	T	T	F	F
(d)	T	F	T	F

154. Match column I with column II and select the correct option from the codes given below.

	Column I		Column II
A.	Simple columnar	(i)	Wall of heart epithelium
B.	Cardiac muscle	(ii)	Bone joints
C.	Adipose tissue	(iii)	Inner lining of stomach and intestine
D.	Hyaline cartilage	(iv)	Below the skin, int eh abdomen, buttocks, thighs and breasts
		(v)	Diaphragm

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

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

155. Nervous tissue is made up of neurons and neuroglial cells. Which of the following statements about these two cells is/are false?

(i) Neuroglia make up more than one-half the volume of neural tissue in our body

(ii) Neuroglia protect and support neurons

(iii) When a neuron is suitably stimulated, an electrical disturbance is generated which swiftly travels along its cytosol

(iv) Arrival of the disturbance at the neuron's endings triggers stimulation or inhibition of adjacent neurons or other cells.

(a) (i) and (iv) (b) (ii) and (iii) (c) (iii) only (d) (iv) only

156. Which of the following figures shows the mandibles of cockroach?

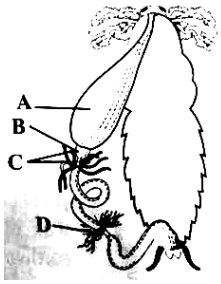
(a) 

(b) 

(c) 

(d) 

157. The given figure shows alimentary canal of cockroach. Identify the parts labelled as A to D and select the correct option.



	A	B	C	D
(a)	Gizzard	Crop	Hepatic caecae	Malpighian tubules
(b)	Crop	Gizzard	Hepatic caecae	Malpighian tubules
(c)	Crop	Gizzard	Malpighian tubules	Hepatic caecae
(d)	Gizzard	Crop	Malpighian tubules	Hepatic caecae

158. Choose the incorrect pair from the matches given below.

(a) Antennae-Sensory receptors

(b) Metathoracic wings-Flying

(c) Malpighian tubule-Excretion

(d) Crop-Food grinding

159. Select the correct statement from the ones given below with respect to *Periplaneta Americana*.

(a) Nervous system located dorsally, consists of segmentally arranged ganglia joined by a pair of longitudinal connectivies

(b) Males bear a pair of short thread like anal styles

(c) There are 16 very long Malpighian tubules present at the junctions of midgut and hindgut

(d) Grinding of food is carried out only by the mouth parts

160. Read the following statements about cockroach.

(i) In male cockroach, a characteristic mushroom shaped gland is present in the 6^{th}-7^{th} abdominal segments which functions as an accessory reproductive gland

(ii) Cockroach is uricotelic

(iii) The fat body and uricose glands are glandular in function

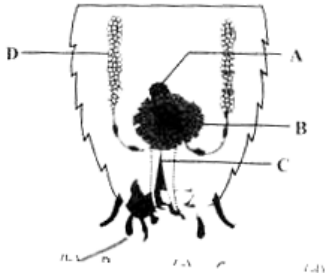
(iv) Blood from sinuses enter heart through ostia and is pumped anteriorly to sinuses again.

Which of the above statements are correct?

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

161. Study the given figure of reproductive system of male cockroach.

In which of the labelled parts are the sperms stored?



(a) A (b) B (c) C (d) D

162. The development of *Periplaneta Americana* is

(a) holometabolous (b) paurometabolous (c) ametabolous (d) hemimetabolous

163. Consider the following four statements (i) – (iv) and select the correct option stating which ones are true (T) and which ones are false (F).

(i) In male cockroach, genital pouch or chamber lies at the hind end of abdomen bounded dorsally by 9th and 10th terga and ventrally by the 9th sternum.

(ii) In cockroach, the haemolymph is composed of colourless plasma and haemocytes.

(iii) In female cockroach each ovary is formed of a group of ten ovarian tubules or ovarioles, containing a chain of developing ova.

(iv) In cockroach the nymph grows by moulting about 13 times to reach the adult form.

	(i)	(ii)	(iii)	(iv)
(a)	F	T	F	T
(b)	F	F	T	T
(c)	T	T	F	T
(d)	T	F	T	F

164. Which of the following is an agranulocyte?

(a) Basophil (b) Neutrophil (c) Lymphocyte (d) Eosinophil

165. Find the correct descending order of percentage proportion of leucocytes in human blood.

(a) Neutrophils → Basophils → Lymphocytes → Acidophils (Eosinophils) → Monocytes

(b) Monocytes → Neutrophils → Lymphocytes → Acidophils → Basophils

(c) Neutrophils → Lymphocytes → Monocytes → Acidophils → Basophils

(d) Lymphocytes → Acidophils → Basophils → Neutrophils → Monocytes

166. Which of the following match is correct?

	Structure	Percentage	Function
(a)		0.3 – 0.5	Phagocytic
(b)		0.5 – 1.0	Secrete histamine and serotonin
(c)		30 – 40	Defence against parasites
(d)		30 – 40	Allergic reactions

167. Match the types of WBC listed under column I with the shape of nucleus given under column II and select the correct option from codes given below.

	Column I		Column II
A.	Neutrophils	(i)	Kidney-shaped
B.	Eosinophils	(ii)	S-shaped
C.	Basophils	(iii)	3 to 5 lobes
D.	Monocytes	(iv)	2 labes
		(v)	Disc-shaped

(a) A-(iii), B-(v), C-(i), D-(ii)
(b) A-(v), B-(iii), C-(i), D-(iv)
(c) A-(ii), B-(i), C-(v), D-(iii)
(d) A-(iii), B-(iv), C-(ii), D-(i)

168. Which of the following statements is/are incorrect about lymph?

(i) Lymph is colourful as it has haemoglobin but no RBC.

(ii) It contains specialized lymphocytes which are responsible for immunity of the body.

(iii) Lymph is an important carrier for nutrients and hormones.

(iv) Fats are absorbed through lymph in the lacteals present in the intestinal villi.

(a) (i) only (b) (iii) and (iv) (c) (ii) and (iii) (d) (iv) onl;y

169. Pacemaker is situated in the

(a) wall of right atrium (b) interauricular septum

(c) interventricular septum (d) wall of left atrium

170. Read the following statements and select the correct option.

Statement 1: The SA node acts as pacemaker.

Statement 2: The SA node is located in the wall of the right atrium near the interatrial septum.

(a) Both statements 1 and 2 are correct

(b) Statement 1 is correct but statement 2 is incorrect

(c) Statement 1 is incorrect but statement 2 is correct

(d) Both statements 1 and 2 are incorrect

171. Read the following statements and select the correct ones.

(i) Nodal tissue is specialized cardiac musculature in human heart which has the ability to generate action potential due to an external stimuli.

(ii) Position of SAN-right corner of right atrium.

(iii) Position of AVN-right corner of ventricle.

(iv) AV bundle continues from AVN.

(v) Purkinje fibres are modified cardiac muscle fibres that originate from the atrioventricular node and spread into the two ventricles

(a) (i) and (ii) (b) (i) and (iii) (c) (ii), (iv) and (v) (d) All of these

172. During ventricular systole

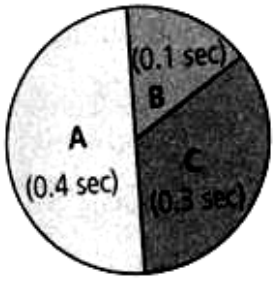
(a) oxygenated blood is pumped into the pulmonary artery and deoxygenated blood is pumped into the artery

(b) oxygenated blood is pumped into the aorta and deoxygenated blood is pumped into the pulmonary vein

(c) oxygenated blood is pumped into the pulmonary vein and deoxygenated blood is pumped into the pulmonary artery

(d) oxygenated blood is pumped into the aorta and deoxygenated blood is pumped into the pulmonary artery

173. In the given figure the durations of the events of the cardiac cycle are given. Identify these events and select the correct option.



	A	B	C
(a)	Auricular systole	Joint diastole	Ventricular systole
(b)	Ventricular systole	Joint diastole	Auricular systole
(c)	Ventricular systole	Auricular systole	Joint diastole
(d)	Joint diastole	Auricular systole	Ventricular systole

174. Which of the following statement(s) regarding the cardiac system is/are correct?

(i) Human heart is an ectodermal derivative.

(ii) Mitral valve guards the opening between the right atrium and left ventricle.

(iii) SAN is located on the left upper corner of the right atrium.

(iv) Stroke volume × Heart rate = Cardiac output

(a) (i) only (b) (i) and (ii) (c) (ii) and (iii) (d) (iv) only

175. Which one of the following is a matching pair?

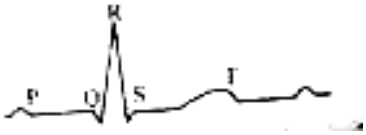
(a) Lub-sharp closure of AV valves at the beginning of ventricular systole

(b) Dup-sudden opening of semilunar valves at the beginning of ventricular diastole

(c) Pulsation of the radial artery-valves in the blood vessels

(d) Initiation of the heart beat-Purkinje fibres

176. Examine the diagrammatic representation of standard ECG. Select an option with correct matching.



	P-Wave	QRS complex	T-wave
(a)	Repolarisation of the atria	Repolarisation of the ventricles	Depolarisation of the atria
(b)	Depolarisation of the atria	Depolarisation of the ventricles	Repolarisation of the ventricles
(c)	Repolarisation of the ventricles	Repolarisation of the atria	Depolarisation of the ventricles
(d)	Depolarisation of the ventricles	Depolarisation of the atria	Repolarisation of the atria

177. Choose the schematic diagram which properly represents pulmonary circulation in humans.

(a) Left auricle $\xrightarrow{\text{Deoxygenated blood}}$ Lungs $\xrightarrow{\text{Oxygenated blood}}$ Right ventricle

(b) Left auricle $\xrightarrow{\text{Oxygenated blood}}$ Lungs $\xrightarrow{\text{Deoxygenated blood}}$ Right ventricle

(c) Right ventricle $\xrightarrow{\text{Deoxygenated blood}}$ Lungs $\xrightarrow{\text{Oxygenated blood}}$ Left auricle

(d) Right ventricle $\xrightarrow{\text{Oxygenated blood}}$ Lungs $\xrightarrow{\text{Deoxygenated blood}}$ Left auricle

178. Consider the following four statements (i) – (iv) and select the correct option.

(i) SA node is natural pacemaker of heart.

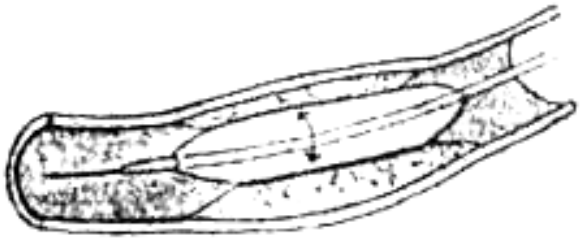
(ii) Human heart has inter-auricular foramen.

(iii) Right atrioventricular valve is a semilunar valve.

(iv) Normal systolic and diastolic pressure of humans is 120 and 60 mm Hg respectively

	(i)	(ii)	(iii)	(iv)
(a)	F	F	T	F
(b)	F	F	T	T
(c)	T	T	F	T
(d)	T	F	F	F

179. The given figure shows an angiogram of the coronary blood vessel. Which one of the followign statements correctly describes, what is being done?



(a) It is a coronary artery which has a cancerous growth that is being removed

(b) It is a coronary artery which is blocked by a plaque and the same is being cracked

(c) It is a coronary vein in which the defective valves are being opened

(d) It is a coronary vein blocked by a parasite (blood fluke) that is being removed

180. Match column I with column II and select the correct option from the codes given below.

	Column I		Column II
A.	Heart failure	(i)	Heart muscle is suddenly damaged by an inadequate blood supply
B.	Cardiac arrest	(ii)	Chest pain due to inadequate O_2 reaching the heart muscles
C.	Heart attack	(iii)	Atherosclerosis
D.	Coronary artery disease (CAD)	(iv)	Heart not pumping blood effectively enough to meet the needs of the body
E.	Angina pectoris	(v)	Heart stops beating

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

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

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

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

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Max. Marks: 720 **Date: 21.10.2022**

NEET 24 BATCH
PHYSICS : PART TEST SET-B ANSWER KEY
Topic: FLT

1.	(c)	2.	(d)	3.	(c)	4.	(a)	5.	(b)
6.	(d)	7.	(a)	8.	(a)	9.	(c)	10.	(c)
11.	(b)	12.	(c)	13.	(c)	14.	(d)	15.	(a)
16.	(c)	17.	(c)	18.	(d)	19.	(c)	20.	(a)
21.	(a)	22.	(b)	23.	(c)	24.	(d)	25.	(a)
26.	(b)	27.	(b)	28.	(d)	29.	(b)	30.	(a)
31.	(d)	32.	(d)	33.	(b)	34.	(a)	35.	(b)
36.	(a)	37.	(b)	38.	(a)	39.	(b)	40.	(c)
41.	(a)	42.	(b)	43.	(b)	44.	(a)	45.	(a)

CHEMISTRY : PART TEST SET-B ANSWER KEY
Topic: FLT

46.	(c)	47.	(b)	48.	(c)	49.	(c)	50.	(c)
51.	(a)	52.	(c)	53.	(d)	54.	(d)	55.	(d)
56.	(d)	57.	(a)	58.	(d)	59.	(d)	60.	(a)
61.	(c)	62.	(c)	63.	(a)	64.	(c)	65.	(a)
66.	(d)	67.	(b)	68.	(d)	69.	(d)	70.	(d)
71.	(b)	72.	(c)	73.	(b)	74.	(a)	75.	(c)
76.	(d)	77.	(a)	78.	(d)	79.	(a)	80.	(c)
81.	(b)	82.	(c)	83.	(b)	84.	(d)	85.	(d)
86.	(b)	87.	(b)	88.	(d)	89.	(c)	90.	(d)

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Date: 21.10.2022

NEET 24

BIOLOGY : FLT

Topics: Plant Kingdom, Morphology, Root Stem, Leaf and Animal Kingdom

Answer Key

91.	(b)	92.	(d)	93.	(d)	94.	(d)	95.	(c)
96.	(b)	97.	(b)	98.	(b)	99.	(b)	100.	(d)
101.	(d)	102.	(c)	103.	(b)	104.	(c)	105.	(c)
106.	(a)	107.	(c)	108.	(a)	109.	(d)	110.	(a)
111.	(a)	112.	(a)	113.	(b)	114.	(a)	115.	(d)
116.	(b)	117.	(d)	118.	(a)	119.	(d)	120.	(c)
121.	(b)	122.	(b)	123.	(c)	124.	(d)	125.	(b)
126.	(a)	127.	(c)	128.	(e)	129.	(a)	130.	(c)
131.	(d)	132.	(c)	133.	(a)	134.	(c)	135.	(b)
136.	(a)	137.	(c)	138.	(a)	139.	(a)	140.	(a)
141.	(b)	142.	(c)	143.	(c)	144.	(a)	145.	(b)
146.	(b)	147.	(b)	148.	(d)	149.	(a)	150.	(a)
151.	(c)	152.	(c)	153.	(a)	154.	(d)	155.	(c)
156.	(c)	157.	(b)	158.	(d)	159.	(b)	160.	(a)
161.	(b)	162.	(b)	163.	(c)	164.	(c)	165.	(c)
166.	(b)	167.	(d)	168.	(a)	169.	(a)	170.	(b)
171.	(c)	172.	(d)	173.	(d)	174.	(d)	175.	(a)
176.	(b)	177.	(c)	178.	(d)	179.	(b)	180.	(a)