NEW STANDARD ACADEMY

UNIT TEST - 03

Do not open this Test Booklet until you are asked to do so. 28-03-2023

PRE-MEDICAL : 11th Undergoing Students

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

Important Instructions :

1. On the answer sheet, fill in the particulars on Side-1 and Side -2 carefully with blue/black ball point pen only.
2. The test The test is of 3 hours 20 minutes duration and this Test Booklet contains 200 questions. Each question carries 4 marks. For each correct response, the candidate will get 4 marks. For each incorrect response, one mark will be deducted from the total scores. The maximum marks are 720.
3. In this Test Paper, each subject will consist of two sections. Section A will consist of 35 questions (all questions are mandatory) and Section B will have15 questions. Candidate can choose to attempt any 10 question out of these 15 questions. In case if candidate attempts more than 10 questions, first 10 attempted questions will be considered for marking
4. In case of more than one option correct in any question, the best correct option will be considered as answer.
5. Use Blue/Black Ball Point Pen only for writing particulars on this page/marking responses.
6. Rough work is to be done on the space provided for this purpose in the Test Booklet only.
7. On completion of the test, the candidate must hand over the Answer Sheet to the Invigilator before leaving the Room/Hall. The candidates are allowed to take away this Test Booklet with them.
8. The candidates should ensure that the Answer Sheet is not folded. Do not make any stray marks on the Answer Sheet. Do not write your Form No. anywhere else except in the specified space in the Test Booklet/Answer Sheet.
9. Use of white fluid for correction is not permissible on the Answer Sheet.

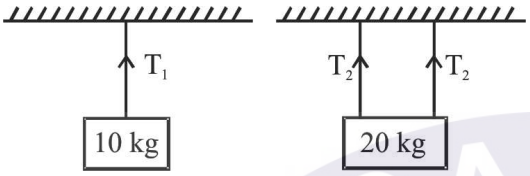
Name of the Candidate(In Capitals) _____

Date of Examintation _____

Candidate`s Signature:_____ Invigilator`s Signature: _____

SECTION - A (PHYSICS)

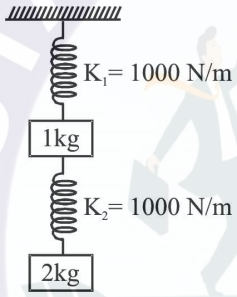
1. The ratio of T_1 and T_2 is :-



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

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

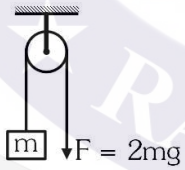
2. If system is in equilibrium. Find extension in lower spring :-



(1) 0.02 m (2) 0.03 m

(3) 0.05 m (4) None

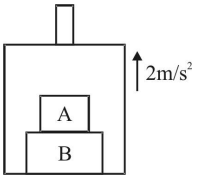
3. In the arrangement shown, the mass m will ascend with an acceleration (Pulley and rope are massless)



(1) zero (2) $\frac{g}{2}$

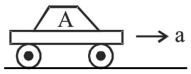
(3) g (4) 2g

4. The elevator is ascending with acceleration $2m/s^2$. The mass of block A = 0.5 kg. The force exerted by block A on B is :-



(1) 2 N (2) 4 N (3) 6 N (4) 8 N

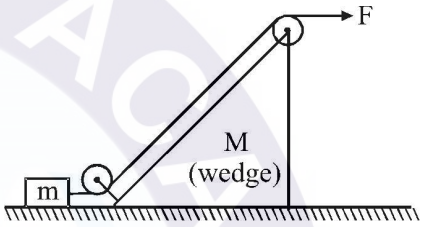
5. Find out direction of contact force on the block A, if it is at rest w.r.t. trolley :



(1) ↑ (2) ↗

(3) ↖ (4) ←

6. In the figure shown, the acceleration of wedge is (Neglect friction)



(1) $\frac{F}{M}$ (2) $\frac{F}{m+M}$

(3) zero (4) $\frac{F}{m}$

7. A body of mass 5 kg is acted upon by two perpendicular forces 8 N and 6 N in horizontal plane. The magnitude and direction of the acceleration of the body is :-

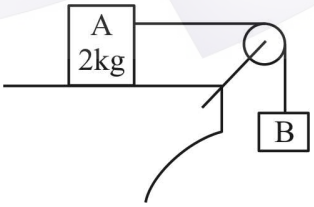
(1) 2 m/s^2, at 37° from 8N

(2) 2 m/s^2, at 37° from 6N

(3) 4 m/s^2, at 53° from 8N

(4) 4 m/s^2, at 53° from 6N

8. The coefficient of static friction μ_s between block A of mass 2kg and the table as shown in the fig. is 0.2. What should be the maximum mass value of block B so that the two blocks do not move. Assuming string and pulley assumed to be massless and frictionless ($g=10m/s^2$) :



(1) 2.0 kg (2) 4.0 kg

(3) 0.2 kg (4) 0.4 kg

9. There are two bodies A & B of same mass. Body A is at rest while body B is under going uniform motion then which is correct statements?

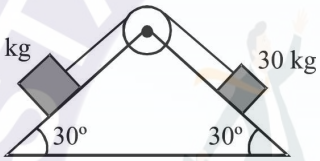
(1) Inertia of A > Inertia of B.

(2) Inertia of B > Inertia of A.

(3) Inertia of A = Inertia of B.

(4) Either option 1st, 2nd or 3rd depending upon the shape of body.

10. Two blocks of masses of 40 kg and 30 kg are connected by a weightless string passing over a frictionless pulley as shown in the figure.



The acceleration of the system would be :-

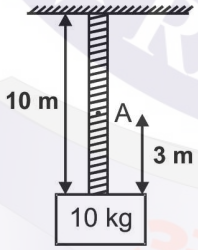
(1) 0.7 ms^{-2}

(2) 0.8 ms^{-2}

(3) 0.6 ms^{-2}

(4) 0.5 ms^{-2}

11. The adjoining figure shows a block of mass 10 kg connected to free end of a rope of mass 10 kg and length 10 m. The tension of the rope at point A is ($g = 10\ m/s^2$)



(1) 170 N (2) 30 N

(3) 130 N (4) 70 N

12. A body of mass 2 kg is hung on a spring balance mounted vertically in lift. If lift moves up with an acceleration equal to acceleration due to gravity the reading on the spring balance will be -

(1) 2 kg (2) 2g kg (3) 4g kg (4) 4 kg

13. A block of mass m is placed on a smooth plane, inclined at an angle θ with horizontal. The force exerted by the plane on the block has a magnitude -

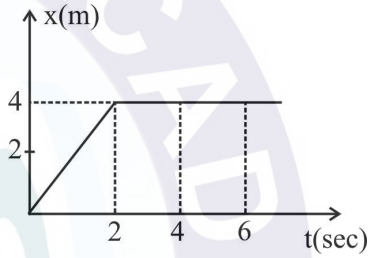
(1) mg

(2) mg secθ

(3) mg cosθ

(4) mgsinθ

14. The position time graph of a particle of mass 0.1 kg is shown. The impulse at t = 2 sec is -



(1) 0.2 kg m sec^{-1}

(2) 0.1 kg m sec^{-1}

(3) −0.2 kg m sec^{-1}

(4) −0.4 kg m sec^{-1}

15. A cricket player lowers his hands while catching a ball, because -

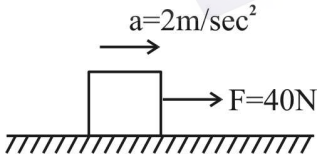
(1) ball is heavy

(2) ball is coming with high speeds

(3) It increase the time of contact and reduce the force of contact on his hands.

(4) None of above

16. A block of mass 10 kg moving with acceleration 2 m/sec^2 on horizontal rough surface is shown in figure -



The value of coefficient of kinetic friction is -

(1) 0.2 (2) 0.4 (3) 0.5 (4) 0.1

17. The car accelerate on a horizontal road due to the force exerted by -

(1) The engine of the car

(2) The accelerator of the car

(3) The driver of the car

(4) The road

18. The linear momentum of a particle is given by $p = a + bt^2$, where t is time and a and b are constants. The force acting on the body varies directly as -

(1) t^0 (2) t (3) t^2 (4) t^3

19. A cracker rocket is ejecting of 0.05 kg gases per second at a velocity of 400 m/sec. The accelerating force on the rocket is -

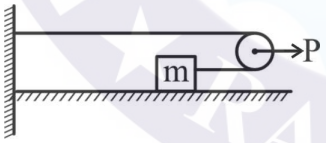
(1) 20 dyne

(2) 20 N

(3) 200 N

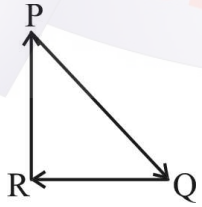
(4) None of these

20. In given figure a massless pulley is pulled by constant force of magnitude P. There is no friction between the block and the floor. The acceleration induced in the block of mass m is :



(1) $\frac{P}{m}$ (2) $\frac{P}{2m}$ (3) $\frac{P}{3m}$ (4) $\frac{P}{4m}$

21. A particle is moving with velocity $\vec{v}$ is acted by three forces shown by vector triangle PQR. The velocity of the particle will :



(1) Increase (2) Decrease

(3) Remains same (4) None

22. A Block of mass 2 kg rest on a rough inclined plane making an angle of 30° with the horizontal. The coefficient of static friction between block and plane is 0.7. The frictional force on the block is :

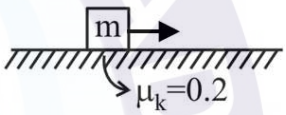
(1) 9.8 N

(2) $0.7 \times 9.8 \times \sqrt{3}$ N

(3) $9.8 \times \sqrt{3}$ N

(4) 0.7×9.8 N

23. Find the time required by a block to come to rest from a speed of 10 m/sec moving on a horizontal surface, where $\mu_k = 0.2$ and what is distance covered before stopping ?



(1) 5 sec, 25 m

(2) 10 sec, 100 m

(3) 5 sec, 30 m

(4) 20 sec, 50 m

24. A Book is lying on the table. What is angle between the action of the book on the table and the reaction of the table on the book ?

(1) 0^o (2) 45^o (3) 90^o (4) 180^o

25. Newton's second law of motion gives the measure of

(1) Acceleration

(2) Momentum

(3) Force

(4) Angular momentum

26. A monkey of mass 30 kg climbs a rope which can withstand a maximum tension of 360 N. The maximum acceleration which this rope can tolerate for the climbing of monkey is :

(1) 2 m/sec^2 (2) 3 m/sec^2

(3) 4 m/sec^2 (4) 5 m/sec^2

27. A body is moving with uniform velocity of 2 m/sec on a rough level surface. The frictional force on it is 10N. If the body moves with velocity 4m/sec. The force of friction will be :

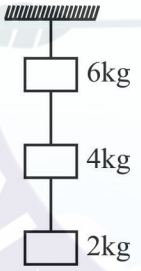
(1) 2.5 N (2) 5 N (3) 10 N (4) 20 N

28. The pendulum hanging from the ceiling of a railway carriage make an angle 30° with the vertical, when it is accelerating. The acceleration of the carriage is :-

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

(3) $g\sqrt{3}$ (4) $\frac{g}{\sqrt{3}}$

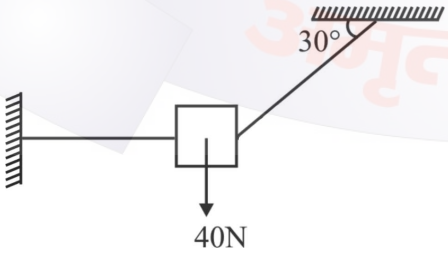
29. Three masses of 6 kg, 4 kg and 2 kg are attached to a rigid support as shown in figure. If the string attached to the support breaks and the system falls freely, then the tension in the string connecting 4 kg and 2 kg mass is :-



(1) Zero (2) 8 kg-wt

(3) 12 kg-wt (4) 6 kg-wt

30. A 40 N block is supported by two ropes. One rope is horizontal and the other makes an angle of 30° with the ceiling. The tension in the rope attached to the ceiling is approximately :-



(1) 80 N (2) 40 N

(3) $40\sqrt{3}$ N (4) $\frac{40}{\sqrt{3}}$ N

31. When a bus starts suddenly, the passengers are pushed back. This is an example of which of the following ?

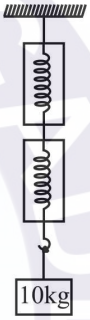
(1) Newton's first law

(2) Newton's second law

(3) Newton's third law

(4) None

32. A block of mass 10 kg is suspended through two light spring balance as shown in figure :



(1) Both the scales reads 10 kg

(2) Both the scales reads 5 kg

(3) The upper scale will read 10 kg and the lower zero

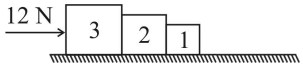
(4) The reading may be any thing but their sum will be 10 kg.

33. A constant retarding force of 50 N is applied to a body of mass 20 kg moving initially with a speed of 15 m/sec. How long does the body take to stop ?

(1) 3 sec (2) 4 sec

(3) 5 sec (4) 6 sec

34. Three block of masses 3kg, 2kg and 1 kg are placed side by side on a smooth surface as shown in figure. A horizontal force of 12 N is applied on 3kg block. Find the net force on 2 kg block :



(1) 2 N (2) 4 N (3) 6 N (4) 8 N

35. ***Assertion (A) :*** Friction opposes the motion of a body.

Reason (R) : Static friction is self adjusting while kinetic friction is constant.

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

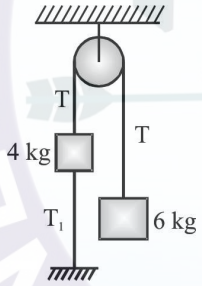
(2) **(A)** is correct but **(R)** is not correct

(3) **(A)** is incorrect but **(R)** is correct

(4) Both **(A)** and **(R)** are correct but **(R)** is the correct explanation of **(A)**

SECTION - B (PHYSICS)

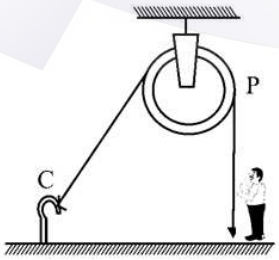
36. Two bodies of mass 4 kg and 6 kg are attached to the ends of a string passing over a pulley. 4 kg mass is attached to the table top by another string. The tension in this string T_1 is equal to :-



(1) 19.6 N (2) 25 N

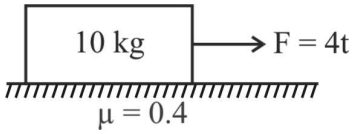
(3) 10.6 N (4) 10 N

37. One end of massless rope, which passes over a massless and frictionless pulley P is tied to a hook C while the other end is free. Maximum tension that the rope can bear is 840 N. With what value of maximum safe acceleration (in ms^{-2}) can a man of 60 kg climb on the rope?



(1) 16 (2) 6 (3) 4 (4) 8

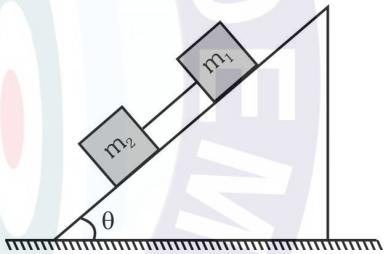
38. A block of mass 10 kg is kept over a rough surface and a force F = 4t is applied on it. Then the minimum value of t for which the block will start moving is ($g = 10\ m/s^2$)



(1) 4 sec. (2) 10 sec.

(3) 8 sec. (4) 5 sec.

39. Two blocks with masses m_1=1 kg and m_2 = 2 kg are connected by a string and slide down a plane inclined at an angle θ=45° with the horizontal. The coefficient of friction between m_1 and plane is μ_1=0.4 and that between m_2 and plane is μ_2= 0.4. Calculate the tension in the string.



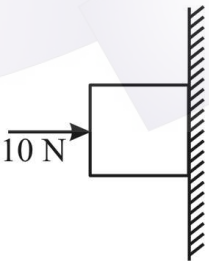
(1) 4 N

(2) 3 N

(3) 2 N

(4) Zero

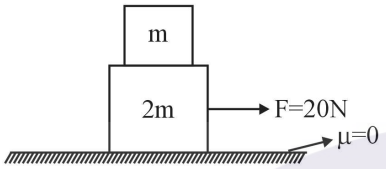
40. A horizontal force of 10 N is necessary to just hold a block stationary against a wall. The coefficient of friction between the block and the wall is 0.2. The weight of the block is :-



(1) 2 N (2) 20 N

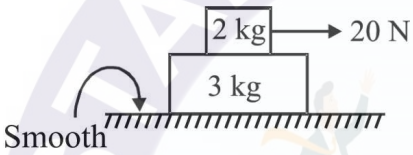
(3) 50 N (4) 100 N

41. In the arrangement, coefficient of friction between the blocks is $\mu = \frac{1}{2}$. The force of friction between the two blocks is : (m = 2kg)



(1) 10 N (2) $\frac{20}{3}$N (3) $\frac{10}{3}$N (4) $\frac{10}{7}$N

42. The friction coefficient between the blocks is 0.5. The acceleration of each block is :-



(1) $a_1 = a_2 = 1$ m/s^2

(2) $a_1 = a_2 = 4$ m/s^2

(3) $a_1 = 5$ m/s^2, $a_2 = 10/3$ m/s^2

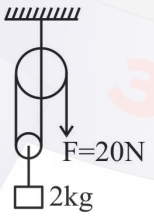
(4) $a_1 = 5$ m/s^2, $a_2 = 3$ m/s^2

43. A force of 50 N is required to push a car on a level road with constant speed 10 m/sec. The mass of the car is 500 kg. What force should be applied to make the car accelerate at 1 m/sec^2 -

(1) 450 N (2) 500 N

(3) 550 N (4) 2500 N

44. The acceleration of the 2 kg block, if the free end of string is pulled with a force of 20 N as shown is -



(1) Zero

(2) 10 m/sec^2

(3) 5 m/sec^2 upward

(4) 5 m/sec^2 downward

45. A light string passing over a smooth light pulley connects two blocks of masses m_1 and m_2 (vertically). If the acceleration of the system is $\frac{g}{8}$, then ratio of masses is -

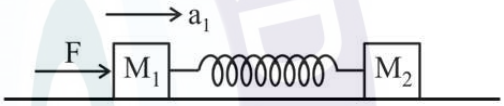
(1) 8 : 1

(2) 9 : 7

(3) 4 : 3

(4) 5 : 3

46. Two blocks of mass M_1 and M_2 are connected to each other through a light spring as shown in the figure. If we push the mass M_1 with a force F which cause acceleration a_1 in the mass M_1, what will be the acceleration of M_2 ?



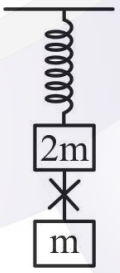
(1) $\frac{F}{M_2}$

(2) $\frac{F}{M_1 + M_2}$

(3) a_1

(4) $\frac{F - M_1 a_1}{M_2}$

47. System shown in figure is in equilibrium and at rest. The spring and string are massless, now the string is cut, acceleration of mass 2m and m just after the string is cut will be



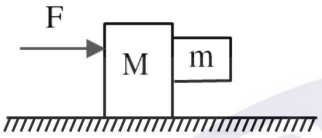
(1) $\frac{g}{2}$ upward direction, g downward

(2) g upward, $\frac{g}{2}$ downward

(3) g upward, 2g downward

(4) 2g upward, g downward

48. In the given figure, the coefficient of friction between block of mass M and block of mass m is μ. Find the minimum horizontal force F required to keep the smaller block stationary wrt bigger block.



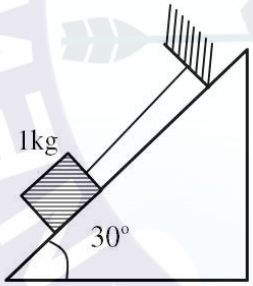
(1) $(M+m)\frac{g}{\mu}$

(2) $2M\frac{g}{\mu}$

(3) $\frac{2mg}{\mu}$

(4) None

49. The coefficient of friction between two surfaces is $\mu = 0.8$. The tension in string shown in the figure is -



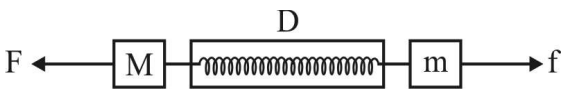
(1) 0 N

(2) 6 N

(3) 4 N

(4) 8 N

50. A dynamometer D is attached to two bodies of masses M = 6kg and m = 4kg. Force F = 20 N and f = 10 N are applied to the masses as shown. The dynamometer reads.



(1) 10 N (2) 20 N

(3) 6 N (4) 14 N

SECTION-A (CHEMISTRY)

51. A mixture of N_2 and Ar gases in a cylinder contains 14g of N_2 and 20g of Ar. If the total pressure of the mixture of gases in the cylinder is 40 bar, the partial pressure of N_2 is:

(1) 20 bar (2) 30 bar

(3) 10 bar (4) 25 bar

52. Vander waal constant 'a' accounts for :-

(1) Kinetic energy

(2) Volume of particle

(3) Inter molecular force of attraction

(4) Mass of particles

53. If V is volume of one molecule of gas under given conditions, the vander waal's constant b is-

(1) 4V (2) $\frac{4V}{N_A}$

(3) $4VN_A$ (4) $\frac{N_A}{4V}$

54. At very high pressure value of compressibility factor "Z" is :-

(1) $1+\frac{na}{VRT}$ (2) $1-\frac{na}{VRT}$

(3) $1-\frac{Pb}{RT}$ (4) $1+\frac{Pb}{RT}$

55. Which gas require highest liquification pressure : Given 'a' for : $NH_3 = 4.17$, $CO_2 = 3.4$, $SO_2 = 6.7$, $Cl_2 = 6.4$:

(1) NH_3 (2) Cl_2

(3) SO_2 (4) CO_2

56. The unit of Vander waal's constant 'a' is :-

(1) atm L^{-2} mol^{-2}

(2) atm L^2 mol^{-2}

(3) atm L^{-1} mol^{-1}

(4) atm L^{-1}/mol^{-1}

57. Consider the equation $Z = \frac{PV}{RT}$. Which of the following statements is correct ?

(1) When Z > 1, real gases are easier to compress than the ideal gas

(2) When Z = 1, real gases get compressed easily

(3) When Z > 1, real gases are difficult to compress

(4) When Z >> 1, real gases are very easy to compress

58. Which of the following option shows e^- rich compound ?

(1) XeF_4 (2) CO_2 (3) CCl_4 (4) BF_3

59. Variable covalency is exhibited by:-

(1) P and S (2) N and O

(3) N and P (4) F and Cl

60. No. of σ and π bonds in $N \equiv C - CH = CH_2$ are :

(1) 4σ and 2π bond (2) 3σ and 3π bond

(3) 3σ and 4π bond (4) 6σ and 3π bond

61. Which of the following is incorrect order of bond strength?

(1) 1s-1s > 2p-2p > 2s-2p

(2) 4p-4p > 4s-4p > 4s-4s

(3) 2s-2p > 2p-2p > 3p-3p > 3s-3p

(4) $3d_\pi$-$3d_\pi$ > $3p_\pi$-$3d_\pi$ > $3p_\pi$-$3p_\pi$

62. PCl_5 is found NCl_5 does not :-

(1) Nitrogen do not have vacant d-orbital

(2) NCl_5 is unstable

(3) Nitrogen is small in size than Phosphorus

(4) Nitrogen is inert element

63. In which of the following, change in hybridization is taking place ?

(a) $BF_3 + NH_3 \longrightarrow H_3N \longrightarrow BF_3$

(b) $NH_3 + H^+ \longrightarrow NH_4^+$

(c) $SbF_5 + F^- \longrightarrow [SbF_6]^-$

(d) $SiF_4 + 2F^- \longrightarrow [SiF_6]^{-2}$

Correct answer is :-

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

(3) a, c, d (4) Only a

64. Choose the correct options for the given order of hybrid orbitals of same atom :

$$sp < sp^2 < sp^3$$

(1) % s-character (2) Electronegativity

(3) Bond angle (4) Size

65. In which of the following pairs of molecules/ions, the central atoms have sp^2 hybridization :

(1) BF_3 and NH_2^-

(2) NO_2^- and NH_3

(3) BF_3 and NO_2^-

(4) NH_2^- and H_2O

66. If for a molecule AX_4 μ=0 then possible geometry of the molecule will be :-

(1) Tetrahedral

(2) Square planar

(3) Distorted Tetrahedral

(4) Both (1) & (2)

67. The shape of a molecule which has EB_5L_2 molecular formula :-

{E = Central atom, B = Terminal atom, L = Lone pair}

(1) Square pyramidal

(2) Pentagonal planar

(3) Octahedral

(4) Pentagonal bipyramidal

68. Incorrect about PCl_5 molecules is :-

(1) Three P–Cl bond lie in equatorial plane

(2) Two P–Cl bond lie in axial plane

(3) Axial bond pairs suffer more repulsive interaction from the equatorial bond pair

(4) Equatorial bonds are longer than the axial bonds

69. The F–F bond is weak because :

(1) The repulsion between the nonbonding pairs of electrons of two fluorine atoms is large

(2) The ionization energy of the fluorine atom is very low

(3) The length of the F-F bond much larger than the bond lengths in other halogen molecules

(4) The F-F bond distance is small and hence the internuclear repulsion between the two F atoms is very low

70. Which of the following is a polar molecule ?

(1) XeF_4

(2) BF_3

(3) SF_4

(4) SiF_4

71. The molecular BF_3 & NF_3 both are covalent. But BF_3 is non-polar & NF_3 is polar. The reason is that :-

(1) Boron is a metal and nitrogen is a gas

(2) BF_3 is planar & NF_3 is pyramidal

(3) Δ EN for N-F bond is zero but for B-F bond is non zero

(4) All of the above

72. Which one of the following arrangements of molecule is correct on the basis of their dipole moments :-

(1) $BF_3 > NH_3 > NF_3$

(2) $BF_3 > NF_3 > NH_3$

(3) $NH_3 > NF_3 > BF_3$

(4) $NH_3 > BF_3 > NF_3$

73. The hydrogen bond is strongest in:-

(1) O – H - - - S (2) S – H - - - O

(3) F – H - - - F (4) O – H - - - O

74. The correct order of viscosity of ethanol, ethylene glycol & glycerol is :-

(1) Ethanol > ethylene glycol > glycerol

(2) Ethanol > glycerol > ethylene glycol

(3) Ethylene glycol > ethanol > glycerol

(4) Glycerol > ethylene glycol > ethanol

75. What is the dominant intermolecular force or bond that must be overcome in converting liquid CH_3OH to a gas ?

(1) London or dispersion force

(2) Hydrogen bonding

(3) Dipole–dipole interaction

(4) Covalent bonds

76. The boiling point of p-nitrophenol is higher than that of o-nitrophenol because :

(1) NO_2 group at p-position behaves in a different way from that at o-position

(2) intramolecular hydrogen bonding exists in p-nitrophenol

(3) there is intermolecular hydrogen bonding in p-nitrophenol

(4) p-nitrophenol has a higher molecular weight than o nitrophenol

77. Which of the following is strongest attraction ?

(1) $Cl^- \text{—} H\text{–}H$

(2) $CHCl_3 \text{—} CHCl_3$

(3) $CCl_4 \text{—} H_2O$

(4) $Cl^- \text{—} H_2O$

78. Bond order of F_2^{-1} is :

(1) 1 (2) 2 (3) 3 (4) 0.5

79. A diatomic molecule is stable only when :

(1) Number of bonding and antibonding molecular orbitals are equal

(2) Number of electrons in bonding and antibonding molecular orbitals are equal

(3) Number of electrons in bonding molecular orbitals is greater than that of in antibonding orbitals

(4) The bond order is Zero

80. According to molecular orbital theory which of the following statement about the magnetic character and bond order is correct regarding O_2^+ :

(1) Paramagnetic and bond order < O_2

(2) Paramagnetic and bond order > O_2

(3) Diamagnetic and bond order < O_2

(4) Diamagnetic and bond order > O_2

81. The correct order of the O—O bond length in O_2, H_2O_2 and O_3 is :-

(1) $O_3 > H_2O_2 > O_2$ (2) $O_2 > H_2O_2 > O_3$

(3) $O_2 > O_3 > H_2O_2$ (4) $H_2O_2 > O_3 > O_2$

82. Which of the following compound will not show conductivity ?

(1) $NaCl_{(s)}$ (2) $KCl_{(aq)}$

(3) $LiF_{(molten)}$ (4) $KCl_{(molten)}$

83. Ionic crystal formation depends upon :-

(1) I.P. (2) E.A.

(3) Lattice energy (4) All

84. Covalent character decreases in the order :-

(1) KI > KBr > KCl > KF

(2) KCl > KI > KBr > KF

(3) KF > KCl > KBr > KI

(4) KF > KCl > KI > KBr

85. Which of the following carbonate will not gives CO_2 gas on heating :-

(1) Rb_2CO_3 (2) Li_2CO_3

(3) $CaCO_3$ (4) $MgCO_3$

SECTION-B (CHEMISTRY)

86. Two identical containers are filled with H_2 and Ne gas respectively under identical conditions. If $\frac{2}{3}$ rd of the H_2 escape in 6 hours. How long will it take for half of Ne gas to escape ? ($\sqrt{10} = 3.2$) (Atomic weight of Ne = 20 amu)

(1) 10.2 hrs (2) 6 hrs

(3) 14.4 hrs (4) 3 hrs

87. Which of the following gas shows only positive deviation from ideal behaviour :

(1) H_2 (2) CO_2

(3) He (4) H_2 & He both

88. At low pressures, van der Waal's equation is written as $\left(P + \frac{a}{V^2}\right) V = RT$. Then the compressibility factor is equal to :-

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

(3) $\left(1 + \frac{a}{RTV}\right)$ (4) $\left(1 + \frac{RTV}{a}\right)$

89. Nitrogen forms N_2 but phosphorus do not forms P_2, but it exists as P_4 the reason for this is :

(1) Triple bond is present between phosphorus atoms

(2) $p\pi - p\pi$ bonding is weak

(3) $p\pi - p\pi$ bonding is strong

(4) Multiple bond is formed easily

90. Which is not characteristic of π-bond:-

(1) π - bond is formed when a sigma bond already formed

(2) π - bond are formed from hybrid orbitals

(3) π - bond may be formed by the overlapping of p-orbitals

(4) π-bond results from lateral overlap of atomic orbitals

91. Match the column -

(A) $BeCl_2$ (P) sp^3

(B) BF_3 (Q) sp

(C) CH_4 (R) sp^3d

(D) PCl_5 (S) sp^2

(1) A ⟶ P, B ⟶ Q, C ⟶ R, D ⟶ S

(2) A ⟶ S, B ⟶ R, C ⟶ Q, D ⟶ P

(3) A ⟶ Q, B ⟶ S, C ⟶ R, D ⟶ P

(4) A ⟶ Q, B ⟶ S, C ⟶ P, D ⟶ R

92. Consider the molecules CH_4, NH_3 and H_2O. Which of the given statements is **False** ?

(1) The H –C–H bond angle in CH_4, the H–N–H bond angle in NH_3, and the H–O–H bond angle in H_2O are all greater than 90°

(2) The H–O–H bond angle in H_2O is larger than the H–C–H bond angle in CH_4.

(3) The H–O–H bond angle in H_2O is smaller than the H–N–H bond angle in NH_3.

(4) The H–C–H bond angle in CH_4 is larger than the H–N–H bond angle in NH_3.

93. In ClO_4^- the average formal charge on each oxygen atom and Cl–O bond order respectively are :

(1) –0.25, 1.75 (2) –0.5, 1.5

(3) –0.75, 1.25 (4) 1.75, –0.25

94. Given below are two statements : one is labelled as Assertion (A) and the other is labelled as Reason (R),

Assertion (A): FCl_3 does not exist.

Reason (R): Fluorine contains vacant 'd' orbitals.

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

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

(3) (A) is true but (R) is false

(4) (A) is false but (R) is true

95. Which of the following compound is most soluble in H_2O :

(1) CH_3NH_2 (2) $(CH_3)_2NH$

(3) $(CH_3)_3N$ (4) None

96. Given below are two statements : one is labelled as Assertion (A) and the other is labelled as Reason (R),

Assertion (A): Dipole moment of NF_3 is less than that of NH_3

Reason (R): Polarity of N—F bond is less than that of N—H bond.

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

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

(3) (A) is true but (R) is false

(4) (A) is false but (R) is true

97. In which of the following debye force is present :-

(1) HCl and HCl (2) H_2S and SO_2

(3) H_2S and SO_3 (4) CCl_4 and CH_4

98. Match List I (Molecules) with List II(Bond order) and select the correct answer using codes given below lists:

	List-I		List-II
I.	Li_2	A.	3
II.	N_2	B.	1.5
III.	Be_2	C.	1.0
IV.	O_2	D.	0
		E.	2

(1) I-B, II-C, III-A, IV-E

(2) I-C, II-A, III-D, IV-E

(3) I-D, II-A, III-E, IV-C

(4) I-C, II-B, III-E, IV-A

99. Which of the following pairs will form the most stable ionic bond :-

(1) Na and Cl

(2) Mg and F

(3) Li and F

(4) Al and F

100. Consider the following statements :-

(a) The more the polarisation the more is the ___character

(b) ___ of oxides is always greater than corresponding halide

(c) Condition of solubility is ___ > ___

(d) Small cation favour ____ characters.

Appropriate words in the blanks will respectively be : -

(1) Ionic, LE, HE, LE, covalent

(2) Covalent, LE, HE, LE covalent

(3) Covalent, LE, LE, HE covalent

(4) None

SECTION-A (BOTANY)

101. Primary roots and its branches constitute :-

(1) Tap root system

(2) Adventitious root system

(3) Fibrous root system

(4) False root system

102. Adventitious roots are found in all, except-

(1) Monstera

(2) Banyan

(3) Grasses

(4) Mustard

103. The roots help to get oxygen for respiration

(1) Epiphytic roots

(2) Pneumatophores

(3) Assimilatory roots

(4) Fibrous root

104. The stem of grass and strawberry is :-

(1) Stolon

(2) offset

(3) Sucker

(4) Runner

105. The most important vegetative part for photosynthesis in plant is :-

(1) Root

(2) Leaf

(3) Stem

(4) Flower

106. Pulvinus is found in

(1) Fruit of leguminous plants

(2) leaf of leguminous plants

(3) Stem of leguminous plants

(4) Root of leguminous plants

107. In cymose infloroscence, flowers are arranged in :-

(1) Acropetal manner

(2) Basipetal manner

(3) Centripetal manner

(4) Solitary form

108. Hypogynous flowers are found in :-

(1) Chinarose

(2) Sunflower

(3) Peach

(4) Rose

109. In cucumber and Guava, flowers are :

(1) Hypogynous

(2) Perigynous

(3) Epigynous

(4) Hypo-perigynous

110. The aestivation having margins of petals without overlapping is :-

(1) Imbricate

(2) Valvate

(3) Vexillary

(4) Twisted

111. A sterile stamen is called :-

(1) Staminodes

(2) Epiphyllous

(3) Pistillode

(4) Extrose

112. Select the correct statement :-

(1) Stipule is formed at the base of flower.

(2) Perigynous flower are found in peach and plum

(3) Epipetalous stamens are found in Lily

(4) Apocarpous gynoecium is found in chinarose and rose

113. In Australian Acacia, the petiole or any part of rachis becomes flattened taking the shape of a leaf and turning green in colour. The structure is known as :-

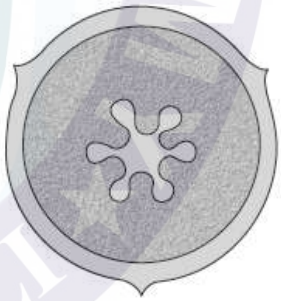
(1) Phylloclade

(2) Cladode

(3) Phyllode

(4) Bulbil

114. The type of placentation show in the given figure is seen in :-



(1) Argemone

(2) *Dianthus*

(3) Lemon

(4) Chinarose

115. Vexillum is the characteristic of flowers found in pair like :-

(1) *Cassia, Sesbania*

(2) Mulathi and *indigofera*

(3) Sweet pea and Gulmohar

(4) Soyabean and *Cassia*

116. **Statement-I :-** Rosette of leaves and tuft of roots are found in aquatic plants like *Pistia* and *Eichhornia*.

Statement-II :- There may be variation in the length of filaments of stamen with in a flower as in *Salvia* and mustard.

(1) Both statements are correct

(2) Only II is correct

(3) Only I is correct

(4) Both are incorrect

117. **Assertion (A) :-** The apocarpous Gynoecium is found in Lotus and Rose.

Reason (R) :- Carpels of gynoecium are free from each other in Lotus and Rose.

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

(2) **(A)** is correct but **(R)** is not correct

(3) **(A)** is incorrect but **(R)** is correct

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

118. Vexillary aestivation is the characteristic feature of :-

(1) Mustard

(2) Sweet pea

(3) Tulip

(4) *Petunia*

119. Five Sepals, gamosepalous, valvate/Imbricate aestivation is found in :-

(1) Mustard

(2) *Trifolium*

(3) *Gloriosa*

(4) *Asparagus*

120. $\oplus \, ♂ \, ♀ \; K_{(5)} \overset{\frown}{C_{(5)}} \; A_5 \; \underline{G}_{(2)}$ is the floral formula of :-

(1) Mustard

(2) Tomato

(3) Tulip

(4) *Lupin*

121. Which one is not correctly matched ?

(1) Liliaceae - *Asparagus* and tulip

(2) Brassicaceae - Mustard and *Capsella*

(3) Solanaceae - *Petunia* and *lupin*

(4) Fabaceae - *Indigofera* and *Sesbania*

122. Which is incorrect about liliaceae family :-

(1) Inflorescence - solitary/ cymose : often umbellate clusters

(2) Flower - Bisexual, actinomorphic

(3) Corolla - valvate aestivation

(4) Fruit - Capsule, rarely berry

123. Gynoecium tricarpellary, syncarpous, ovary superior trilocular with many ovules, axile, placentation are related to :-

(1) Mustard

(2) *Asparagus*

(3) *Petunia*

(4) Lupin

124. Epitepalous stamens are found in :-

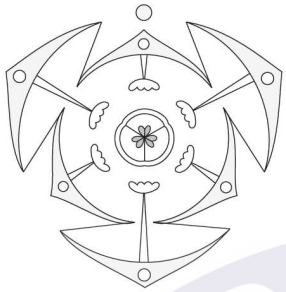
(1) *Gloriosa*

(2) Lupin

(3) Brinjal

(4) *Petunia*

125. The floral diagram in the given figure related to :-



(1) *Sesbania*

(2) *Lupin*

(3) *Gloriosa*

(4) *Petunia*

126. Tomato, Ashwagandha, *Petunia*, *Asparagus*, Tobacco, Tulip, *Gloriosa*, Lupin, *Indigofera*, Mustard. How many of them are member of family *Solanaceae* ?

(1) Six (2) Four

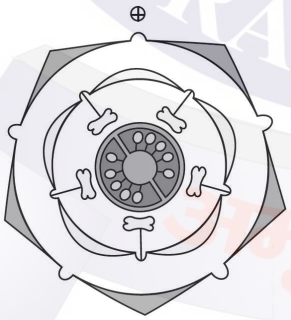
(3) Three (4) Five

127. Leaves mostly basal, alternate, linear, exstipulate with parallel venation are found in :-

(1) Liliaceae (2) Fabaceae

(3) Solanaceae (4) Poaceae

128. Select the incorrect feature about given floral diagram.



(1) Flower actinomorphic

(2) Epipetalous stamens

(3) Placenta swollen with many ovules

(4) Ovary unilocular

129. Which one of the following is not correctly matched ?

(1) *Allium cepa* - Onion

(2) *Solanum nigrum* - makoi

(3) *Pisum sativum* - sweet pea

(4) *Colchicum autumnale* - Colchicine

130. Epipetalous stamens is the characteristic feature of :-

(1) Brinjal

(2) Aloe

(3) Lupin

(4) Soyabean

131. **Statement-I :** Generally monocotyledonous seeds are endospermic but some as in orchids are non endospermic.

Statement-II : In the monocotyledonous seeds, the endosperm is bulky and stores food.

(1) Statement I and II both are correct

(2) Statement I and II both are incorrect

(3) Only Statement I is correct

(4) Only Statement II is correct

132. **Assertion :** In the seeds of cereals such as maize the seed coat is membranous and generally fused with the fruit wall.

Reason : The outer covering of endosperm separates the embryo by a proteinous layer called aleurone layer.

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

(2) Both assertion & reason are true but reason is not a correct explanation of the assertion.

(3) Assertion is true but the reason is false.

(4) Both assertion & reason are false.

133. Which of the following is/are correctly matched ?

(A) Mango - Fleshy mesocarp

(B) Coconut - Drupe

(C) Mango - Stony endocarp

(D) Coconut - Fibrous mesocarp

(E) Coconut - Edible endocarp

(1) A, B, D, E only

(2) A, B, C, D only

(3) A, C, D, E only

(4) All are correct

134. Generally, the fruit consist of :-

(1) Pericarp only

(2) Mesocarp and seed only

(3) Pericarp and seeds

(4) Seeds only

135. Characters such as, fruit legume, seed one to many, non-endospermic seed are found in :-

(1) *Sesbania*

(2) *Belladonna*

(3) Tomato

(4) *Asparagus*

SECTION-B (BOTANY)

136. Select the incorrect pair with respect to phyllotaxy :-

(1) Alternate - Sunflower

(2) Opposite - *Calotropis*

(3) Whorled - *Alstonia*

(4) Alternate - Guava

137. Select the incorrect statement :

(1) Opposite phyllotaxy is found in guava and *Alstonia*

(2) Palmately compound leaves are found in silk cotton

(3) Spines are found in cacti.

(4) Leaves are modified into tendrils in pea.

138. Match the column and select the correct answer from given below :-

	Column-I		**Column-II**
(A)	Axile Placentation	(i)	Pea
(B)	Marginal Placentation	(ii)	Tomato
(C)	Parietal Placentation	(iii)	Primrose
(D)	Free central Placentation	(iv)	Argemone

	A	B	C	D
(1)	i	ii	iii	iv
(2)	ii	i	iv	iii
(3)	i	iv	iii	ii
(4)	ii	i	iii	iv

139. Select the mismatched pair :

(1)	Syngenecious Androecium	-	Chinarose and lemon
(2)	Apocarpous Gynoecium	-	Rose and Lotus
(3)	Epiphyllous Androecium	-	Tulip and Aloe
(4)	Polyadelphous Androecium	-	Orange and Lemon

140. Zygomorphic flowers are found in :-

(1) Mango and Brinjal

(2) *Cassia* and gulmohar

(3) *Gloriosa* and Tulip

(4) Aswagandha and Potato

141. The following diagram represents the position of ovary in which of the flower :-

(1) Brinjal (2) Guava

(3) Rose (4) Mustard

142. The underground stem of which of the following plants act as organ of perenation ?

(1) Potato, Turmeric, Pea

(2) Ginger, Turmeric, *Colocasia*

(3) Potato, Zaminkand, Pumpkin

(4) Zaminkand, Turmeric, Pea

143. Identify the correct statement regarding the stem morphology from the following option :-

(i) The stem get modified into flattened (opuntia) or fleshy cylindrical (euphorbia) structure in plants growing in arid region.

(ii) Axillary buds are always found at nodes.

(iii) Stem of certain insectivorous plants such as pitcher plant, are modified into insect capturing organ.

(1) Only (i) and (ii) only (2) (i), (ii) and (iii)

(3) (i) and (iii) only (4) (ii) and (iii) only

144. Characters such as, five sepals, united, persistant, valvate aestivation are related to :-

(1) Tobacco

(2) Lupin

(3) Tulip

(4) Groundnut

145. Vegetative characters such as, perennial herbs with underground bulbs/corms/rhizomes are characterstic feature of :-

(1) Fabaceae

(2) Solanace

(3) Poaceae

(4) Liliaceae

146. Which is incorrectly matched ?

(1) Fabaceae - Diadelphous stamens

(2) Brassicaceae - Pentamerous flower

(3) Solanaceae - Exstipulated leaves

(4) Liliaceae - Epitepalous stamen

147. Characters such as, gynoecium bicarpellary syncarpous, Ovary superior bilocular, placenta swollen with many ovules are related to :-

(1) Sweet pea (2) Lupin

(3) *Petunia* (4) Tulip

148. Which of the following is not the member of Solanaceae family ?

(1) *Petunia* (2) *Belladonna*

(3) Ashwagandha (4) Lupin

149. If a fruit is formed without fertilization of ovary is called :-

(1) False fruit

(2) Parthenocarpic fruit

(3) Aggregate fruit

(4) Composite fruit

150. Alternate, simple, rarely pinnately compound, exstipulate leaves with reticulate venation found in :-

(1) Tomato

(2) Sweet pea

(3) Colchicine

(4) *Gloriosa*

SECTION-A (ZOOLOGY)

151. Following secretion does not have enzymes :-

(1) Saliva

(2) Bile

(3) Gastric Juice

(4) Intestinal juice

152. Following products prevents mucosal epithelium from excoriation by acidic effects on gut wall :-

(1) Mucus and bicarbonates of gastric juice.

(2) Bile

(3) Alkaline juice from pancreas

(4) All

153. Submandibular gland is __a__ and present in __b__ . a and b are respectively

(1) Single, upper jaw (2) Paired, upper jaw

(3) Paired, lower jaw (4) Single, lower jaw

154. Trypsinogen and Pepsinogen are products found in __a__ and __b__. a and b are-

(1) Pancreatic juice and pancreatic juice

(2) Pancreatic juice and gastric juice

(3) Gastric juice and pancreatic juice

(4) Pancreatic juice and alkaline juice

155. **Assertion (A) :** Parietal cells secrete HCl.

Reason (R) : Parietal cells are chief cells of gastric glands.

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

(2) **(A)** is correct but **(R)** is not correct

(3) **(A)** is incorrect but **(R)** is correct

(4) Both **(A)** and **(R)** are correct but **(R)** is the correct explanation of **(A)**

156. **Assertion (A) :** Stomach is important organ wrt absorption of vit B_{12}.

Reason (R) : Its perietal cells secrete intrinsic factor.

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

(2) **(A)** is correct but **(R)** is not correct

(3) **(A)** is incorrect but **(R)** is correct

(4) Both **(A)** and **(R)** are correct but **(R)** is the correct explanation of **(A)**

157. Which of the following enzyme is an important part of digestive juice but does not digest food ?

(1) Carboxy Peptidase

(2) Enterokinase

(3) Sucrase

(4) Amylase

158. Bruner's gland found in the wall of :-

(1) Oesophagus

(2) Stomach

(3) Colon

(4) Duodenum

159. Outer most histological layer in wall of human alimentary canal is-

(1) Serosa layer (2) Submucosa layer

(3) Mucosa layer (4) Muscularis layer

160. Arrangement of teeth in upper jaw of adult is represented as :-

(1) $\frac{2\,1\,23}{2\,1\,23}$

(2) $\left(\frac{2\,1\,23}{2\,1\,23}\right) \times 2$

(3) $\frac{2\,1\,02}{2\,1\,02}$

(4) $\left(\frac{2\,1\,02}{2\,1\,02}\right) \times 2$

161. Find incorrect statement :-

(1) Peristalsis help in further passage of food in gut.

(2) Digestion of food initiated in the oral cavity by the proteolytic activity of enzymes.

(3) Churning movements of stomach converts food form in chyme.

(4) Mucosal epithelium of gut is protected by Bicarbonates from harmful effects of HCl

162. Secretions of salivary gland shows all given functions except. :-

(1) Help to lubricate the oral cavity and its content.

(2) Help to kill bacteria

(3) Play role in digestion of complex carbohydrates

(4) Contain enzymes for the digestion of simple sugars

163. **Assertion (A) :-** Maximum digestion of Carbohydrates, fats and proteins take place in small intestine.

Reason (R) :- Digestive juices pancreatic juice, bile and succus entericus, secreted in the small intestine.

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

(2) **(A)** is correct but **(R)** is not correct

(3) **(A)** is incorrect but **(R)** is correct

(4) Both **(A)** and **(R)** are correct but **(R)** is the correct explanation of **(A)**

164. **Statement-I :** Bile is the product of hepatic lobules and stored in gall bladder.

Statement-II : Blockage of cystic duct results in more bile released in duodenum.

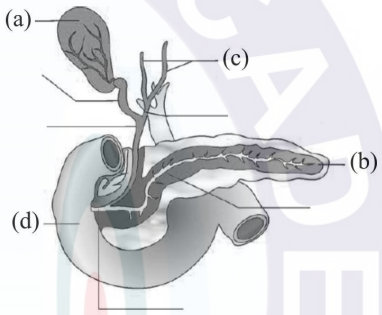
(1) Statement-I & Statement-II are correct.

(2) Statement-I & Statement-II are incorrect.

(3) Statement-I is correct & Statement-II is incorrect.

(4) Statement-II is correct & Statement-I is incorrect.

165.



Select correct option for given labelling

(1) a-has cells which secrete concentrated bile

(2) d-has crypts of liberkuhn which secrete Non-enzymatic digestive juice.

(3) c-carries bile from its secretory source

(4) b-secrete slightly Acidic digestive secretion.

166. **Assertion (A) :-** Intestinal villi possess micro villi to increase surface area

Reason (R) :- Microvilli contains lacteal and blood capillaries.

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

(2) **(A)** is correct but **(R)** is not correct

(3) **(A)** is incorrect but **(R)** is correct

(4) Both **(A)** and **(R)** are correct but **(R)** is the correct explanation of **(A)**

167. **Statement-I** : Various types of movements are generated by muscular layer of small intestine.

Statement-II : These moments help in secretions of small intestine and further passage of food.

Read the above statements and choose the correct option from the options given below :

(1) Both Statement-I and Statement-II are correct

(2) Both Statement-I and Statement-II are incorrect

(3) Only Statement-I is correct

(4) Only Statement-II is correct

168. Maximum absorption occurs in :-

(1) Oesophagus

(2) Stomach

(3) Small intestine

(4) Large intestine

169. Polysaccharides (starch) $\xrightarrow{A}$ Disaccharides.
Find enzyme 'A' :-

(1) Amylase

(2) Lipase

(3) Nucleases

(4) Dipeptidase

170. Read the following statements and choose correct statement :-

(1) The stomach stores the food for 10-12 hours.

(2) Mucous neck cells secrete HCl.

(3) Peptic cells secrete pepsinogen

(4) Oxyntic cells secrete intrinsic factor which is essential for absorption of vitamin 'C'.

171. Trypsinogen is activated by :-

(1) HCl

(2) Enterokinase

(3) Bile juice

(4) Chymotrypsin

172. The chemical process of digestion is initiated in the :-

(1) Oral cavity

(2) Stomach

(3) Small intestine

(4) Oesophagus

173. Read the following statements carefully and choose the incorrect :-

(1) The buccal cavity performs mastication and facilitation of swallowing

(2) Saliva contains Na^+, K^+, lysozyme, salivary amylase

(3) About 70% of starch is hydrolysed into oral cavity

(4) Bile helps in emulsification of fats

174. The saliva secreted into the oral cavity contains :-

(1) Ptyline

(2) Na^+, K^+

(3) Cl^-, HCO_3^-

(4) All

175. The proenzyme pepsinogen, on exposure to __A__ gets converted into the __B__ enzyme pepsin.
Fill in the blanks :-

(1) A - HCl, B - Inactive

(2) A - CCK, B - active

(3) A - HCl, B - active

(4) A - CCK, B - inactive

176. Match the column-I with column-II and choose correct option :-

	Column I		Column II
i	Mucus neck cell	A	Pepsinogen
ii	Chief cell	B	HCl
iii	Oxyntic cell	C	Mucus

(1) i-A, ii-B, iii-C

(2) i-C, ii-A, iii-B

(3) i-B, ii-A, iii-C

(4) i-C, ii-B, iii-A

177. **Statement-I :** HCl provides the acidic pH (pH - 6.8) optimal for pepsin.

Statement-II : Rennin is a proteolytic enzyme found in gastric juice of infants.

(1) Both statements I and II are incorrect

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

(3) Statement I is incorrect but statement II is correct

(4) Both statements I and statement II are correct.

178. Which is not the function of large intestine ?

(1) Absorption of water

(2) Absorption of minerals

(3) Secretion of mucus

(4) Digestion of proteins

179. A thin connective tissue sheath called the Glisson's capsule is the covering of :

(1) Liver

(2) Hepatic lobule

(3) Hepatic cell

(4) Hepatic Lobe

180. Maltose $\xrightarrow{(A)}$ Glucose + (B)

Identify A and B in above reaction.

(1) A $\longrightarrow$ Lipase, B $\longrightarrow$ Glucose

(2) A $\longrightarrow$ Maltase, B $\longrightarrow$ Glucose

(3) A $\longrightarrow$ Maltase, B $\longrightarrow$ Galactose

(4) A $\longrightarrow$ Lipase, B $\longrightarrow$ Galactose

181. The secretions of brush border cells of the mucosa along with the secretions of the goblet cells constitute of :-

(1) Intestinal juice

(2) Gastric juice

(3) Succus entericus

(4) Both (1) and (3)

182. Which reaction takes place in small intestine ?

(1) Proteins $\xrightarrow{\text{Pepsin}}$ Proteose + Peptone

(2) Proteins + Peptone + Proteose $\xrightarrow[\text{Carboxypeptidase}]{\text{Tryp sin/Chymotryp sin}}$ Dipeptides

(3) Nucleic acid $\xrightarrow{\text{Nuclease}}$ Nucleotides

(4) 2 and 3 both

183. Which can stimulate the secretion of saliva in the oral cavity ?

(1) Sight of food

(2) Smell of food

(3) Presence of food in oral cavity

(4) All of the above

184. Name the process in which the end products of digestion pass through the intestinal mucosa into the blood or lymph ?

(1) Ingestion

(2) Absorption

(3) Egestion

(4) Digestion

185. Adsorption of fatty acid and glycerol takes place in which part of alimentary canal ?

(1) Oesophagus (2) Stomach

(3) Small intestine (4) Large intestine

SECTION-B (ZOOLOGY)

186. **Assertion (A) :** Saliva contains starch digestive enzyme.

Reason (R) : Saliva is secreted by 3 pairs of glands in human.

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

(2) **(A)** is correct but **(R)** is not correct

(3) **(A)** is incorrect but **(R)** is correct

(4) Both **(A)** and **(R)** are correct but **(R)** is the correct explanation of **(A)**

187. Select the incorrect statement from the following :

(1) Pancreas is compound gland that produces alkaline pancreatic juice

(2) Mucosa forms crypts of liberkuhn in intestine

(3) Mucosal epithelium has goblets cells which secrete mucus that help in lubrication

(4) Mucus glands of ileum produces succus entericus.

188. Proenzymes of gastric juice are activated with the help of product by :-

(1) Peptic cells

(2) Mucus Neck cells

(3) Oxyntic cells

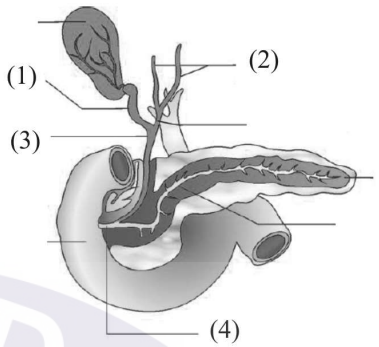
(4) Chief cells

189. Following is a part of human Digestive System but seems no role in digestion and absorption.

(1) Pancreas (2) Stomach

(3) Colon (4) Vermiform appendix

190.



In the given diagram cystic duct and common bile duct are :-

(1) 1 and 4 (2) 2 and 3

(3) 1 and 3 (4) 4 and 2

191. **Statement-I :-** Pancreas is a compound organ.

Statement-II :- It secrete alkaline juice containing insulin and glucagon.

(1) Both statement-I and statement-II are correct

(2) Both statement-I and Statement-II are incorrect

(3) Statement-I is incorrect and statement-II is correct

(4) Statement-I is correct and statement-II is incorrect

192. Match the columns :-

	Column-I		**Column-II**
(i)	Saliva	(a)	Lipases
(ii)	Succus entericus	(b)	electrolytes Na^+, HCO_3^-
(iii)	Brunner's gland	(c)	Pepsin
(iv)	Gastric juice	(d)	Alkaline secretion

(1) i-d; ii-b; iii-a; iv-c

(2) i-b; ii-a; iii-d; iv-c

(3) i-b; ii-d; iii-a; iv-c

(4) i-c; ii-b; iii-d; iv-a

193.

Premolars	a
Incisors	b
Saliva	c
Distal end of stomach	d

Choose correct a,b,c and d

(1) a-Monophyodont ; 1
b-Monophyodont ; 2

(2) b-Diphyodont ; 2
c-electrolytes

(3) a-Diphyodont ; 2
c-Lipase

(4) c-electrolytes
d-fundus

194. How many enzymes are present in pancreatic Juice ?
Trypsinogen, Chymotrypsinogen, Procarboxypeptidase, Amylase, Lipase, Nuclease, Enterokinase, Dipeptidase.

(1) 5 (2) 6

(3) 7 (4) 8

195. **Statement-I :** Rennin is a proteolytic enzyme.
Statement-II : Rennin is found in gastric juice of adults.

(1) Statement I and II both are correct

(2) Statement I is correct but II is incorrect

(3) Statement I is incorrect but II is correct

(4) Statement I and II both are incorrect

196. Which enzyme converts proteins into proteoses and peptones ?

(1) Pepsinogen

(2) Pepsin

(3) Ptyalin

(4) Dipeptidase

197. Read the following statements and choose correct statement :-
(A) Defecation is a voluntary process.
(B) Vomiting is controlled by vomit centre in the medulla.
(C) In jaundice skin and eyes turn yellow.
(D) Principal organ for absorption of nutrient is large intestine.
Choose the most appropriate answer from options given below ?

(1) A and B only (2) C and D only

(3) A, B and C (4) B, C and D

198. Nucleic acid $\xrightarrow{(A)}$ Nucleotides $\xrightarrow{(B)}$ Nucleosides $\xrightarrow{(C)}$ (D) + Bases
Identify A, B, C and D in above reaction.

(1) A-Nucleotidase, B-Nucleosidase, C-Nuclease, D-Sugar

(2) A-Nuclease, B-Nucleotidase, C-Nucleosidase, D-Sugar

(3) A-Nuclease, B-Nucleosidase, C-Nucleotidase, D-Sugar

(4) A-Nucleosidase, B-Nuclease, C-Nucleotidase, D-Sugar

199. The activities of the gastro-intestinal tract are under the control of :-

(1) Neural

(2) Hormonal

(3) 1 and 2 both

(4) None of these

200. In which disorder the liver is affected, skin, eyes turn yellow due to deposition of bile pigments ?

(1) Jaundice

(2) Vomiting

(3) Diarrhoea

(4) Constipation