



JAL NEET ACADEMY

CREATING FUTURE MEDICOS

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MODEL NEET 2025

INSTRUCTIONS

1. Immediately fill in the particulars on this page of the Test Booklet with Blue/Black Ball Point Pen only.
2. The test is of 3 hours 20 minutes duration and the test booklet contains 200 Multiple choice questions. Which have four options with a single correct answer.
3. This test consists of Physics, Chemistry, Botany and Zoology questions with equal weightage of 180 marks.
4. Each question is of 4 marks. For each correct response the candidate will get 4 marks. For each incorrect response, 1 mark will be deducted from the total score. The maximum marks are 720.
5. There are four parts in the question paper, consisting Part-I Physics (Q.no.1 to 50), Part-II Chemistry (Q.no.51 to 100), Part-III Botany (Q. no. 101 to 150) and Part-IV Zoology (Q. no.151 to 200). Each part is divided into two Sections, Section-A consists of 35 multiple choice questions & Section-B consists of 15 Multiple choice questions, out of these 15 questions candidates can choose to attempt any 10 questions.

	Parts Sections	Physics	Chemistry	Botany	Zoology	Total	
Questions	Section A	35	35	35	35	140	200
	Section B	15	15	15	15	60	
To Attempt	Section A	35	35	35	35	140	180
	Section B	10	10	10	10	40	

6. Candidates are advised to read all 15 questions in each subject of Section-B before they start attempting the question paper. In the event of a candidate attempting more than ten questions, the first ten questions answered by the candidate shall be evaluated.
7. Use Blue/Black Ball Point Pen only for writing particulars/markings responses on OMR Sheet.
8. Do not fold or make any stray marks on the Answer Sheet. Rough work is to be done on the space provided for this purpose.

Name of Student :.....

School in which studying :.....

Examination Center :.....

PHYSICS

SECTION – A

1. Three equal charges each $+q$ are placed on the corners of an equilateral triangle of side a . Then the coulomb force experienced by one charge due to the rest of the two is:

1. Kq^2/a^2 2. $2Kq^2/a^2$ 3. $\sqrt{3}Kq^2/a^2$ 4. zero

2. Pick out the statement which is incorrect.

1. The electric field lines forms closed loop

2. Field lines never intersect

3. The tangent drawn to a line of force represents the direction of electric field

4. A negative test charge experiences a force opposite to the direction of the field.

3. Two point charges $+8q$ and $-2q$ are placed as shown in the figure.

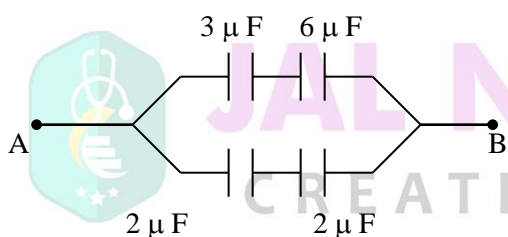


The point where the electric field is zero is

1. $x = l$ 2. $x = 2l$

3. $x = 3l$ 4. $x = 4l$

4. The equivalent capacitance between A and B is



1. $\frac{36}{13} \mu F$ 2. $2 \mu F$ 3. $1 \mu F$ 4. $3 \mu F$

5. When the space between the plates of a $5 \mu F$ capacitor is filled with glass, its potential difference reduces to $1/8$ of the original value.

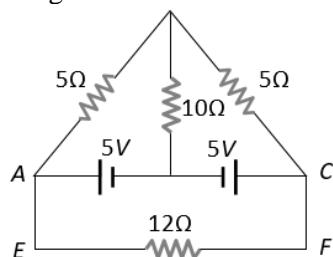
Then the dielectric constant of glass is

1. 1.6 2. 2.5 3. 3.8 4. 4.40

6. Eight small drops, each of radius r and the same charge q are combined to form a big drop. The ratio between the potential of the bigger drop and the smaller drop is

1. 8:1 2. 4:1 3. 2:1 4. 1:8

7. In the circuit of adjoining figure the current through 12Ω resistor will be



1. 1 A 2. $\frac{1}{5} A$

3. $\frac{2}{5} A$

4. 0 A

8. Two electric bulbs rated P_1 watt V volts and P_2 watt V volts are connected in parallel and V volts are applied to it. The total power will be

1. $P_1 + P_2$ watt

2. $\sqrt{P_1 P_2}$ watt

3. $\frac{P_1 P_2}{P_1 + P_2}$ watt

4. $\frac{P_1 + P_2}{P_1 P_2}$ watt

9. The resistance of a wire is R . If the length of the wire is doubled by stretching, then the new resistance will be

1. $2R$ 2. $4R$

3. R

4. $\frac{R}{4}$

10. A circular coil of n turns and radius r carries a current I . The magnetic field at the centre is

1. $\frac{\mu_0 n I}{r}$

2. $\frac{\mu_0 n I}{2r}$

3. $\frac{2\mu_0 n I}{r}$

4. $\frac{\mu_0 n I}{4r}$

11. A current flows in a conductor from east to west. The direction of the magnetic field at a point above the conductor is towards:

1. east

2. west

3. north

4. south

12. Which of the following relations represent Biot- Savart's law?

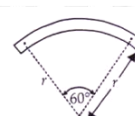
1. $d\vec{B} = \frac{\mu_0}{4\pi} \frac{Id\vec{l} \times \vec{r}}{r^3}$

2. $d\vec{B} = \frac{\mu_0}{4\pi} \frac{Id\vec{l} \times \hat{r}}{r^3}$

3. $d\vec{B} = \frac{\mu_0}{4\pi} \frac{Id\vec{l} \times \vec{r}}{r^3}$

4. $d\vec{B} = \frac{\mu_0}{4\pi} \frac{Id\vec{l} \times \hat{r}}{r^4}$

13. A bar magnet of length ' l ' and magnetic dipole moment ' M ' is bent in the form of an arc as shown in figure. The new magnetic dipole moment will be



1. $\frac{2}{\pi} M$

2. $\frac{M}{2}$

3. M

4. $\frac{3}{\pi} M$

14. A magnet of magnetic moment M is rotated through 360° in a magnetic field B , the work done will be

1. MB

2. $2MB$

3. $2\pi MB$

4. zero

15. A magnetic needle lying parallel to a magnetic field requires W units of work to turn it through 60° . The torque needed to maintain the needle in this position will be

1. $\sqrt{3}W$

2. W

3. $\left(\frac{\sqrt{3}}{2}\right)W$

4. $2W$

16. Faraday's laws are consequence of conservation of

1. Energy

2. Energy and magnetic field

3. Charge

4. Magnetic field

17. The mutual inductance between two coils is 1.25 henry. If the current in the primary changes at the rate of 80 ampere/second, then the induced e.m.f. in the secondary is

1. 12.5 V

2. 64.0 V

3. 0.016 V

4. 100.0 V

18. A coil of $N = 100$ turns carries a current $I = 5$ A and creates a magnetic flux $\phi = 10^{-5} \text{ Tm}^2$ per turn. The value of its inductance L will be

1. 0.05 mH 2. 0.10 mH
3. 0.15 mH 4. 0.20 mH
19. A resistor $30\ \Omega$, inductor of reactance $10\ \Omega$ and capacitor of reactance $10\ \Omega$ are connected in series to an AC voltage source $e=300\sqrt{2}\sin(\omega t)$. The current in the circuit is
 1. $10\sqrt{2}\text{ A}$ 2. **2.10 A** 3. $30\sqrt{11}\text{ A}$ 4. $30/\sqrt{11}\text{ A}$
20. The frequency for which a $5\ \mu\text{F}$ capacitor has a reactance of $1/1000\ \text{ohm}$ is given by
 1. **$100/\pi\text{ MHz}$** 2. $1000/\pi\text{ Hz}$
 3. $1/1000\text{ Hz}$ 4. 1000 Hz
21. The initial phase angle for $i=10\sin\omega t+8\cos\omega t$ is
 1. **$\tan^{-1}(4/5)$** 2. $\tan^{-1}(5/4)$
 3. $\sin^{-1}(4/5)$ 4. 90°
22. A radiation of energy 'E' falls normally on a perfectly reflecting surface. The momentum transferred to the surface is ($C = \text{Velocity of light}$)
 1. **$\frac{2E}{C}$** 2. $\frac{2E}{C^2}$ 3. $\frac{E}{C^2}$ 4. $\frac{E}{C}$
23. In an electromagnetic wave the energy density associated with magnetic field will be
 1. $\frac{1}{2}LI^2$ 2. **$\frac{B^2}{2\mu_0}$** 3. $\frac{1}{2}\mu_0 B^2$ 4. $\frac{1}{2}\frac{\mu_0}{B^2}$
24. Interference pattern is obtained with two coherent light sources of intensities I and $4I$. The intensity at a point where the phase difference is $\pi/2$ is
 1. I 2. $2I$ 3. $3I$ 4. **$4.5I$**
25. In a double slit experiment, the distance between the slits is d . The screen is at a distance D from the slits. If a bright fringe is formed opposite to a slit on the screen, the order of the fringe is :
 1. $\frac{d^2}{\lambda D}$ 2. **$\frac{d^2}{2\lambda D}$** 3. $\frac{2d^2}{\lambda D}$ 4. $\frac{d}{\lambda D}$
26. Light of two different frequencies whose photons have energies 1 eV and 2.5 eV respectively illuminate a metallic surface whose work function is 0.5 eV successively. Ratio of maximum speeds of emitted electrons will be
 1. **$1:2$** 2. $1:1$ 3. $1:5$ 4. $1:4$
27. If the work function of the photoelectric surface is 3.3 eV , then the value of threshold frequency is
 1. **$8\times 10^{14}\text{ Hz}$** 2. $5\times 10^{16}\text{ Hz}$
 3. $4\times 10^{11}\text{ Hz}$ 4. $8\times 10^{10}\text{ Hz}$
28. If the wavelength of the first line of the Lyman series is 1215 \AA , the shortest wavelength in \AA of the Balmer series is:
 1. 1823 2. 2430 3. 3038 4. **3645**
29. If the electron in a hydrogen atom jumps from an orbit with level $n_2 = 3$ to an orbit with level $n_1 = 2$, the emitted radiation has a wavelength given by:
 1. **$\lambda = \frac{36}{5R}$** 2. $\lambda = \frac{5R}{36}$ 3. $\lambda = \frac{6}{R}$ 4. $\lambda = \frac{R}{6}$
30. A nucleus represented by the symbol ${}^A_Z\text{X}$ has

1. Z neutrons and $A - Z$ protons
2. **Z protons and $A - Z$ neutrons**
3. Z protons and A neutrons
4. A protons and $Z - A$ neutrons
31. Binding energy per nucleon relation with mass number
 1. first decreases then increases
 2. **first increases then decreases**
 3. increases 4. decreases
32. In a P-N Junction diode not connected to any circuit
 1. potential is the same everywhere
 2. the P-type side is at a higher potential than the N-type side
 3. **there is an electric field at the junction directed from the N-type side to the P-type side**
 4. there is an electric field at the junction directed from the P-type side to the N-type side
33. Forbidden energy gap of Ge is 0.75 eV , maximum wave length of incident radiation of photon for producing electron - hole pair in germanium semiconductor is :-
 1. 4200 \AA 2. **16500 \AA** 3. 4700 \AA 4. 4000 \AA
34. A convex mirror has a focal length f . A real object placed at a distance f in front of it from the pole produces an image at Infinity
 1. Infinity 2. f 3. **$f/2$** 4. $2f$
35. On a glass plate a light wave is incident at an angle of 60° . If the reflected and the refracted waves are mutually perpendicular, the refractive index of material is
 1. $\frac{\sqrt{3}}{2}$ 2. **$\sqrt{3}$** 3. $\frac{3}{2}$ 4. $\frac{1}{\sqrt{3}}$

SECTION - B

36. The dipole moment of a dipole in an uniform external field \vec{E} is \vec{P} . Then the torque τ acting on the dipole is
 1. $\tau = \vec{P} \times \vec{E}$ 2. $\tau = \vec{P} \cdot \vec{E}$
 3. $\tau = 2\left(\vec{P} + \vec{E}\right)$ 4. $\tau = \left(\vec{P} + \vec{E}\right)$
37. When a potential difference V is applied across the series combination of two capacitors of capacitance C_1 and C_2 , then the potential difference across C_1 will be
 1. $\frac{VC_2}{C_2}$ 2. $\frac{V(C_1 + C_2)}{C_1}$ 3. **$\frac{VC_2}{C_1 + C_2}$** 4. $\frac{VC_1}{C_1 + C_2}$
38. A cell of emf E is connected across a resistance R . the potential difference between the terminals of the cell is found to be V volt. Then the internal resistance of the cell must be
 1. $(E-V)$ 2. **$\frac{(E-V)R}{V}$** 3. $\frac{2(E-V)R}{E}$ 4. $\frac{2(E-V)V}{R}$
39. Two straight wires each 10 cm long are parallel in one another and separated by 2 cm . When the current flowing in them is 30 A and 40 A

respectively, the force experienced by either of the wires is

1. $1.2 \times 10^{-3} \text{ N}$
2. $12 \times 10^{-3} \text{ N}$
3. $11.2 \times 10^{-3} \text{ N}$
4. $10.2 \times 10^{-3} \text{ N}$

40. The time period of a vibration magnetometer is T_0 . Its magnet is replaced by another magnet whose moment of inertia 3 times and magnetic moment is $(1/3)$ of the initial magnet. The time period now will be :

1. $3T_0$
2. $T_0/\sqrt{3}$
3. T_0
4. $T_0/3$

41. If the number of turns in a coil becomes doubled, then its self inductance will be

1. Double
2. Halved
3. Four times
4. Unchanged

42. When the rate of change of current is unity, induced emf is equal to

1. Thickness of coil
2. Number of turns in coil

3. Coefficient of self-induction

4. Total flux linked with coil

43. The electromagnetic spectrum is divided into different regions. Which of the following electromagnetic waves has the longest wavelength?

1. X-rays
2. Gamma rays
3. Radio waves
4. Microwaves

44. If Young's double slit experiment is performed in water instead of air, then

1. No fringes would be seen
2. Fringe width would decrease
3. Fringe width would increase
4. Fringe width would remain unchanged

45. In photoelectric effect if the intensity of light is doubled, then maximum kinetic energy of photoelectrons will become

1. double
2. half
3. four times
4. no change

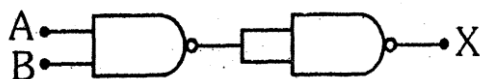
46. Maximum frequency of emission is obtained for the transition:

1. $n = 2$ to $n = 1$
2. $n = 6$ to $n = 2$
3. $n = 1$ to $n = 2$
4. $n = 2$ to $n = 6$

47. Which one has highest binding energy per nucleon ?

1. Fe^{56}
2. Li^6
3. U^{235}
4. Ca^{40}

48. The output (X) of the logic circuit shown in figure will be :

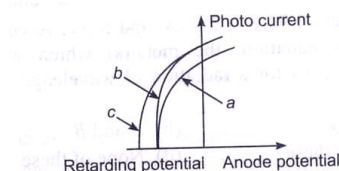


1. $X = \overline{A+B}$
2. $X = \overline{\overline{A} \cdot \overline{B}}$
3. $X = \overline{A \cdot B}$
4. $X = A \cdot B$

49. A thin rod of length $f/3$ lies along the axis of a concave mirror of focal length f . One end of its magnified image touches an end of the rod. The length of the image is

1. f
2. $\frac{1}{2}f$
3. $2f$
4. $\frac{1}{4}f$

50. The figure shows a plot of photocurrent versus anode potential for a photo sensitive surface for three different radiations. Which one of the following is a correct statement?



(1) Curves a and b represent incident radiations of different frequencies and different intensities

(2) curves a and b represent incident radiations of same frequency but of different intensities

(3) curves b and c represent incident radiations of different frequencies and different intensities

(4) curves b and c represent incident radiations of same frequency having same intensity

CHEMISTRY

SECTION – A

51. Match the column I with column II and mark the appropriate choice.

Column I		Column II	
1.	Kohlrausch's law	(i)	$\Lambda^\circ_{\text{eq}} = \Lambda^\circ_c + \Lambda^\circ_a$
2.	Molar conductivity	(ii)	$\Lambda_m = \frac{\kappa}{C}$
3.	Degree of dissociation	(iii)	$\alpha = \frac{\Lambda_m}{\Lambda^\circ_m}$
4.	Dissociation constant	(iv)	$K_a = \frac{C\alpha^2}{1-\alpha}$

1. 1. → (iii), 2. → (iv), 3. → (i), 4. → (ii)

2. 1. → (i), 2. → (ii), 3. → (iii), 4. → (iv)

3. 1. → (iv), 2. → (i), 3. → (ii), 4. → (iii)

4. 1. → (ii), 2. → (iii), 3. → (iv), 4. → (i)

52. During electrolysis of NaCl solution apart of the reaction is $\text{Na}^+ + e^- \rightarrow \text{Na}$. This is termed as

1. Oxidation
2. Reduction
3. Deposition
4. Cathodic reaction

53. What will be the molar conductivity of Al^{3+} ions at infinite if molar conductivity of $\text{Al}_2(\text{SO}_4)_3$ is $858 \text{ S cm}^2 \text{ mol}^{-1}$ and ionic conductance of SO_4^{2-} is $160 \text{ S cm}^2 \text{ mol}^{-1}$ at infinite dilution ?

1. $189 \text{ S cm}^2 \text{ mol}^{-1}$
2. $698 \text{ S cm}^2 \text{ mol}^{-1}$
3. $1018 \text{ S cm}^2 \text{ mol}^{-1}$
4. $429 \text{ S cm}^2 \text{ mol}^{-1}$

54. For the reaction, $2\text{N}_2\text{O}_5 \rightarrow 4\text{NO}_2 + \text{O}_2$, the rate reaction can be expressed in terms and concentration by the expression

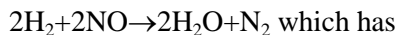
$$1. \text{Rate} = \frac{d[\text{N}_2\text{O}_5]}{dt} = \frac{1}{4} \frac{d[\text{NO}_2]}{dt} = \frac{1}{2} \frac{d[\text{O}_2]}{dt}$$

$$2. \text{Rate} = \frac{1}{2} \frac{d[\text{N}_2\text{O}_5]}{dt} = \frac{1}{4} \frac{d[\text{NO}_2]}{dt} = \frac{1}{2} \frac{d[\text{O}_2]}{dt}$$

$$3. \text{Rate} = -\frac{1}{4} \frac{d[\text{N}_2\text{O}_5]}{dt} = \frac{1}{2} \frac{d[\text{NO}_2]}{dt} = \frac{d[\text{O}_2]}{dt}$$

$$4. \text{Rate} = -\frac{1}{2} \frac{d[\text{N}_2\text{O}_5]}{dt} = \frac{1}{2} \frac{d[\text{NO}_2]}{dt} = \frac{1}{2} \frac{d[\text{O}_2]}{dt}$$

55. The unit of rate constant of the reaction



rate = $k[\text{H}_2][\text{NO}]^2$, is

1. $\text{mol L}^{-1} \text{s}^{-1}$ 2. s^{-1}
3. $\text{mol}^{-2} \text{L}^2 \text{s}^{-1}$ 4. mol L^{-1}

56. The rate of disappearance of SO_2 in the reaction,
 $2\text{SO}_2 + \text{O}_2 \rightarrow 2\text{SO}_3$ is $1.28 \times 10^{-5} \text{ mol s}^{-1}$. The rate of appearance of SO_3 is

1. $0.64 \times 10^{-5} \text{ mol s}^{-1}$ 2. $0.32 \times 10^{-5} \text{ mol s}^{-1}$
 3. $2.56 \times 10^{-5} \text{ mol s}^{-1}$ **4. $1.28 \times 10^{-5} \text{ mol s}^{-1}$**

57. The IUPAC name of diethyl ketone is

1. Butanal 2. 2-Pentanone
3. 3-Pentanone 4. 2-Butanone

58. Amongst the following, which metal exist in liquid state during summer?

1. In **2. Ga** 3. Ge 4. Tl

59. Lanthanide contraction is due to increase in

1. atomic number **2. effective nuclear charge**
 3. atomic radius 4. valence electrons

60. Which of the following statement is correct about stability of the complexes of lanthanoids?

- 1. Stability of complexes increases as the size of lanthanoid decreases.**
 2. Stability of complexes decreases as the size of lanthanoid decreases
 3. Lanthanoids do not form complexes.
 4. all the complexes of lanthanoids have same stability.

61. Match the column I with column II and mark the appropriate choice

Column I		Column II	
1	Mischmetall	i	Alloy of Cu and Sn
2	Ziegler catalyst	ii	Alloy of lanthanoid metals
3	Brass	iii	$\text{TiCl}_4 + \text{Al}(\text{CH}_3)_3$
4	Bronze	iv	Alloy of Cu and Zn

1. 1. → (i), 2. → (iii), 3. → (ii), 4. → (iv)

2. 1. → (ii), 2. → (iii), 3. → (iv), 4. → (i)

3. 1. → (iv), 2. → (i), 3. → (iii), 4. → (ii)

4. 1. → (iii), 2. → (ii), 3. → (i), 4. → (iv)

62. The number of unpaired electrons in $[\text{Ni}(\text{CO})_4]$

1. one 2. two 3. three **4. zero**

63. The number of ions given by $[\text{Pt}(\text{NH}_3)_6]\text{Cl}_4$ in aqueous solution will be

1. two 2. three **3. five** 4. eleven

64. Match the vitamins given in a column I with the deficiency diseases caused by it given in column II and mark the appropriate choice.

Column I		Column II	
1.	Vitamin B ₁	(i)	Convulsions
2.	Vitamin B ₂	(ii)	Pernicious anaemia
3.	Vitamin B ₁₂	(iii)	Beri beri
4.	Vitamin B ₆	(iv)	Cheilosis

1. A-(iv), B-(iii), C-(i), D-(ii)

2. A-(i), B-(iv), C-(iii), D-(ii)

3. A-(ii), B-(i), C-(iv), D-(iii)

4. A-(iii), B-(iv), C-(ii), D-(i)

65. Amino acids generally exist in the form of Zwitter ions. This means they contain

1. basic $-\text{NH}_2$ group and acidic $-\text{COOH}$ group

2. the basic $-\text{NH}_3^+$ group and acidic $-\text{COO}^-$ group

3. basic $-\text{NH}_2$ and acidic $-\text{H}^+$ group

4. basic COO^- group and acidic NH_3^+ group

66. In the ring structure of fructose, the anomeric carbon is:

1. C-1 **2. C-5** 3. C-2 4. C-6

67. Which of the following alkyl halide will undergo $\text{S}_\text{N}1$ reaction most readily?

- 1. tertbutyl chloride** 2. sec butyl chloride
 3. ethyl chloride 4. methyl chloride

68. The reactivity order of halides for Dehydro halogenation is

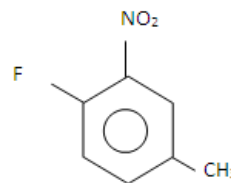
1. $\text{R}-\text{F} > \text{R}-\text{Cl} > \text{R}-\text{Br} > \text{R}-\text{I}$

2. $\text{R}-\text{I} > \text{R}-\text{Br} > \text{R}-\text{Cl} > \text{R}-\text{F}$

3. $\text{R}-\text{I} > \text{R}-\text{Cl} > \text{R}-\text{Br} > \text{R}-\text{F}$

4. $\text{R}-\text{F} > \text{R}-\text{I} > \text{R}-\text{Br} > \text{R}-\text{Cl}$

69. The IUPAC name of the compound



is

1. 1-fluoro-4-methyl-2-nitrobenzene

2. 4-fluoro-1-methyl-3-nitrobenzene

3. 4-methyl-1-fluoro-2-nitrobenzene

4. 2-fluoro-5-methyl-1-nitrobenzene

70. Phenol is less acidic than

1. o-nitrophenol

2. o-methylphenol

3. o-methoxyphenol

4. ethanol

71. The number of isomeric primary alcohols of the molecular formula $\text{C}_4\text{H}_{10}\text{O}$ is

1. 1

2. 2

3. 3

4. 4

72. Aldol condensation is not given by

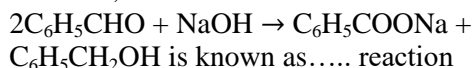
1. $\text{CH}_3\text{CH}_2\text{CHO}$

2. CH_3COCH_3

3. $\text{C}_6\text{H}_5\text{CHO}$

4. $\text{C}_6\text{H}_5\text{CH}_2\text{CHO}$

73. The reaction,



is known as..... reaction

1. Cannizzaro's

2. Kolbe's

3. Sandmeyer

4. Wolff Kishner

74. Which of the following does not react with Acetyl chloride?

1. $\text{CH}_3\text{CH}_2\text{NH}_2$

2. $\text{C}_6\text{H}_5\text{NH}_2$

3. $(\text{CH}_3)_2\text{CHNH}_2$

4. $(\text{CH}_3)_3\text{N}$

75. Oxidation number of iron in $\text{K}_4[\text{Fe}(\text{CN})_6]$ is

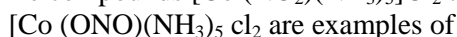
1. +3

2. +2

3. 0

4. +1

76. The compounds $[\text{Co}(\text{NO}_2)(\text{NH}_3)_5]\text{Cl}_2$ and



are examples of

1. Geometrical isomers

2. Ligand isomers

3. Ionisation isomers

4. Linkage isomers

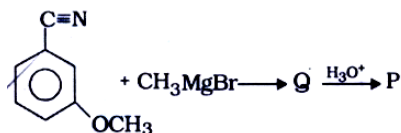
77. The correct order of increasing basic nature for the bases NH_3 , CH_3NH_2 and $(\text{CH}_3)_2\text{NH}$ is

1. $\text{CH}_3\text{NH}_2 < (\text{CH}_3)_2\text{NH} < \text{NH}_3$
2. $\text{CH}_3\text{NH}_2 < \text{NH}_3 < (\text{CH}_3)_2\text{NH}$
3. $(\text{CH}_3)_2\text{NH} < \text{NH}_3 < \text{CH}_3\text{NH}_2$
4. $\text{NH}_3 < \text{CH}_3\text{NH}_2 < (\text{CH}_3)_2\text{NH}$

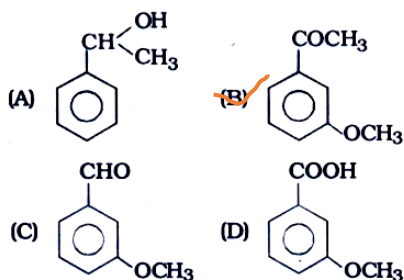
78. Benzaldehyde reacts with aniline to give

1. Benzamide
2. Benzene diazonium chloride
3. Benzal aniline
4. Hydro benzamide

79.



The product P in the reaction is :



80. Presence of a nitro group in a benzene ring

1. renders the ring basic
2. deactivates the ring towards nucleophilic substitution
3. deactivates the ring towards electrophilic substitution
4. activates the ring towards electrophilic substitution

81. Reduction of aldehydes and ketones into hydrocarbons using zinc amalgam and conc. HCl is called..... reaction

1. Clemmensen
2. Wolff Kishner
3. Cannizzaro
4. Dow

82. The IUPAC name of $\text{CH}_3\text{COCH}_2\text{CH}_2\text{CH}_3$

1. Methyl Propylketone
2. 2-Pentanone
3. 3-Pentanone
4. 2-Methyl butanone

83. Which one of these is acidic ?

1. Al_2O_3
2. SnO_2
3. PbO_2
4. SiO_2

84. Which of the following carbohydrates is not monosaccharide?

1. Glucose
2. Fructose
3. Sucrose
4. Ribose

85. The law which relates the solubility of a gas to its pressure is called

1. Raoult's law
2. Ostwald's law
3. Distribution law
4. Henry's law

SECTION - B

86. The current in a given wire is 1.8 A. The number of Coulombs that flow in 1.36 minutes will be

1. 100 C
2. 147 C
3. 247 C
4. 347 C

87. **Assertion:** Rate reaction increases with increase in temperature

Reason : Number of effective collisions increases with increase in temperature

1. Both assertion and reason are true but reason is not the correct explanation of assertion

2. Both assertion and reason are true but reason is not the correct explanation of assertion

3. Assertion is true but reason is false

4. Both assertion and reason are false

88. The temperature dependence of the rate of a chemical reaction can be explained by Arrhenius equation which is

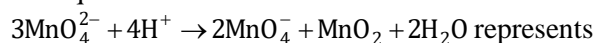
1. $k = Ae^{E_a/RT}$ 2. $k = Ae^{-E_a/RT}$

3. $k = Ae \times \frac{E_a}{RT}$ 4. $k = Ae \times \frac{RT}{E_a}$

89. Which of the following oxides is amphoteric in nature ?

1. B_2O_3
2. SiO_2
3. Al_2O_3
4. CaO

90. The equation



1. reduction
2. disproportionation
3. oxidation in acidic medium
4. reduction in acidic medium.

91. General electronic configuration of transition metals is

1. $(n-1)d^{1-10}ns^2$
2. $nd^{10}ns^2$
3. $(n-1)d^{10}ns^2$
4. $(n-1)d^{1-5}ns^2$

92. Which of the following descriptions about

$[\text{FeCl}_6]^{4-}$ is correct about the complex ion?

1. sp^3d , inner orbital complex, diamagnetic
2. sp^3d^2 , outer orbital complex, paramagnetic
3. d^2sp^3 , inner orbital complex, paramagnetic
4. d^2sp^3 , outer orbital complex, diamagnetic

93. **Assertion:** Purine bases present in DNA are adenine and guanine

Reason: The base thymine is present in RNA while base uracil is present in DNA

1. Both assertion and reason are true and reason is correct explanation of assertion.

2. Both assertion and reason are true but reason is not the correct explanation of assertion

3. Assertion is true but reason is false.

4. Both assertion and reason are false

94. Which one of the following sets of monosaccharides forms sucrose?

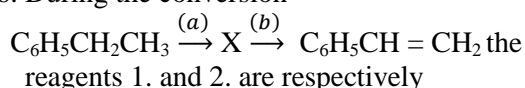
1. α -D-galactopyranose and α -D-glucopyranose
2. α -D-glucopyranose and β -D-fructofuranose
3. β -D-glucopyranose and α -D-fructofuranose
4. α -D-glucopyranose and β -D-fructopyranose

95. Fluorobenzene is prepared by treating benzene diazonium chloride with fluoroboric acid and heating the product obtained. This is known as reaction

1. Schiemann
2. Sandmeyer

3. Gattermann 4. Ulmann

96. During the conversion



1. SOCl_2 , alc. KOH 2. Cl_2/hv , H_2O

3. SO_2Cl_2 , aq. KOH 4. SO_2Cl_2 , alc. KOH

97. Phenol is converted into salicylaldehyde by

1. Etard reaction 2. Kolbe's method

3. Reimer – Tiemann reaction

4. Cannizzaro reaction

98. Picric acid is

1. 2,4,6 – Trinitrophenol 2. 2,4,6 – Trinitroaniline

3. 2,4,6 – Trinitrotoluene 4. 2,4 – Dinitrophenol

99. $2\text{C}_6\text{H}_5\text{CHO} + \text{NaOH} \rightarrow \text{C}_6\text{H}_5\text{COONa} + \text{C}_6\text{H}_5\text{CH}_2\text{OH}$ is known as..... reaction

1. Cannizzaro 2. Kolbe

3. Sandmeyer 4. Wolff Kishner

100. Which is most reactive towards HCN?

1. CH_3COCH_3 2. CH_3CHO

3. $\text{CH}_3\text{COC}_2\text{H}_5$ 4. HCHO

BIOLOGY

BOTANY

SECTION - A

101. Match the following columns.

Column I	Column II
A. Calyx	1. Stamen
B. Corolla	2. Petal
C. Androecium	3. Sepal
D. Gynoecium	4. Carpel

Codes

A	B	C	D
1. 3	2	1	4
2. 1	2	3	4
3. 2	1	4	3
4. 3	4	1	2

102. Microsporangium produces

1. male gametes 2. female gametes

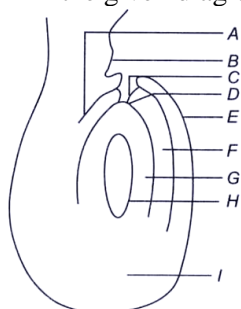
3. pollen 4. both 1. and 3.

103. Pollens are stored at which temperature

1. -196°C 2. 196°C

3. 10°C 4. 0°C

104. Identify A to H in the given diagram.



1. A-Chalazal end, B-Embryo sac, C-Nucellus, D-Inner integuments, E-Outer integuments, F-Micropylar pole, G-

Micropyle, H-Funicle, I-Hilum

2. A-Inner integuments, B-Nucellus, C-Erbryo sac, D-Chalazal end, E-Hilum, F-Funicle, G-Micropyle, H-Micropylor end, I-Outer integuments

3. A-Hilum, B-Funicle, C-Micropyle, D-Micropylar pole, E-Outer integuments, F-Inner integuments, G-Nucellus, H-Embryo sac, I-Chalazal pole

4. A-Micropylar end, B-Micropyle, C-Funicle, D-Hilum, E-Outer integuments, F-Inner integuments, G-Nucellus, H-Embryo sac, I-Chalazal end

105. The stalk which joins ovule and placenta is called

1. funicle 2. hilum

3. chalaza 4. micropyle

106. Egg apparatus consists of

1. 2 synergids + 2 eggs

2. 2 synergids + 2 eggs

3. 2 synergids + 1 egg

4. 2 synergids + 4 eggs

107. Match the following columns.

Column I	Column II
A. Flower colour	1. Violet/white
B. Pod colour	2. Green/yellow
C. Seed colour	3. Yellow/green

Codes

A	B	C
1. 1	2	3
2. 1	3	2
3. 3	2	1
4. 3	1	2

108. In sickle-cell anaemia, GAG is replaced by

1. GGA 2. GUG 3. AAG 4. GGG

109. Gynaecomastia is common feature seen in

1. Down's syndrome 2. Turner's syndrome

3. pKU 4. Klinefelter's syndrome

110. Colour blindness is

1. sex-linked recessive disease

2. sex-linked dominant disease

3. autosomal dominant disease

4. autosomal recessive disease

111. I. Haemophilia II. Cystic fibrosis

III. Sickle-cell anaemia IV. Colour blindness

V. Cancer VI. Plague

VII. Phenylketonuria VIII. Thalassemia

Choose the correct options for Mendelian disorders.

1. I, II, III, IV, VI, VIII

2. I, II, III, IV, VII, VIII

3. I, II, III, IV, V, VI

4. I, II, III, IV, V, VIII

112. Dihybrid ratio of the linked gene is

1. 1 : 1 2. 1 : 1 : 1 : 1

3. 9 : 3 : 3 : 1 4. 3 : 1

113. The pyrimidine, which is present only in RNA.

1. Adenine 2. Guanine 3. Thymine 4. Uracil

114. Backbone of DNA is formed by

1. sugar 2. phosphates

3. Both 1. and 2.

4. nitrogenous bases (purine and pyrimidine)

115. Diploid content of human DNA is

1. 3.3×10^6 bp 2. 3.3×10^9 bp

3. 4.6×10^6 bp 4. 6.6×10^9 bp

116. Continuous and discontinuous strands are called

1. leading strand and lagging strand

2. lagging strand and leading strand

3. trailing strand and leading strand

4. leading strand and lacking strand

117. Monocistronic transcriptional units are found in

1. prokaryotes 2. eukaryotes

3. Both 1. and 2. 4. bacteria

118. Splicing takes place in

1. prokaryotes only 2. eukaryotes only

3. Protista only 4. plants only

119. Which of the following features are true for stabilising type of natural selection?

1. Selection of averaged individual

2. It reduces variation

3. It is bell-shaped

4. All of the above

120. ...A... is a binomial expression of $(p+q)^2$. When frequency measured, differs from the expected values, the difference indicates the extent of ...B... Choose the option for A and B to complete the given NCERT statement.

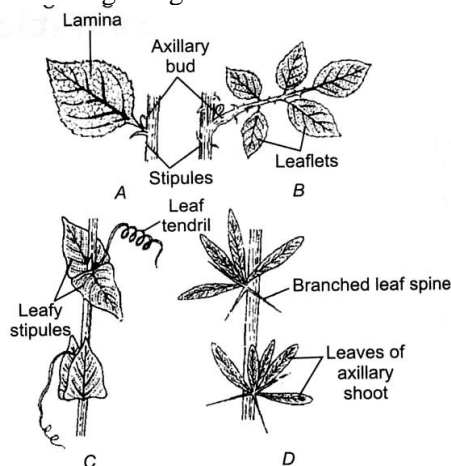
1. $A-p^2 + 2pq + q^2 = 1$; B- evolutionary change

2. $A-p^2 + 2pq + q^2 + q^2 = 1$; B-genetic change

3. $A-p^2 + 2pq + q^2 \geq 1$; B-genetic change

4. $A-p^2 + 2pq + q^2 \leq 1$; B-evolutionary change

121. Diagram given below indicates



1. Analogous organs

2. Homologous organs

3. Convergent evolution

4. All of these

122. Organic evolution is also called

1. chemical evolution

2. Stellar evolution

3. biological evolution

4. All of these

123. Life cannot originate from the inorganic materials these days because of

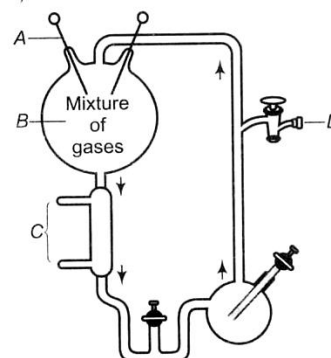
1. low atmospheric temperature

2. high degree of pollution

3. high atmospheric oxygen

4. absence of raw materials

124. The given diagram represents Miller's experiment. Choose the correct combination of labelling foil A, B, C, D and E.



1. A-Electrodes, B- $\text{NH}_3 + \text{H}_2 + \text{H}_2\text{O} + \text{CH}_4$, C-Cold water, D-Vacuum, E-U-trap

2. A-Electrodes, B- $\text{NH}_4 + \text{H}_2 + \text{CO}_2 + \text{CH}_3$, C-Hot water, D-Vacuum, E-U-trap

3. A-Electrodes, B- $\text{NH}_3 + \text{H}_2\text{O}$, C-Steam, D-U-trap, E-Vacuum

4. A-Electrodes, B- $\text{NH}_3 + \text{H}_3 + \text{H}_2\text{O} + \text{CH}_4$, C-Steam, D-Vacuum, E-U-trap

125. Match the following columns.

Column I		Column II
A	Lepidopterans	1 Tobacco, bud worm and Army worm
B	Coleopterans	2. Beetles
C	Dipterans	3. Flies and Mosquitoes

Codes

	A	B	C
1.	1	2	3
2.	2	3	1
3.	3	2	1
4.	1	3	2

126. In Bt cotton, a transgenic plant, Bt refers to

1. botanical

2. beta

3. biotechnology 4. *Bacillus thuringiensis*

127. Bt corn has been made resistant from corn borer disease by the introduction of the gene

1. cry I Ac

2. cry II Ab

3. cry I Ab

4. cry II Ac

128. Which of the following nematode infects the roots of the tobacco plants which reduce the production of tobacco?

1. *Wuchereria*

2. *Manduca sexta*

3. *Meloidogyne incognita*

4. *Enterobius*

129. The first human drug made by using genetic engineering technique was

1. insulin

2. paracetamol

3. streptomycin

4. None of these

130. Adenosine Deaminase (ADA) deficiency can be cured by ...A... and ...B... but it is not fully curative. Here A and B can be

1. A-gene therapy, B-radiation therapy

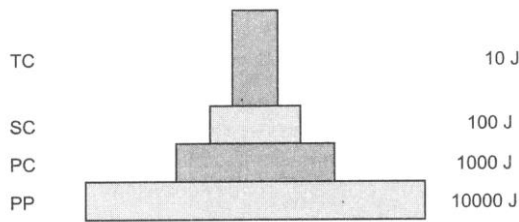
2. A-bone marrow transplantation, B-enzyme replacement therapy

3. A-organ transplantation, B-hormone

replacement therapy

4. A-radiation therapy, B-enzyme replacement therapy

131. Given below is the diagram of the ecological pyramids.



This type represents

- pyramid of number in a grassland
- pyramid of biomass in a lake
- pyramid of biomass in a land
- pyramid of energy**

132. The process by which humus is degraded by some microbes to release inorganic nutrients is known as

- mineralisation**
- humification
- photophosphorylation
- pollination

133. Rate of conversion of light energy into chemical energy of organic molecules in an ecosystem is

- gross primary productivity**
- net primary productivity
- net secondary productivity
- gross secondary productivity

134. The number of species per unit area is called

- species richness**
- species evenness
- species equitability
- species diversity

135. The species area relationship is a straight line described by the equation

- $\text{Log } S = \frac{\log C}{\log A}$
- $Z \log A = \frac{\log C}{\log S}$
- $\log S = \log C + Z \log A$**
- $\log S = \log C - Z \log A$

SECTION - B

136. Pollination is

- shedding of pollens
- maturing of anther
- transfer of pollen to stigma**
- formation of pollen

137. The number of female nuclei involved in double fertilisation is

- 2
- 2, 3**
- 4
- 1

138. F_1 -progeny of a cross between pure tall and dwarf plant is always

- tall**
- short
- intermediate
- None of these

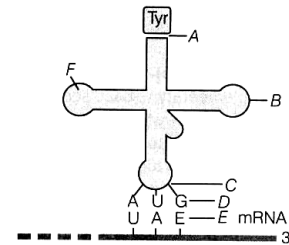
139. Who proposed chromosomal theory of the inheritance?

- Sutton and Mendel
- Boveri and Morgan
- Morgan and Mendel
- Sutton and Boveri**

140. Non-sense codons are also called

- stop** codons
- coding codons
- Both 1. and 2.
- None of these

141. Study the given figure and identify A to F.



- A-Variable arm, B-D-loop, C-T-loop, D-Anticodon arm, E-codon, F-Variable arm
- A-Amino acid arm, B-T-loop, C-Variable arm, D-Anticodon arm, E-codon, F-D-loop
- A-Amino acid arm, B-T-loop, C-Anticodon loop, D-Anticodon arm, E-codon, F-D-loop**
- A-Amino acid arm, B-T-loop, C-Anticodon loop, D-Anticodon arm, E-codon, F-Variable arm

142. In the animals, the same structures developed along the different directions due to the adaptations to different needs. This is called

- convergent evolution
- divergent evolution**
- disruptive evolution
- directional evolution

143. Study of fossils is called

- Autecology
- Entomology
- Palaeontology**
- Anthropology

144. The correct way of decomposition

- (1) Fragmentation \rightarrow leaching \rightarrow humification \rightarrow catabolism \rightarrow mineralization
- (2) **Fragmentation \rightarrow leaching \rightarrow catabolism \rightarrow humification \rightarrow mineralization**
- (3) Fragmentation \rightarrow catabolism \rightarrow leaching \rightarrow mineralization \rightarrow humification
- (4) Fragmentation \rightarrow mineralization \rightarrow catabolism \rightarrow leaching \rightarrow humification

145. Gene therapy in humans was first practised by Blease and Andresco to cure

- Cystic fibrosis
- Haemophilia
- Thalassaemia
- Severe Combined Immuno Deficiency Disease**

146. Which one of the following gene is defective patients suffering from Severe Comb IT Immunodeficiency Disease (SCI4.?)

- Adenosine deaminase**
- Glutamate dehydrogenase
- DNAase
- Tyrosine oxidase

147. Microbes that breakdown the complex organic matter into simple substances like carbon, nitrogen, water, etc., are

- producers
- decomposers**
- consumers
- symbionts

148. A much small fraction of energy flows in a terrestrial ecosystem through

- grazing food chain**
- detritus food chain
- complex food chain
- food web aquatic ecosystem

149. Which of the following is now called World Conservation Union (WCU) ?

- IUCN**
- IPCC

3. ERA 4. UNEP
150. Tropical in South America has the greatest biodiversity on Earth. The most appropriate word to fill the blank is
1. equator (tropical)
 2. midwest (US)
 3. amazonian rainforest
 4. temperate equator

ZOOLOGY

SECTION – A

151. The epididymis leads to ...A... that ascends to abdomen and loops over the ..B... Here A and B refers to
1. A-epididymis; B-vas deferens
 2. A-vas deferens; B-epididymis
 3. A-vas deferens; B-urinary bladder
 4. A-urinary bladder; B-vas deferens
152. Oviducts are also called
1. Fallopian tubes
 2. uterus
 3. vagina
 4. ovary
153. Cushion of fatty tissue covered by skin and pubic hair is called
1. mons pubis
 2. labia majora
 3. labia minora
 4. clitoris
154. Match the following columns.

	Column I	Column II
A	Endometrium	1. Copulation site
B	Menopause	2. Site of implantation
C	Fallopian tube	3. Stopping of menopause
D	Vagina	4. Site of fertilisation

Codes

	A	B	C	D
1.	2	3	4	1
2.	1	2	3	4
3.	1	4	3	2
4.	4	3	2	1

155. Fertilisation takes place in
1. cervix
 2. isthmus
 3. follicle
 4. ampullary isthmic junction
156. Secretion from which of the following structures prepares the inner wall of the uterus for implantation?
1. Ovary
 2. Pituitary gland
 3. Corpus luteum
 4. Ovarian follicle
157. CDRI is situated in
1. Delhi
 2. Kanpur
 3. Lucknow
 4. Tamil Nadu
158. In contraception, sperm motility decreases due to
1. Cu ion
 2. Fe ion
 3. Zn ion
 4. Se ion
159. Correct surgical method of contraception is
1. ovariectomy
 2. hysterectomy
 3. vasectomy
 4. castration
160. During which phase of the pregnancy MTP is safe?
1. 1st trimester
 2. 2nd trimester
 3. 3rd trimester
 4. 4th trimester

161. IVF in which the early zygote with up to ...A... blastomere is transferred to the Fallopian tube is called ...B... .
1. A-8; B-ZIFT
 2. A-16; B-ZIFT
 3. A-32; B-ZIFT
 4. A-64; B-ZIFT
162. What is false for GIFT?
1. It is Gamete Intra Fallopian Transfer
 2. Ovum is transferred into the oviduct
 3. Zygote is transferred into Fallopian tube
 4. Used when the receptive is sterile (don't produce ovule)
163. The pathogens of genera, *Micorsporum*, *Trichophyton* and *Epidermophyton* are responsible for
1. Botulism
 2. Conjunctivitis
 3. Ring worms
 4. Skin allergy
164. Which of the following is an opiate narcotic?
1. Barbiturate
 2. Morphine
 3. LSD
 4. amphetamines
165. The exaggerated response of the immune system to certain antigens is called
1. primary response
 2. secondary response
 3. immune suppression response
 4. allergy
166. The principle of vaccination is based upon the following property of immune system
1. Memory
 2. Diversity
 3. Specificity
 4. All of these
167. The dough used for making bread is fermented by
1. bacteria
 2. virus
 3. prions
 4. yeast
168. Brewer's yeast is
1. *Aspergillus fumigatus*
 2. *Saccharmyces cerevisiae*
 3. *Streptomyces griseus*
 4. *Clostridium botulinum*
169. Which one of the fungi is used for production of citric acid?
1. *Lactobacillus bulgaricus*
 2. *Penicillium bulgaricus*
 3. *Aspergillus niger*
 4. *Rhizopus nigricans*
170. Biogas is a mixture of inflammable gases like
1. Methane, CO₂, H₂ and H₂S
 2. Methane, CO, H₂ and N₂
 3. CO₂, H₂ and H₂S
 4. CO, Methane and N₂
171. Identify the palindromic sequence in the following.
1. $\frac{GAATTC}{CTTUUG}$
 2. $\frac{GGATCC}{CCTAGG}$
 3. $\frac{CCTGGA}{GGACCT}$
 4. $\frac{CGATAC}{GCTAAG}$
172. Which of the following is used in genetic engineering?
1. Plastid
 2. Plasmid
 3. Mitochondria
 4. Endoplasmic reticulum
173. Which of the following techniques is most commonly used to separate DNA molecules by size?
1. Chromatography
 2. PCR

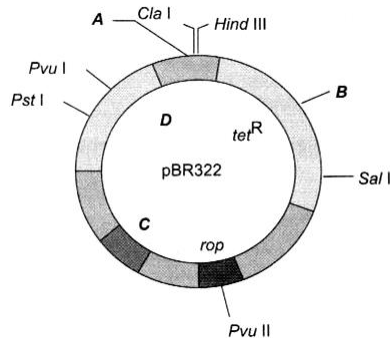
3. RFLP

4. Gel electrophoresis

174. Transfer of any gene into a completely different organism can be done through

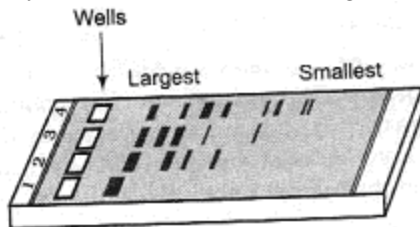
1. genetic engineering
2. tissue culture
3. transformation
4. None of these

175. Identify A, B, C and D in the given diagram of *E. coli* cloning vector pBR322.



1. A-Eco RI, B-Bam HI, C-Ori, D-amp^R
2. A-amp^R, Q-Ori, C-Bam HI, D-Eco RI
3. A-Ori, B-Bam HI, C-Eco RI, D-amp^R
4. A-Bam HI, B-Eco RI, C-amp^R, D-Ori

176. Identify the correct match for the given diagram.



1. Electrophoresis – Migration of undigested and digested set of DNA fragments
2. Bioreactor – Raw materials are biologically converted into specific products.
3. Microinjection – Technique of introducing foreign genes into a host cell.
4. Gene cloning – Technique of obtaining identical copies of a particular DNA segment.

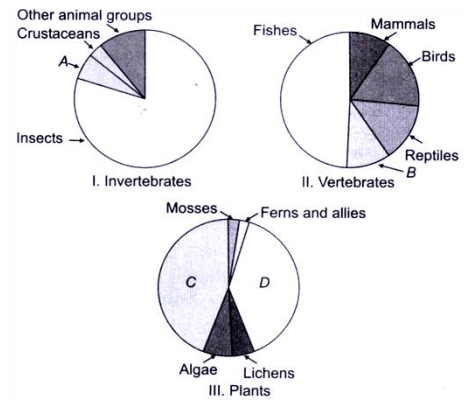
177. New York at 41°N has species, while green land at 71°N has only species. The most appropriate words to fill the blank is

1. 56,105
2. 150,65
3. 105,56
4. 65,150

178. Tropics (23.5°N to 23.5°S) have species as compared to temperate or polar regions. The most appropriate word to fill the blank is

1. less
2. equal
3. more
4. None of these

179. Given below are pie diagrams I, II and III related to the proportionate number of species of major taxa of invertebrates, vertebrates and plants respectively. Critically study and fill in the blanks A, B, C and D.

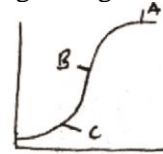


1. A-Molluscs, B-Amphibians, C-Angiosperms, D-Gymnosperms
2. A-Molluscs, B-Amphibians, C-Fungi, D-Angiosperms
3. A-Turtles, B-Amphibians, C-Fungi, D-Angiosperms
4. A-Hexapoda, B-Amphibians, C-Fungi, D-Angiosperms

180. Which of the following shows maximum genetic diversity in India?

1. Maize
2. Mango
3. Groundnut
4. Rice

181. What are Labelled phase A, B and C in given sigmoid growth curve?



1. A-Lag, B-Log, C-Stationary
2. A-Stationary, B-Log, C-Lag
3. A-Lag, B-Stationary, C-Log
4. A-Stationary, B-Lag, C-Log

182. The principle of competitive exclusion was stated by:

1. Gause
2. C. Darwin
3. Mac Arther
4. Connelli

183. Prickly pear cactus caused havoc in the early 1920's in-

1. Canada
2. Austria
3. India
4. Australia

184. Which growth model is considered as more realistic one?

1. Exponential growth
2. Constant growth
3. Logistic growth
4. None of these

185. If the age distribution is plotted for the population, the resulting structure is called-

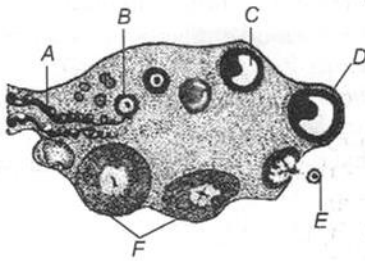
1. Population attribute
2. Population ecology
3. Age pyramids
4. None of these

SECTION – B

186. Acrosome is the modified

1. mitochondria
2. lysosome
3. Golgi body
4. nucleus

187. Give the name of C and D in the diagram.



1. Secondary spermatocyte and primary spermatocytes

2. Spermatid and ootid

3. Primary spermatocyte and secondary spermatocytes

4. All of the above

188. When the ovulation is expected in a normal menstrual cycle?

1. 10-17 day of menstrual phase

2. 12-14 day of menstrual phase

3. 10-20 day of menstrual phase

4. 6-7 day of menstrual phase

189. Diaphragms, cervical caps and vaults are

1. are non-usable 2. for female use only

3. for male use only 4. None of these

190. Cirrhosis of the liver is caused by

1. cocaine 2. LSD

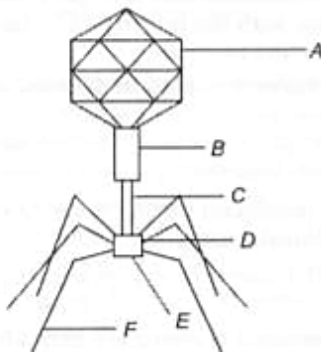
3. alcohol 4. morphine

191. HIV that causes AIDS, first starts destroying

1. Leucocytes 2. Thrombocytes

3. Helper T-lymphocytes 4. B-lymphocytes

192. Given below is the diagram of a virus bacteriophage. In which one of the option all the six parts A, B, C, D, E and F are correct?



1. A-Head, B-Tail, C-Collar, D-Pins, E-Plate, F-Prongs

2. A-Head, B-Collar, C-Tail, D-Plate, E-Pins, F-Prongs

3. A-Head, B-Tail, C-Collar, D-Plate, E-Prongs, F-Pins

4. A-Head, B-Collar, C-Tail, D-Pins, E-Plate, F-Prongs

193. *Monascus purpureus* is a yeast (fungus) commercially used in the production of

1. acetic acid

2. ethanol

3. blood cholesterol lowering statin

4. streptokinase

194. Select the incorrect match:

(a) Frequency of a dominant allele in the population – p.

(b) Frequency of a recessive allele in the population – q.

(c) Frequency of heterozygous dominant genotype – 2pq.

(d) Frequency of homozygous dominant genotype – q^2 .

195. Match the following columns

	Column I		Column II
A	Recombinant DNA	1	Sea weeds
B	Gel electrophoresis	2	DNA staining
C	Ethidium bromide	3	Plasmid DNA that has incorporated human DNA
D	Agarose	4	Process by which DNA fragments are separated based on their size

Codes

	A	B	C	D
1.	3	4	2	1
2.	3	2	1	4
3.	2	1	4	3
4.	3	4	1	2

196. An antibiotic resistance gene in a vector usually helps in the selection of

1. competent cells 2. transformed cells

3. recombinant cells 4. None of these

197. Darwin has given the statement of

1. Survival of fittest 2. Struggle for existence

3. Both A and B 4. None of these

198. If N is the population density at time t, then its density at time $t + 1$ is

1. $N_{t+1} = N_t + (B + E) - (D + I)$

2. $N_{t+1} = N_t + (B + 4) - (E + I)$

3. $N_{t+1} = N_t - (B + I) - (D + E)$

4. $N_{t+1} = N_t + (B + I) - (D + E)$

199. Which of the following is not a factor that would limit the growth of population?

1. Food shortage

2. Immigration

3. Disease

4. Famine

200. What is a group of individual belonging to the same species called-

1. Population

2. Biomes

3. Community

4. Family