Test Date
17-05-2020

A
CODE

Aakash
Medical | IIT-JEE | Foundations
(Divisions of Aakash Educational Services Pvt. Ltd.)
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Time : 3 Hrs.

MOCK TEST PAPER – 1

MM : 720

(for NEET-2020)

Complete Syllabus of Class XI & XII

GENERAL INSTRUCTIONS :

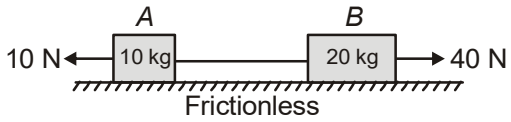
1. This paper consists of 180 objective type questions from Physics, Chemistry and Biology (Botany & Zoology).
2. For each correct response 4 marks will be awarded, whereas for each incorrect response 1 mark will be deducted from the total score.
3. No deduction from the total score will be made if no response is indicated.
4. More than one answer will be negatively marked.
5. Use Blue/Black ink ballpoint pen only to darken the appropriate circle.
6. Mark should be dark and should completely fill the circle in the answer sheet.
7. Do not use white-fluid or any other rubbing material on answer sheet. No change in the answer once marked is allowed.
8. Rough work must not be done on the answer sheet.
9. Student cannot use log tables and calculators or any other material in the examination hall.

PHYSICS

Choose the correct answer :

1. If B represents magnetic field and μ_0 represents permeability of free space, then $\frac{B^2}{2\mu_0}$ has the dimension of
   (1) $[M^1L^{-1}T^{-2}]$
   (2) $[M^1L^2T^{-2}]$
   (3) $[M^1L^0T^{-3}]$
   (4) $[M^1L^0T^{-2}]$
2. A body started moving with initial velocity 4 m/s along East and acceleration 1 m/s^2 along North. Velocity of the body just after 4 s is
   (1) 8 m/s along East
   (2) $4\sqrt{2}$ m/s along North-East
   (3) 8 m/s along North
   (4) $4\sqrt{2}$ m/s along South-East
3. If the speed of the car reduces to $\frac{u}{2}$ from u in 30 m, then total distance travelled by the car before coming to rest is (Assume constant retardation)
   (1) 30 m (2) 10 m
   (3) 40 m (4) 60 m
4. Horizontal and vertical components of velocity of particle thrown from ground are 40 m/s and 30 m/s respectively at ground. Horizontal range of the projectile is
   (1) 120 m (2) 240 m
   (3) 180 m (4) 360 m
5. Angle between angular velocity and acceleration of a particle in uniform circular motion is
   (1) Zero (2) 60°
   (3) 120° (4) 90°

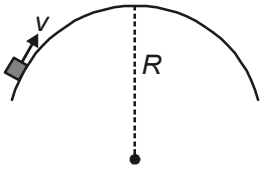
6. Tension in the massless string joining A and B is



(1) 20 N (2) 15 N

(3) 25 N (4) 10 N

7. A vehicle is moving at a constant speed v on a convex bridge of radius of curvature R. Maximum safe speed on the bridge is



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

(3) $\sqrt{3Rg}$ (4) $\sqrt{\frac{5}{2}Rg}$

8. Work done in increasing the length of a massless spring from natural length 15 cm to 15.1 cm is 20 J. Work done in increasing the length from 15.1 cm to 15.2 cm is

(1) 20 J (2) 40 J

(3) 60 J (4) 80 J

9. A body is rolling up a rough inclined plane without slipping. Force of friction acting on the body is

(1) Along the plane upward

(2) Along the plane downward

(3) Normal to the plane upward

(4) Normal to the plane downward

10. Moment of inertia of a non-uniform ring of mass M and radius R about axis passing through centre and normal to its plane I is

(1) $I > MR^2$ (2) $I < MR^2$

(3) $I = MR^2$ (4) $I \leq MR^2$

11. A body is dropped from a height equal to the radius R of earth. Maximum speed at which it will hit the ground is

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

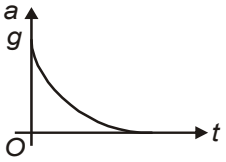
(3) $\sqrt{1.5gR}$ (4) $\sqrt{\frac{gR}{2}}$

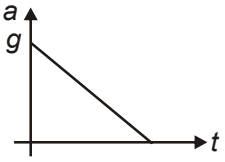
12. Breaking stress of a wire of length L and radius r is B. If another wire made from same material has length $2L$ and radius $2r$, its breaking stress will be

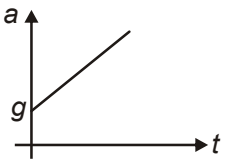
(1) $2B$ (2) $\frac{B}{4}$

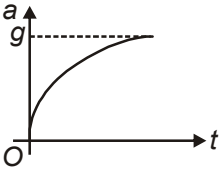
(3) B (4) $4B$

13. A rain drop started falling in static air. Which of the following represents its acceleration a versus time t graph?

(1) 

(2) 

(3) 

(4) 

14. 100 g ice at 0°C is dropped into a calorimeter (water equivalent 50 g) containing 100 g water at 40°C. Resulting temperature of the mixture at equilibrium is

(1) 40°C (2) 20°C

(3) 10°C (4) 0°C

15. Temperature difference between body and surroundings fall from 10°C to 5°C in 10 minutes. Temperature difference between body and surroundings will fall from 5°C to 2.5°C in (Use Newton's law of cooling)

(1) 5 minutes (2) 20 minutes

(3) 10 minutes (4) Infinite

16. A container containing hydrogen gas at 27°C is at rest. Average velocity of gas molecules is

(1) 1934 m/s (2) 967 m/s

(3) 483 m/s (4) Zero

17. Degrees of freedom of an ideal gas is 4. Ratio of molar heat capacities $\frac{C_p}{C_v}$ is equal to

(1) 1.5 (2) 1.4

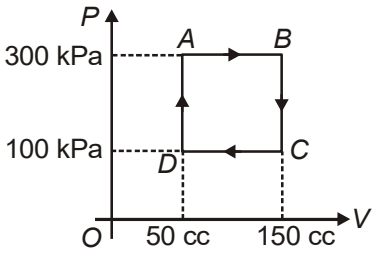
(3) 1.67 (4) 1.33

18. Efficiency of a heat engine working between 127°C and 327°C may be

(1) 20% (2) 25%

(3) 33% (4) All of these

19. If an ideal gas undergoes the cyclic process *ABCD* once then heat absorbed by the gas is



(1) 20 J (2) 10 J

(3) 30 J (4) Zero

20. A particle is executing SHM with time period *T*. Time taken by it to travel from mean position to $\frac{1}{\sqrt{2}}$ times its amplitude is equal to

(1) $\frac{T}{6}$ (2) $\frac{T}{12}$

(3) $\frac{T}{8}$ (4) $\frac{T}{4}$

21. If amplitude of a wave at distance *r* from a point source is *A*, then its amplitude at distance 2*r* from the source is

(1) *A* (2) $\frac{A}{\sqrt{2}}$

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

22. Which of the following is correct about electrostatic field?

(1) It is conservative

(2) It may provide central force

(3) Electrostatic field lines never intersect

(4) All of these

23. Two spherical soap bubbles of radii 3 cm and 4 cm came in contact externally. Radius of curvature of the common surface is

(1) 12 cm (2) 7 cm

(3) 5 cm (4) $\frac{12}{7}$ cm

24. An electron is revolving around an infinite uniform positive linear charge density in a circle of radius *r.* Orbital speed of the electron is proportional to

(1) r^{-1} (2) r^{-2}

(3) $r^{-1/2}$ (4) r^{0}

25. A capacitor of capacity 10 μF is charged by a battery of emf 10 V. Energy stored is

(1) 0.5 mJ (2) 0.5 J

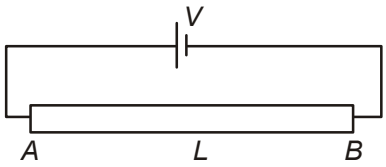
(3) 0.5 μJ (4) 0.5 kJ

26. Force between plates of an isolated charged parallel plate capacitor separated by distance *r* is *F*. If the separation between the plates is doubled then force between the plates will become

(1) *F* (2) $\frac{F}{2}$

(3) $\frac{F}{4}$ (4) 4*F*

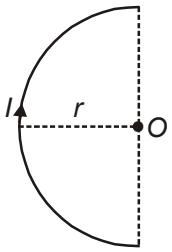
27. When battery of emf *V* is applied across conductor *AB*, drift speed of electrons through the conductor is *v*. If the battery is replaced by a battery of emf $\frac{V}{2}$, then new drift speed of free electrons will be



(1) *v* (2) $\frac{v}{2}$

(3) 2*v* (4) Zero

28. Magnetic field at the centre *O* of semicircular arc of radius *r* carrying current *I* is



(1) $\frac{\mu_0 I}{2r}$ (2) $\frac{\mu_0 I}{4r}$

(3) $\frac{\mu_0 I}{8r}$ (4) Zero

29. A charge is projected normally into uniform magnetic field. Which of the following does not change during motion of charge?

(1) Speed (2) Velocity

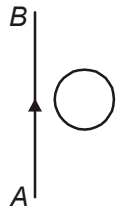
(3) Momentum (4) Acceleration

30. Susceptibility of a substance at 27°C is – 0.00004. If the temperature of the substances is increased to 327°C, then its susceptibility will be

(1) –0.00002 (2) –0.00001

(3) –0.00004 (4) –0.00003

31. A current carrying straight conductor *AB* is fixed in the plane of a conducting ring as shown in figure. If the current through *AB* increases in the direction *A* to *B*, then induced current in the ring will be



(1) Anticlockwise

(2) Clockwise

(3) Zero

(4) First clockwise and then anticlockwise

32. Length of a solenoid of self inductance *L* is doubled keeping number of turns constant. New self inductance of the solenoid will be

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

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

33. Reactance of an AC circuit is equal to the resistance. The power factor of the circuit is equal to

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

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

34. Electric field $\vec{E}$ and magnetic field $\vec{B}$ of an electromagnetic wave are at angles θ_1 and θ_2 respectively with direction of propagation of electromagnetic wave, then

(1) $\theta_1 = \theta_2 = 90°$

(2) $\theta_1 = 90°$, $\theta_2 \neq 90°$

(3) $\theta_1 \neq 90°$, $\theta_2 = 90°$

(4) θ_1 and θ_2 both are zero

35. Focal length of a convex mirror is 20 cm in air. If it is dipped in water $\left(\mu = \frac{4}{3}\right)$, its focal length will be

(1) 20 cm (2) 80 cm

(3) 40 cm (4) 30 cm

36. An astronomical telescope has objective and ocular of focal length 100 cm and 1 cm respectively. Minimum magnifying power of the telescope is

(1) 50 (2) 100

(3) 96 (4) 48

37. Number of fringes in the field of view of YDSE is 30 in air. If the experiment is performed in water $\left(\mu = \frac{4}{3}\right)$, then number of fringes in the field of view will be

(1) 30 (2) 50

(3) 40 (4) 60

38. Stopping potential in photoelectric experiment is independent of

(1) Nature of emitter plate

(2) Frequency of incident wave

(3) Intensity of incident light

(4) All of these

39. If the accelerating potential of charge is doubled, then its de Broglie wavelength becomes *n* times the initial value. The *n* is equal to

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

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

40. Ratio of speed of electron in first orbit of H-atom to the speed of light is equal to

(1) $\frac{1}{137}$ (2) 137

(3) $\frac{1}{83}$ (4) $\frac{1}{47}$

41. Activity of a radioactive sample decayed from 10000/s to 5000/s in 10 hours. It will decay to 2500/s in next

(1) 5 hrs (2) 10 hrs

(3) 15 hrs (4) 20 hrs

42. Stability of a nucleus can be confirmed from
(1) Binding energy
(2) Binding energy per nucleon
(3) Mass defect
(4) All of these

43. Load resistance and input resistance in a common emitter amplifiers are 40 kΩ and 1 kΩ respectively. If current gain is 50, then voltage gain of the amplifier is
(1) 1000 (2) 1500
(3) 2000 (4) 500

44. Which of the following utilises controlled fusion reaction?
(1) Hydrogen bomb
(2) Stellar energy
(3) Tokamak
(4) All of these

45. Which of the following p-n junction diode is unbiased?
(1) Photodiode (2) LED
(3) Zener diode (4) Solar cell

CHEMISTRY

46. Hybridisation of negatively charged carbon atom in $CH_2 = CH - \overset{\ominus}{C}H_2$ is
(1) sp^3 (2) dsp^2
(3) sp (4) sp^2

47. The correct order of acidic strength is
(1) HClO < HBrO < HIO
(2) $H_3PO_2 > H_3PO_3 > H_3PO_4$
(3) $HCOOH < CH_3COOH < CH_3CH_2COOH$
(4) $CH_4 > NH_3 > H_2O > HF$

48. Hybridisation of $C_2 - C_3$ in given structure

(1) $sp - sp$ (2) $sp^2 - sp^3$
(3) $sp^2 - sp^2$ (4) $sp - sp^3$

49. Maximum number of electrons in chlorine atom having l = 1 and m = 0
(1) 2 (2) 3
(3) 4 (4) 1

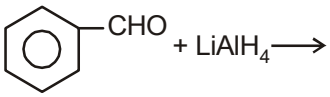
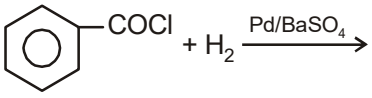
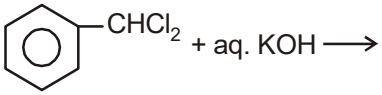
50. 3×10^{21} molecules of sugar are dissolved in water to prepare 50 ml solution, then this solution is further diluted to 2 L. The molarity of resulting solution is approximately
(1) 2.5 M
(2) 5 M
(3) 0.1 M
(4) 2.5×10^{-3} M

51. The molecule having maximum number of lone pairs is
(1) ICl (2) P_4
(3) S_8 (4) XeO_3

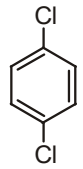
52. If sodium crystallises in bcc lattice then the number of unit cells in 0.23 mg of sodium is
(1) 3×10^{18} (2) 3×10^{21}
(3) 6×10^{23} (4) 1×10^{23}

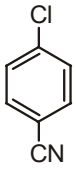
53. For non-ideal solution showing negative deviation from ideal behaviour, which of the following is incorrect?
(1) $\Delta H < 0$
(2) $\Delta V < 0$
(3) $\Delta S > 0$
(4) $\Delta G > 0$

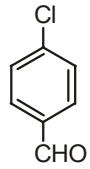
54. Two electrolytic cells connected in series containing dil.H_2SO_4 and dil.HCl are electrolysed using platinum electrodes. The ratio of volume of gases evolved at the respective anodes is
(1) 1 : 1 (2) 1 : 2
(3) 2 : 3 (4) 3 : 4

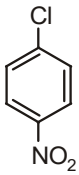
55. Which of the following method cannot be used for the preparation of benzyl alcohol?
(1) 
(2) 
(3) 
(4) Both (2) & (3)

56. Which of the given aryl halide is most readily hydrolysed?

(1) 

(2) 

(3) 

(4) 

57. Oxidation state and covalency of phosphorus atom in a molecule of white phosphorus are

(1) 0, 4 (2) 2, 4

(3) 0, 3 (4) 2, 5

58. Find the incorrect match.

Compound	Method used for preparation
(1) HNO_3	Contact process
(2) Cl_2	Deacon's process
(3) NH_3	Haber's process
(4) H_2	Bosch's process

59. Purple of Cassius can be best coagulated by

(1) NaCl (2) $CaSO_4$

(3) $Al_2(SO_4)_3$ (4) Any of these

60. Dolomite is

(1) $Na_2CO_3 \cdot CaCO_3$

(2) $SnO_2 \cdot CaCO_3$

(3) $FeCO_3 \cdot MgCO_3$

(4) $CaCO_3 \cdot MgCO_3$

61. Which one of the given ions is most stable in aqueous medium?

(1) Mn^{3+} (2) Cr^{3+}

(3) V^{3+} (4) Ti^{3+}

62. The spin only magnetic moment of $[MnBr_4]^{2-}$ is 5.9 B.M. The geometry of complex ion is

(1) Tetrahedral

(2) Square planar

(3) Trigonal bipyramidal

(4) Octahedral

63. Oxidation state and coordination number of transition metal in $[Co(H_2O)(CN)(en)_2]^{2+}$ respectively is

(1) 2, 5 (2) 3, 6

(3) 4, 6 (4) 0, 6

64. Which of the following cation in M^{+2} state have 4 f^{14} electronic configuration? (At. No. : Tb-65, Dy-66, Yb-70, Lu-71)

(1) Tb (2) Dy

(3) Yb (4) Lu

65. The reaction rate of decomposition of dimethyl ether is given by Rate = $K(P_{CH_3OCH_3})^{3/2}$. If the pressure is measured in bar and time in minutes then the unit of rate constant will be

(1) $bar^{-1/2}\ min^{-1}$

(2) $bar\ min^{-1}$

(3) $bar^{-3/2}\ min$

(4) $bar^{-3/2}\ min^{-3/2}$

66. Calcium carbonate reacts with dil. HCl according to the given reaction

$$CaCO_{3(s)} + 2HCl_{(aq)} \longrightarrow CaCl_{2(aq)} + CO_{2(g)} + H_2O_{(l)}$$

The mass of $CaCO_3$ required to react completely with 25 ml of 0.75 M HCl is

(1) 0.75 g (2) 0.937 g

(3) 0.82 g (4) 1.87 g

67. The correct order for the mentioned property is

(1) Na < Mg < Al (Paramagnetic nature)

(2) $F^- < S^{2-} < I^-$ (Ionic size)

(3) O > S > Se > Te (–ive electron gain enthalpy)

(4) F > Cl > O > S (Electronegativity)

68. In which of the given reactions, hybridization state of marked atom is not changed?

(1) $\underline{C}H_4 + O_2 \longrightarrow CO_2 + H_2O$

(2) $\underline{B}F_3 + NH_3 \longrightarrow BF_3 \cdot NH_3$

(3) $\underline{S}O_2 + \frac{1}{2}O_2 \longrightarrow SO_3$

(4) $H_2\underline{S} + KMnO_4 \longrightarrow SO_2$

69. The total pressure of the mixture of 8 g of dioxygen and 4 g of dihydrogen confined in a vessel of 1 dm^3 at 27°C is

(1) 55.4 atm (2) 25.4 atm

(3) 27.4 atm (4) 32.4 atm

70. If $\Delta U°$ for combustion of methane is – x kJ mol^{-1}, then the value of $\Delta H°$ is

(1) –x

(2) > –x

(3) < –x

(4) –x/2

71. $2ICl(g) \rightleftharpoons I_2(g) + Cl_2(g)$ $K_c = 0.04$

The initial concentration of ICl is 0.78 M. What will be the equilibrium concentration of I_2?

(1) 0.18 M (2) 0.11 M

(3) 0.39 (4) 0.78

72. Relationship between solubility and solubility product of salt $Zr_3(PO_4)_4$ is

(1) $K_{sp} = 256\ S^7$ (2) $K_{sp} = 6912\ S^7$

(3) $K_{sp} = 108\ S^5$ (4) $K_{sp} = 27\ S^7$

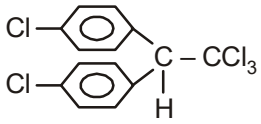
73. A complex of platinum, ammonia and chlorine produces four ions per molecule in the solution. The structure consistent with the observation is

(1) $[Pt(NH_3)_4]\ Cl_4$

(2) $[Pt(NH_3)_2Cl_4]$

(3) $[Pt(NH_3)_5Cl]\ Cl_3$

(4) $[Pt(NH_3)_4Cl_2]\ Cl_2$

74. 

The above compound is

(1) DDT (2) An insecticide

(3) Fungicide (4) Both (1) & (2)

75. In dehydration of alcohol to alkene by heating with conc. H_2SO_4, the initiation step is _____ followed by _____ formation.

(1) Elimination of water, free radical

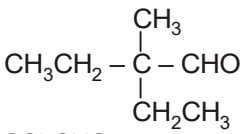
(2) Formation of an ester, free radical

(3) Protonation of alcohol, carbocation

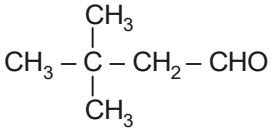
(4) Protonation of alcohol, carbanion

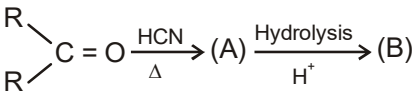
76. Which of the following would undergo aldol condensation?

(1) HCHO

(2) 

(3) CCl_3CHO

(4) 

77. 

Compound (B) in the above reaction is

(1) α-hydroxy acid

(2) α-amino acid

(3) α-amino alkanol

(4) α-amino-β-hydroxy acid

78. A polymer which is used for making electrical switches is obtained by the reaction of phenol with

(1) HCHO (2) $(CH_2OH)_2$

(3) CH_3CHO (4) CH_3COCH_3

79. For hydrolysis of the following functional groups, the decreasing order of reactivity is

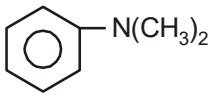
(1) RCOOR > RCOCl > $RCONH_2$

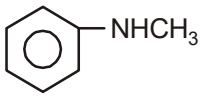
(2) RCOCl > RCOOR > $RCONH_2$

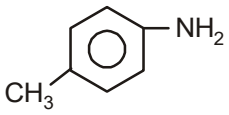
(3) RCOCl > $RCONH_2$ > RCOOR

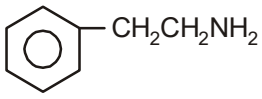
(4) RCOOR > $RCONH_2$ > RCOCl

80. Amongst the given compounds, the one that would form a brilliant coloured dye with $NaNO_2$ in dil. HCl followed by addition to an alkaline solution of β-napthol is

(1) 

(2) 

(3) 

(4) 

81. The value of K_b (Ionization constant of base) is highest in case of

(1) p-Methoxy aniline

(2) p-Chloroaniline

(3) p-Nitroaniline

(4) p-Methylaniline

82. Aniline, chloroform and alc. KOH on heating gives

(1) Phenyl isocyanide (2) Phenyl cyanide

(3) Chlorobenzene (4) Phenol

83. The number of atoms in the ring structure of pyranose are

	Carbon	Oxygen
(1)	5	1
(2)	4	2
(3)	4	1
(4)	3	2

84. The correct order of osmotic pressure of given aqueous solution is

(1) 1 M glucose > 1 M sugar > 1 M KCl > 1 M $CaCl_2$

(2) 1 M glucose = 1 M sugar = 1 M KCl = 1 M $CaCl_2$

(3) 1 M glucose = 1 M sugar < 1 M KCl < 1 M $CaCl_2$

(4) 1 M glucose = 1 M sugar > 1 M KCl > 1 M $CaCl_2$

85. The frequency of radiations emitted when an electron falls from n = 4 to n = 1 in H atom is

(Rydberg constant (R) : $1.097 \times 10^7\ m^{-1}$)

(1) $1.54 \times 10^{15}\ s^{-1}$

(2) $1.03 \times 10^{15}\ s^{-1}$

(3) $3.08 \times 10^{15}\ s^{-1}$

(4) $2.0 \times 10^{15}\ s^{-1}$

86. Which of the following structures permits cis-trans isomerism?

(1) $x_2C = Cy_2$ (2) $xyC = Cz_2$

(3) $x_2C = Cxy$ (4) $xyC = Cxy$

87. The product of reaction

$CH_3 - CH_2 - \underset{\displaystyle CH_3}{\overset{\displaystyle |}{C}} = CH - CH_3 + Cl_2$ water $\longrightarrow$

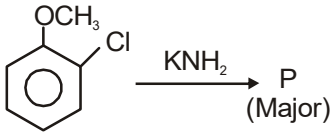
is

(1) $CH_3 - CH_2 - \underset{\displaystyle Cl}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}} - \underset{\displaystyle OH}{\overset{\displaystyle |}{CH}} - CH_3$

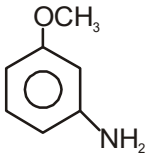
(2) $CH_3 - CH_2 - \underset{\displaystyle OH}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}} - \underset{\displaystyle Cl}{\overset{\displaystyle |}{CH}} - CH_3$

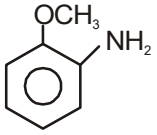
(3) $CH_3 - CH_2 - \underset{\displaystyle H}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}} - \underset{\displaystyle Cl}{\overset{\displaystyle OH}{\overset{|}{\underset{|}{C}}}} - CH_3$

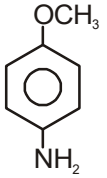
(4) $CH_3 - CH_2 - \underset{\displaystyle CH_3}{\overset{\displaystyle OH}{\overset{|}{\underset{|}{C}}}} - CH_2 - CH_2Cl$

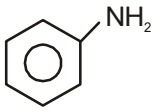
88. 

What is P?

(1) 

(2) 

(3) 

(4) 

89. An alkane of molecular weight 72 on monochlorination gives only one product. The alkane is

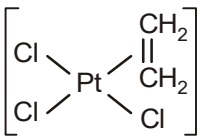
(1) 2-Methylbutane

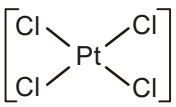
(2) n-Pentane

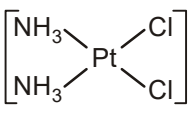
(3) 2, 2-Dimethyl propane

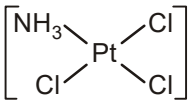
(4) 2, 3-Dimethyl butane

90. Which of the following is considered to be an anticancer compound?

(1) 

(2) 

(3) 

(4) 

BIOLOGY

91. Which statement is **incorrect** w.r.t. genus?
    (1) Each genus may have one or more than one specific epithets
    (2) It comprises of a group of related species
    (3) It has more characters in common in comparison to species of other genera
    (4) Potato and brinjal belong to different genus

92. A research scholar has collected ten plants from field and found the following distinguishing features.
    a. Perianth present – 6 flowers
    b. Calyx, corolla present – 4 flowers
    c. Unisexual flower – 5
    d. Bisexual flower – 5
    What kind of taxonomical aid he is trying to use?
    (1) Herbarium
    (2) Keys
    (3) Museum
    (4) Monograph

93. Heterocyst is a specialised structure in some monerans. It is not present in
    (1) Filamentous cyanobacteria
    (2) *Nostoc* and *Anabaena*
    (3) Oxyphotobacteria
    (4) Chemosynthetic autotroph

94. Fruiting bodies are the basis of classification of fungi but it cannot be observed in the member of
    (1) Phycomycetes and Deuteromycetes
    (2) Ascomycetes
    (3) Basidiomycetes
    (4) Sac fungi and club fungi

95. Select the **correct** option w.r.t. given characteristic in column where + = present, – = absent.

	Archegonium	Embryo	Vascular tissue	Spermatophyte
(1) Algae	–	+	–	–
(2) Bryophyta	+	–	–	–
(3) Pteridophyta	+	+	+	+
(4) Gymnosperms	+	+	+	+

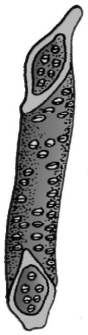
96. The endosperm in gymnosperm is
    (1) Gametophytic in nature
    (2) Formed after fertilization
    (3) The result of double fertilization
    (4) Formed from megaspore mother cell by mitosis

97. Which one of the following statements is **incorrect** w.r.t. heterospory?
    (1) It develops into dioecious gametophyte
    (2) It is the important step in evolution because it is a precursor of seed habit
    (3) It develops into dioecious sporophyte
    (4) It is found in few pteridophytes, all gymnosperms and angiosperms

98. Which one is the most advanced placentation?
    (1) Basal (2) Axile
    (3) Parietal (4) Marginal

99. Which among the following is a characteristic of pea and bean?
    (1) Monoadelphous stamens
    (2) Marginal placentation
    (3) Twisted aestivation
    (4) Endospermic seed

100. Which among the following cannot be a feature of given diagram?



    (1) It is a long cylindrical tube-like structure
    (2) Having lignified walls
    (3) Having large central cavity
    (4) Having protoplasm

101. Secondary medullary rays are
    (1) Narrow band of parenchyma
    (2) Arranged transversely
    (3) Dead and lignified
    (4) Formed by primary cambium

102. The complete disintegration of nuclear envelope marks the
    (1) Early prophase
    (2) Start of second phase of mitosis
    (3) First phase of mitosis
    (4) End of second phase of mitosis

103. Restorage of nucleocytoplasmic ratio is performed in
(1) G_1 phase (2) S phase
(3) G_2 phase (4) M phase

104. Water flows into the cell and out of the cell and are in equilibrium too when the cells are placed in
(1) Hypertonic solution (2) Isotonic solution
(3) Hypotonic solution (4) Pure water

105. According to pressure flow hypothesis in phloem transport, organic solutes flows from the regions of
(1) Low turgor pressure
(2) High turgor pressure
(3) Low osmotic pressure
(4) Low diffusion pressure

106. Which one is filamentous, heterotroph and symbiotic on non-legumes?
(1) *Frankia* (2) *Anabaena*
(3) *Azotobacter* (4) *Rhizobium*

107. Initial uptake of ions in apoplast is __A__ process which usually occurs through __B__.
Complete above statement with **correct** 'A' and 'B'.

	A	**B**
(1)	Active	ATP expenditure
(2)	Passive	Ion-channels
(3)	Active	Ion-channels
(4)	Passive	ATP expenditure

108. During fixation of 2 molecules of nitrogen (N_2), how many ATP and how many ammonia will be required and produced respectively?
(1) 32 and 2 (2) 16 and 2
(3) 32 and 4 (4) 64 and 8

109. Chloroplasts are aligned with their flat surface, parallel to the tangential wall of cells when
(1) Moderate incident light comes
(2) Diffused light comes
(3) Plant is kept in strong light
(4) When intermittent strong and diffused light is given

110. Select the **incorrect** option w.r.t. chemiosmotic hypothesis.
(1) Based on related proton gradient
(2) Number of protons (H^+) required for ATP generation is same in chloroplast and mitochondria
(3) ATPase enzyme conformational change generates several molecules of energy packed ATP
(4) Protons move through facilitated diffusion

111. In the process of aerobic respiration how many ATP molecules will be generated from first formed molecule of triose phosphate?
(1) 40 ATP (2) 20 ATP
(3) 12 ATP (4) 24 ATP

112. In fermentation
(1) Partial breakdown of glucose takes place
(2) One molecule of glucose will produce 8 ATP
(3) NADH is oxidized to NAD in vigorous way
(4) Both (1) and (2)

113. Which one is the precursor of ethylene?
(1) Methionine
(2) Tryptophan
(3) Acetyl-CoA
(4) Violaxanthin

114. Which one of the following plants cannot flower if the duration of light exposure is less than critical photo-period?
(1) Short night plants (SNPs)
(2) Long night plants (LNPs)
(3) DNPs
(4) SDPs

115. Sugarcane is vegetatively propagated into 10 daughter plants. How many types of genetically similar plants are produced?
(1) One (2) Ten
(3) Two (4) Many

116. It is difficult to show clear-cut distinction between vegetative, reproductive and senescent phases in
(1) Radish (2) Mustard
(3) Carrot (4) China rose

117. Which is **correct** to gametophyte in angiosperm?

	Gametophyte	**Male gametophyte**	**Female gametophyte**
(1)	Dioecious	3 nucleated	8 nucleated
(2)	Monoecious	3 nucleated	8 nucleated
(3)	Trioecious	3 nucleated	8 nucleated
(4)	Bisexual	2 nucleated	7 nucleated

118. If pollen grain is having 12 chromosomes then what would be the chromosomes number in endosperm of gymnosperm and angiosperm respectively?
(1) 24 and 36
(2) 36 and 36
(3) 12 and 36
(4) 24 and 24

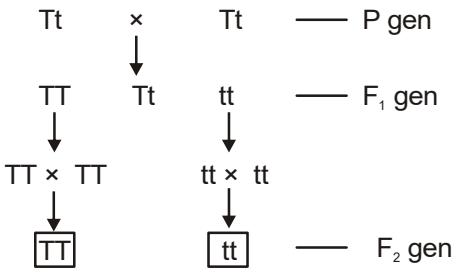
119. How many kinds of genotype and phenotype will be produced respectively in trihybrid test cross?
(1) 8 and 27
(2) 4 and 9
(3) 8 and 16
(4) 8 and 8

120. Select the **incorrect** option w.r.t. sickle cell anaemia.
(1) It is an example of point mutation
(2) It occurs due to transition base substitution
(3) Glutamic acid is replaced by valine at sixth position in polypeptide chain
(4) Mutant haemoglobin molecule undergoes polymerization under low oxygen tension

121. How many phosphodiester bonds are present in plasmid DNA having 1000 bp?
(1) 1000
(2) 2000
(3) 999
(4) 1998

122. 3′-ATGCTA-5′ ... (A)
5′-TACGAT-3′ ... (B)
In a hypothetical sequence of above given dsDNA if promotor is present at 5′ of (A) strand and this DNA is involved in transcription, then what will be the correct sequence of mRNA?
(1) 5′-UACGAU-3′
(2) 5′-AUCGUA-3′
(3) 3′-AUCGUA-5′
(4) 3′-UAGCAU-5′

123. In the given cross, breeder is selecting the organisms which are given in blocks. What kind of selection is being performed by plant breeder?



(1) Mass selection
(2) Pure line selection
(3) Clonal selection
(4) Selection of hybrid vigour

124. Select **odd** one out w.r.t. pest or insect resistance.
(1) Pusa gaurav
(2) Pusa sawani
(3) Pusa sem-2
(4) Pusa swarnim

125. In a STP, microbial flocs are formed in
(1) Anaerobic sludge digester
(2) Primary treatment
(3) Aeration tank
(4) Physicochemical treatment

126. Use of some microbes as biofertiliser to enhance crop productivity is called
(1) Organic farming
(2) Marine farming
(3) Micro farming
(4) Compost farming

127. Mammals of colder areas generally have shorter extremities in comparison to the tropical mammals. This statement comes under the
(1) Allen's rule
(2) Jordan's rule
(3) Bergman's rule
(4) Gloger's rule

128. Which statement is **incorrect** w.r.t. epiphytes?
(1) Commonly found in tropical rainforest
(2) Having hygroscopic root
(3) Velamen tissues are present in root
(4) Show + , + relationship in population interaction

129. Available biomass for the consumption to heterotrophs (Herbivores) is
(1) GPP
(2) NPP
(3) Secondary productivity
(4) Net productivity

130. Number of transitional communities in hydrosere is
(1) 3 (2) 5
(3) 6 (4) 1

131. The most important cause of biodiversity loss is
(1) Habitat loss
(2) Overexploitation
(3) Alien species invasion
(4) Co-extinction

132. The World summit on sustainable development held in _____ in _____ . (Fill the gaps respectively by selecting the **correct** option).

(1) 2002, Johannesburg, South Africa

(2) 2002, Johannesburg, South America

(3) 1992, Rio de Janerio, Brazil

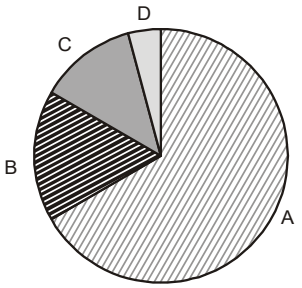
(4) 2002, Rio de Janerio, Brazil

133. High concentration of DDT in birds disturb the metabolism of

(1) Magnesium (2) Iron

(3) Calcium (4) Phosphorus

134. Select the **correct** option respectively w.r.t. A, B, C and D in the given figure of relative contribution of various greenhouse gases to global warming.



(1) Carbon dioxide, CFCs, methane, N_2O

(2) Carbon dioxide, methane, CFCs, N_2O

(3) Carbon dioxide, N_2O, CFCs, methane

(4) Carbon dioxide, CFCs, N_2O, methane

135. Haploids are of great importance in crop improvement because they

(1) Are useful in study of meiosis

(2) Grow better in acidic condition

(3) Do not express mutation

(4) Give homozygous lines after colchicine treatment

136. Following is a representation of four major groups of protozoans with their features and examples. Select the **incorrect** match.

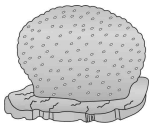
(1) Groups – Amoeboid protozoans
Features – (a) Live in freshwater, sea water or moist soil
(b) Marine forms have silica shells on their surface
Examples – *Entamoeba, Globigerina*

(2) Groups – Flagellated protozoans
Features – (a) They have flagella
(b) All members are parasitic
Examples – *Trypanosoma, Trichomonas*

(3) Groups – Ciliated protozoans
Features – (a) They have a cavity (gullet) that opens to the outside of the cell surface
(b) Nuclei two or more, of two types – a single large macronucleus of trophic function and small micronuclei of reproductive function
Examples – *Paramecium, Tetrahymena*

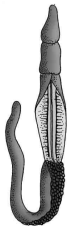
(4) Groups – Sporozoans
Features – (a) In the life cycle an infectious spore-like stage is present
(b) All are endoparasites
Examples – *Plasmodium, Babesia*

137. Select the **incorrect** match w.r.t the animal shown with its key characteristics and the phylum to which it belongs.

(1) Animal – 
Key characteristics – (a) Digestion is intracellular
(b) Skeleton is made up of spongin fibres only
Phylum – Porifera

(2) Animal – 
Key characteristics – (a) Cnidoblast present on tentacles and body
(b) Exist in medusae form only.
Phylum – Porifera

(3) Animal – 
Key characteristics – (a) Complete metamorphosis
(b) Blood pigment is haemocyanin
Phylum – Arthropoda

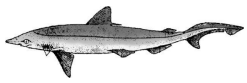
(4) Animal – 

Key characteristics – (a) The body is cylindrical and is composed of an anterior proboscis, a collar and a long trunk.

(b) Fertilisation is external

Phylum – Hemichordata

138. Which of the following is the **correct** statement regarding the two animals shown?

(a)  (b) 

(c)  (d) 

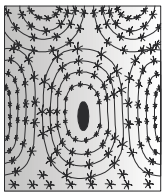
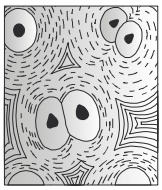
(1) Animals (a) & (b) have external fertilisation

(2) Animals (c) & (d) are viviparous

(3) Animals (b) & (c) are anamniotes

(4) Animals (a) & (d) respire by gills

139. The following figures 'a' and 'b' represent two types of connective tissue. Select the **correct** statement regarding both of these.

(a)  (b) 

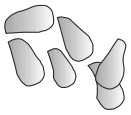
(1) In (a) matrix occurs in a homogenous mass and in (b) matrix occurs in concentric lamellae

(2) In (a) lacunae are absent but present in (b)

(3) The intercellular material in (a) is solid and pliable whereas that of (b) is hard and non-pliable

(4) In (a) canaliculi is present and in (b) it is absent

140. Which of the following cellular elements of human blood are **correctly** matched with their description?

a.  – Non-nucleated, biconcave and circular. Measure 7-8 μm in diameter and 2 μm thickness near rim. Spleen acts as a reservoir of it.

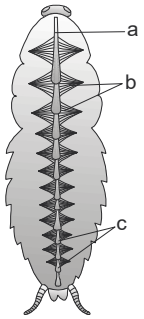
b.  – Occur only in mammals, nucleus absent.

c.  – Colourless, nucleated and motile cells of blood. They regularly leave the blood through walls of capillaries and enter into the connective tissue. Shape of nucleus vary among them.

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

(3) a & b (4) c only

141. The following diagram shows blood vascular system of cockroach with certain labelled parts a, b, & c. Which of the following statements is/are **incorrect** regarding this system?



A. The blood vascular system of cockroach is of open type with well developed blood vessels which open into space (haemocoel).

B. The haemolymph is composed of colourless plasma and haemocytes.

C. The labelled part 'a' represents anterior aorta emerging from first chamber of heart of cockroach.

D. The labelled part 'b' are 12 in number.

E. The labelled part 'c' represents chambers of heart bearing ostia on either side.

(1) E only

(2) B & C

(3) A & D

(4) All of the above statements are correct

142. Consider the following statements A, B, C & D with certain blanks. Find the option which **correctly** fills up these blanks.

A. The ootheca of cockroach is dark reddish to blackish brown capsule about ___(i)___ long.

B. The development of *P.americana* is ___(ii)___, meaning there is development through ___(iii)___ stage.

C. In the head region of cockroach, the brain is represented by ___(iv)___ ganglion, which supplies nerves to antennae and ___(v)___.

D. The respiratory system of cockroach consists of a network of trachea, that opens through ___(vi)___ of small holes called spiracles present on the ___(vii)___ side of the body.

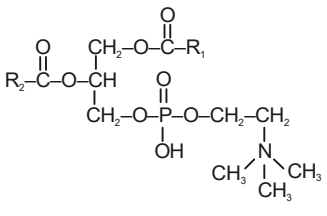
(1) A – (i) 3 mm
B – (ii) Paurometabolous
(iii) Nymphal
C – (iv) Supra-oesophageal
(v) Compound eyes

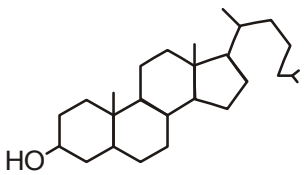
(2) B – (ii) Paurometabolous
(iii) Nymphal
C – (iv) Supra-oesophageal
(v) Wings
D – (vi) 10 pairs
(vii) Lateral

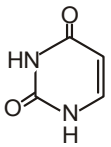
(3) A – (i) 8 mm
C – (iv) Sub-oesophageal
(v) Compound eyes
D – (vi) 10 pairs
(vii) Dorsal

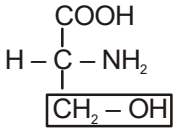
(4) A – (i) 8 mm
B – (ii) Paurometabolous
(iii) Nymphal
D – (vi) 10 pairs
(vii) Lateral

143. Which of the following is **incorrect** matching of the compounds shown?

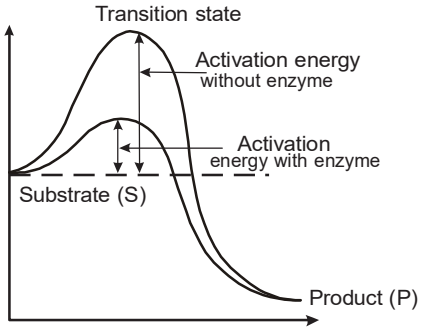
(1)  – Triglyceride

(2)  – Cholesterol

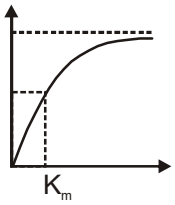
(3)  – Uracil

(4)  – Serine

144. The following graphs show enzymatic activity for certain factors on X-axis and Y-axis. Which of the following is **correct** in such regard?

a. 

b. 

c. 

(1) Figure (a) ; X-axis – Potential energy
Y-axis – Progress of reaction

(2) Figure (b) ; X-axis – Enzymatic activity
Y-axis – Temperature

(3) Figure (c) ; X-axis – Velocity of reaction
Y-axis – Substrate concentration

(4) Figure (b) ; X-axis – pH
Y-axis – Enzymatic activity.

145. How many of the following statements are **wrong**?

a. The common bile duct and the pancreatic duct open together into the duodenum as the common hepato-pancreatic duct.

b. The parotid, sub-maxillary and sub-lingual salivary glands are located just outside the buccal cavity and secrete salivary juice into the buccal cavity.

c. In duodenum, in submucosa Brunner's glands, a type of simple branched tubular glands are present.

d. There is no modification of the four layers namely serosa, muscularis, sub-mucosa and mucosa in different parts of alimentary canal.

e. Cholecystokinin contract the gall bladder to release bile and acts on pancreas to stimulate the secretion of pancreatic enzymes

(1) One (2) Two

(3) Three (4) Four

146. How many of the enzymes given below belong to small intestine enzymes?

Maltase, Nucleosidase, Enterokinase, Amylopsin, Steapsin, Nucleases, Erepsin, Carboxypeptidase, Lactase, Aminopeptidase

(1) Six (2) Seven

(3) Five (4) Four

147. Which of the following factors are favourable for formation of oxyhaemoglobin?

a. High pO_2

b. Less H^+ concentration

c. Low pCO_2

d. High temperature

e. Rise in 2, 3 DPG

(1) a, c & e

(2) a, b, & c

(3) a, b, c & d

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

148. Which of the following is likely to occur in the blood entering pulmonary capillaries?

(1) Formation of carbamino-haemoglobin

(2) Movement of chloride from RBC into plasma and that of bicarbonate into RBC from plasma

(3) Dissociation of carbonic anhydrase

(4) Diffusion of carbon dioxide from alveoli into blood

149. Find the **incorrect** match.

(1) Systemic heart – Left atria and left ventricle

(2) Sympathetic neural signals – Increase cardiac output

(3) Valves bathed in deoxygenated blood – Thebesian valve, eustachian valve, mitral valve

(4) Parasympathetic neural signals – Decrease speed of conduction of action potential in heart

150. Which of the following is an **incorrect** statement w.r.t. cardiac cycle?

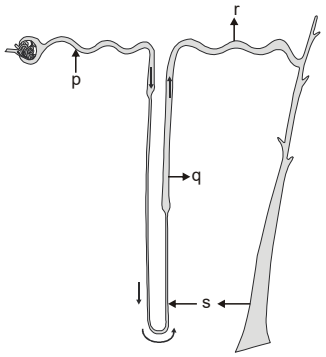
(1) When the ventricular systole begins, atria remain in diastole

(2) Time gap between consecutive lub and dub is 0.3 second.

(3) During joint diastole both atria and ventricle remain in diastole simultaneously

(4) Isovolumetric relaxation result in decrease of pressure inside the ventricle which leads to opening of semilunar valve

151. Following figure represents reabsorption and secretion of major substances at different parts of the nephron. Certain substances have been labelled as p, q, r and s. Select from the options the **correct** set of these substances.



	p	**q**	**r**	**s**
(1)	NH_3	NaCl	H^+	Urea
(2)	H^+	NaCl	Water	NaCl
(3)	H^+	NaCl	Water	Urea
(4)	NH_3	Water	NaCl	HCO_3^-

152. What is the osmolarity of blood in the hair pin loop of vasa recta?

(1) 300 $mOsmL^{-1}$

(2) 600 $mOsmL^{-1}$

(3) 800 $mOsmL^{-1}$

(4) 1200 $mOsmL^{-1}$

153. Which of the following statement is **correct** w.r.t. regulation of kidney function?

(1) ADH facilitates water reabsorption from proximal convoluted tubule of nephron

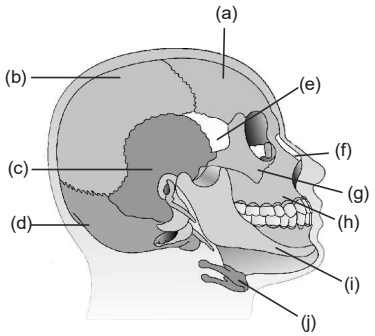
(2) A rise in glomerular blood pressure activates the JG cells to release renin which converts angiotensinogen in blood to angiotensin I and further to angiotensin II

(3) Angiotensin II is a vasodilator therefore increases glomerular blood pressure and thereby GFR

(4) ANF decreases blood pressure by inhibiting renin-angiotensin mechanism

154. Arrange the events during skeletal muscle contraction and relaxation in **correct** order.
   a. Formation of cross bridge
   b. Release of neurotransmitter (acetylcholine) at the neuromuscular junction
   c. Pumping of Ca^{2+} back into sarcoplasmic reticulum.
   d. Sliding of actin filaments over myosin
   e. Release of Ca^{2+} into sarcoplasm
   (1) b, c, e, a, d (2) e, b, a ,d, c
   (3) b, e, a, d, c (4) a, b, e, d, c

155. Following is a diagrammatic view of human skull with certain labelled bones



Among these, which of them are unpaired bones?
   (1) b, c, f, g, h (2) a, d, e, i, j
   (3) c, d, e, f, g, j (4) a, b, c, d, i, j

156. The somatic neural system of the peripheral nervous system
   (1) Relays impulses from CNS to smooth muscles of body
   (2) Relays impulses from organs to the CNS
   (3) Regulates the movement of substances in hollow visceral organs of body
   (4) Relays impulses from CNS to skeletal muscles

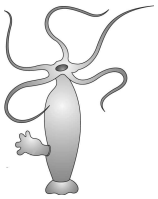
157. Which of the following statement is **wrong**?
   (1) Through dorsal root ganglion only sensory neuron passes
   (2) In eye, lateral to the blind spot is a yellowish pigmented spot called fovea with a central pit called macula lutea having greatest visual activity
   (3) The otolith organ of vestibular apparatus of inner ear consists of the utricle and saccule
   (4) The association areas in cerebral cortex are large regions that are neither clearly sensory nor motor in function.

158. All of the following are effects of hypothyroidism, **except**
   (1) Cretinism
   (2) Low intelligence quotient
   (3) Tachycardia
   (4) Irregular menstrual cycle

159. Which of the following is **not** a function of cortisol?
   (1) Stimulates protein synthesis
   (2) It is anti-inflammatory and suppresses the immune response
   (3) It stimulates erythropoiesis
   (4) It increases glucose in blood

160. How many of the following statements are **incorrect**?
   a. The sizes of crows and parrots are not very distinct yet their life spans show a wide difference.
   b. No individual is immortal except single celled organisms.
   c. Reproduction is a biological process in which an organism gives rise to young ones different from itself.
   d. The organism's habitat, its internal physiology are not responsible for how it reproduces.
   (1) One (2) Two
   (3) Three (4) Four

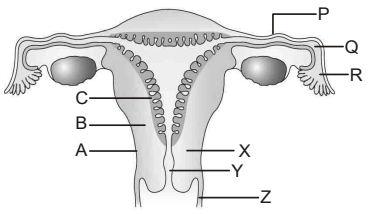
161. The following figure represents



   (1) Gemmule formation in sponges
   (2) Sexual reproduction in bisexual *Hydra*
   (3) Budding in *Hydra*
   (4) Colony formation in *Hydra*

162. Which of the following is **not** included in male sex accessory ducts?
   (1) Seminiferous tubules (2) Rete testis
   (3) Vasa efferentia (4) Epididymis

163. Following is diagrammatical sectional view of the female reproductive system. Answer the questions that follow.



   a. In which of the following layers does implantation take place?
   b. Which is the copulatory canal?
   c. Where does fertilization take place?
   d. Which layer undergoes contraction in response to oxytocin during parturition?

(1) (a) – B, (b) – Y, (c) – R, (d) – C
(2) (a) – C, (b) – Z, (c) – Q, (d) – B
(3) (a) – A, (b) – Z, (c) – Q, (d) – C
(4) (a) – C, (b) – X, (c) – P, (d) – A

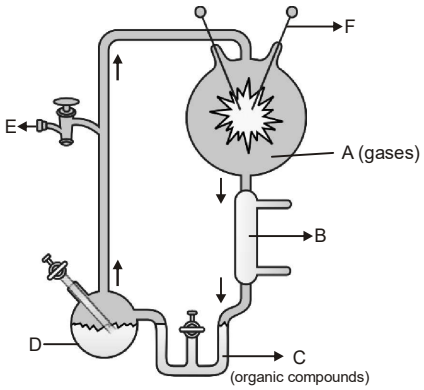
164. Which of the following statement is **correct** w.r.t spermatogenesis?
(1) A primary spermatocyte completes the first meiotic division leading to formation of two unequal haploid cells called secondary spermatocytes, which has only 23 chromosomes each
(2) If a person having low sperm count, given injection of testosterone regularly to maintain high concentration of it result into sperm count increase and in libido.
(3) LH acts at the interstitial cells and stimulates synthesis and secretion of estrogens
(4) FSH acts on the Sertoli cells and stimulates secretion of some factors which help in the process of spermiogenesis

165. All of the following are steps taken by government to check the increasing population growth, **except**
(1) Motivate smaller families by using various contraceptive methods
(2) Raising of marriageable age of the female to 18 years and that of males to 21 years
(3) Provision for incentives given to couples with small families
(4) Promotion of abortions if second pregnancy occurs

166. Which of the following is an **incorrect** match w.r.t category of contraceptive method, its type and the principle behind its contraception?
(1) **Category :** Natural method
Type : Periodic abstinence
Principle : Avoid chances of ovum and sperm meeting
(2) **Category :** Barrier method
Type : Condoms
Principle : Prevent ovum and sperms to meet physically
(3) **Category :** Intrauterine device
Type : Multiload 375
Principle : Inhibits ovulation
(4) **Category :** Implants
Type : Norplant
Principle : Inhibit ovulation

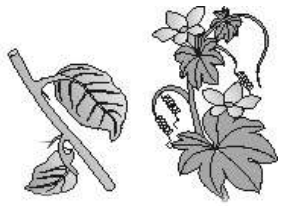
167. The zygote or early embryos required for zygote intra fallopian transfer or intra uterine transfer in humans are formed generally by
(1) *In-vitro* fertilisation
(2) *In-vivo* fertilisation
(3) MOET
(4) Fertilisation is not required

168. The diagram shown below represents Miller's experiment with certain labelled parts. Find out from the options the **correct** set of labellings



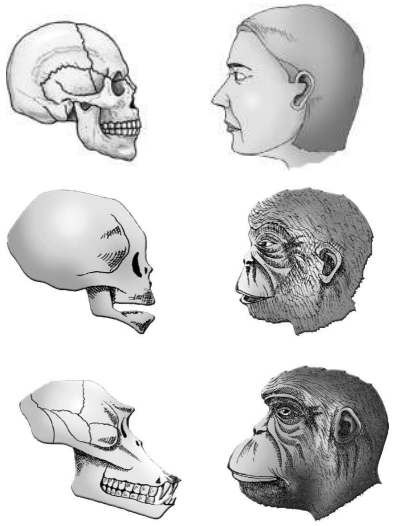
(1) A – CH_4, NH_3, H_2O vapour, H_2
B – Vacuum pump
C – Amino acids
(2) C – Boiling water
D – Amino acids
F – Electrodes
(3) A – CH_4, NH_3, H_2, CO_2
B – Condenser
E – Vacuum pump
(4) A – CH_4, NH_3, H_2O vapour, H_2
C – Amino acids
D – Boiling water

169. Identify the diagram and select the **correct** set of terms against it.



(1) Thorn of *Bougainvillea* and tendril of *Cucurbita* – Homologous organs – Convergent evolution
(2) Thorn of *Bougainvillea* and tendril of *Cucurbita* – Analogous organs – Divergent evolution
(3) Thorn of *Cucurbita* and tendril of *Bougainvillea* – Homologous organs – Divergent evolution
(4) Thorn of *Bougainvillea* and tendril of *Cucurbita* – Homologous organs – Divergent evolution

170. Study the diagram below and select the **correct** statement according to it.



(1) The skull of baby chimpanzee is more like adult chimpanzee skull

(2) The skull of baby chimpanzee is more like adult human skull

(3) The skull of adult human is more like adult chimpanzee skull

(4) Both (1) and (2)

171. Which of the following statement is **correct**?

(1) Rhino virus infect the lungs but not nasal passageways

(2) Pneumonia could be confirmed by Widal test

(3) *Plasmodium vivax* is most fatal of all species of *Plasmodium* and can even be fatal

(4) Amoebic dysentery is caused by *Entamoeba histolytica* which is a protozoan parasite in the large intestine of humans

172. All of the following are examples of natural passive immunity, **except**

(1) IgG antibodies crossing placental barrier

(2) Colostrum containing IgA antibodies provided to infant

(3) ATS against tetanus

(4) Both (1) and (2)

173. Find the **incorrect** match.

(1) Diacetylmorphine – Bind to specific opioid receptors present in our central nervous system and gastrointestinal tract

(2) Cannabinoids – Bind to cannabinoid receptors principally in brain and are known for their effects on cardiovascular system of the body

(3) Crack – Stimulating action on central nervous system producing a sense of euphoria and increased energy. Obtained from plant *Theobroma cacao*

(4) (Lysergic acid diethyl amide) – Hallucinogen obtained from fruiting body of fungus *Claviceps purpurea*. Brings about chromosomal and foetal abnormalities.

174. Select the **correct** set of restriction enzymes having restriction sites in *E. coli* cloning vector pBR322.

(1) *Eco* R II, *Hin* d III, *Bam* HI

(2) *Pst* I, *Pvu* II, *Sal* I

(3) *Pvu* I, *Bam* HI, *Sma* I

(4) *Pvu* II, *Cla* I, *Hind* II

175. Find the **incorrect** match.

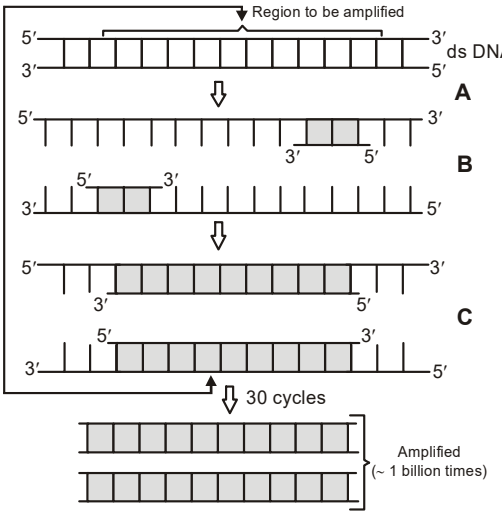
(1) Disarmed Retroviruses – Deliver desirable genes into animal cells

(2) Biolistics – Vectorless gene transfer

(3) Natural genetic engineer – *Agrobacterium tumefaciens*

(4) Insertional inactivation of β-galactosidase – Blue colonies indicate recombinants.

176. Following diagram represents polymerase chain reaction with steps labelled as A, B & C. Identify the **correct** description of steps mentioned.



(1) A. Denaturation – Occurs at 40°C

(2) B. Annealing – Requires activity of *Taq* polymerase

(3) C. Extension – Requires ribonucleotides

(4) A. Melting – Requires temperature above 90°C.

177. Which of the following is a **correct** match?

(1) *Cry* I Ac and *Cry* II Ab – Control corn borer

(2) RNAi – Only silencing of specific mRNA in prokaryote

(3) Bt toxin – Activates in acidic pH of gut of insects

(4) Golden rice – β-carotene enriched rice

178. All of the following statements are correct in respect of gene therapy, **except**

(1) It allows correction of genetic defect in embryonic stage only

(2) The genes are inserted into cells and tissues to treat a disease

(3) Delivery of a normal gene into cell takes over the function of and compensate for the non-functional gene

(4) As a step towards gene therapy to treat ADA deficiency, ADA cDNA is introduced into cultured lymphocytes of the patient and subsequently returned to him/her.

179. Selection of suitable location for keeping the beehives is important for successful bee keeping as it

(1) Increases honey yield

(2) Increases crop yield

(3) Makes honey bee disease resistant

(4) More than one option is correct

180. Consider the following statements with blanks A & B. Select the option which **correctly** fills up these blanks.

The method of animal breeding in which superior males of one breed are mated with superior females of another breed is known as __A__. By this approach a new breed __B__ has been developed.

	A	**B**
(1)	Out-crossing	Jersey
(2)	Cross-breeding	*Hisardale*
(3)	Inter-specific hybridization	Mule
(4)	Inbreeding	Leghorn

❑ ❑ ❑

Test Date
17-05-2020

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MOCK TEST PAPER – 1

(for NEET-2020)

ANSWERS

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