

29. Identify the correct statements from the following:

- (a)  $\text{CO}_2(\text{g})$  is used as refrigerant for ice-cream and frozen food.
  - (b) The structure of  $\text{C}_{60}$  contains twelve six carbon rings and twenty five carbon rings.
  - (c) ZSM-5, a type of zeolite, is used to convert alcohols into gasoline.
  - (d)  $\text{CO}$  is colorless and odourless gas.
- (1) (a), (b) and (c) only  
 (2) (a) and (c) only  
 (3) (b) and (c) only  
 (4) (c) and (d) only

For the reaction,  $2\text{Cl}(\text{g}) \rightarrow \text{Cl}_2(\text{g})$ , the correct option is:

- $\Delta H < 0$   
 $\Delta S < 0$   
 $\Delta G < 0$
- (1)  $\Delta_r H > 0$  and  $\Delta_r S > 0$
  - (2)  $\Delta_r H > 0$  and  $\Delta_r S < 0$
  - (3)  $\Delta_r H < 0$  and  $\Delta_r S > 0$
  - (4)  $\Delta_r H < 0$  and  $\Delta_r S < 0$

Paper chromatography is an example of:

- (1) Adsorption chromatography
- (2) Partition chromatography
- (3) Thin layer chromatography
- (4) Column chromatography

Which of the following alkane cannot be made in good yield by Wurtz reaction?

- (1) n-Hexane
  - (2) 2,3-Dimethylbutane
  - (3) n-Heptane
  - (4) n-Butane
- Handwritten notes:*  
 $-\text{ATL} \times 2 \times 37$   
 $-8.314 \times 3$   
 $\text{C}-\text{C}-\text{C}-\text{C}$

33. An increase in the concentration of the reactants of a reaction leads to change in:

- (1) activation energy
- (2) heat of reaction
- (3) threshold energy
- (4) collision frequency

34. The number of Faradays (F) required to produce 20 g of calcium from molten  $\text{CaCl}_2$  (Atomic mass of  $\text{Ca} = 40 \text{ g mol}^{-1}$ ) is:

- (1) 1
  - (2) 2
  - (3) 3
  - (4) 4
- Handwritten note:*  $\text{Ca}^{2+} \rightarrow \text{Ca}$   
 $n=2$   
 $\frac{20}{40} \times 2 = 1$

35. The mixture which shows positive deviation from Raoult's law is:

- (1) Ethanol + Acetone
- (2) Benzene + Toluene
- (3) Acetone + Chloroform
- (4) Chloroethane + Bromoethane

36. Hydrolysis of sucrose is given by the following reaction.



If the equilibrium constant ( $K_c$ ) is  $2 \times 10^{13}$  at 300 K, the value of  $\Delta_r G^\circ$  at the same temperature will be:

- (1)  $-8.314 \text{ J mol}^{-1} \text{ K}^{-1} \times 300 \text{ K} \times \ln(2 \times 10^{13})$
- (2)  $8.314 \text{ J mol}^{-1} \text{ K}^{-1} \times 300 \text{ K} \times \ln(2 \times 10^{13})$
- (3)  $8.314 \text{ J mol}^{-1} \text{ K}^{-1} \times 300 \text{ K} \times \ln(3 \times 10^{13})$
- (4)  $-8.314 \text{ J mol}^{-1} \text{ K}^{-1} \times 300 \text{ K} \times \ln(4 \times 10^{13})$

Sucrose on hydrolysis gives:

- (1)  $\beta$ -D-Glucose +  $\alpha$ -D-Fructose
- (2)  $\alpha$ -D-Glucose +  $\beta$ -D-Glucose
- (3)  $\alpha$ -D-Glucose +  $\beta$ -D-Fructose
- (4)  $\alpha$ -D-Fructose +  $\beta$ -D-Fructose

38. The calculated spin only magnetic moment of  $\text{Cr}^{2+}$  ion is:

- (1) 3.87 BM
- (2) 4.90 BM
- (3) 5.92 BM
- (4) 2.84 BM

39. Which of the following is a natural polymer?

- (1) cis-1,4-polyisoprene
- (2) poly(Butadiene-styrene)
- (3) polybutadiene
- (4) poly(Butadiene-acrylonitrile)

40. Which of the following is a basic amino acid?

- (1) Serine
- (2) Alanine
- (3) Tyrosine
- (4) Lysine

41. Which of the following is a cationic detergent?

- (1) Sodium lauryl sulphate
- (2) Sodium stearate
- (3) Cetyltrimethyl ammonium bromide
- (4) Sodium dodecylbenzene sulphonate

42. Find out the solubility of  $\text{Ni}(\text{OH})_2$  in 0.1 M  $\text{NaOH}$ . Given that the ionic product of  $\text{Ni}(\text{OH})_2$  is  $2 \times 10^{-15}$ .

- (1)  $2 \times 10^{-13} \text{ M}$
  - (2)  $2 \times 10^{-8} \text{ M}$
  - (3)  $1 \times 10^{-13} \text{ M}$
  - (4)  $1 \times 10^8 \text{ M}$
- Handwritten notes:*  
 $2 \times 10^{-15} = 4s^3$   
 $\text{Ni}(\text{OH})_2 \rightleftharpoons \text{Ni}^{2+} + 2\text{OH}^-$   
 $2 \times 10^{-15} = [s][10^{-1}]^2$   
 $2 \times 10^{-13} = s$

43. Identify a molecule which does not exist.

- (1)  $\text{He}_2$
  - (2)  $\text{Li}_2$
  - (3)  $\text{C}_2$
  - (4)  $\text{O}_2$
- Handwritten notes:*  
 $8.85 \times 4 \times 6 \times 10^{-10} \text{ I} = \text{P}$   
 $8.85 \times 4 \times 10^{-4} \text{ P} = \text{I}$   
 $8.85 \times 24 \times 3 \times 10^{-4} \times \frac{1}{2} \times 6 \times 10^{-2} (\text{A}) \times \frac{1}{2} (8.85 \times 10^{-12}) (2 \times 10^5)^2 \times 2 \times 10^6 \times 60$

44. The following metal ion activates many enzymes, participates in the oxidation of glucose to produce ATP and with  $\text{Na}$ , is responsible for the transmission of nerve signals.

- (1) Iron
  - (2) Copper
  - (3) Calcium
  - (4) Potassium
- Handwritten note:*  $E = 2 \times 10^5$

45. The number of protons, neutrons and electrons in  ${}_{71}^{178}\text{Lu}$ , respectively, are:

- (1) 71, 104 and 71
  - (2) 104, 71 and 71
  - (3) 71, 71 and 104
  - (4) 175, 104 and 71
- Handwritten notes:* 71 71  
 $\text{I} = \text{P} = \text{N}$

46. Light with an average flux of  $20 \text{ W cm}^{-2}$  falls on a non-reflecting surface at normal incidence having surface area  $20 \text{ cm}^2$ . The energy received by the surface during time span of 1 minute is:

- (1)  $10 \times 10^3 \text{ J}$
  - (2)  $12 \times 10^3 \text{ J}$
  - (3)  $24 \times 10^3 \text{ J}$
  - (4)  $48 \times 10^3 \text{ J}$
- Handwritten notes:*  
 $E = 20 \times \phi = 20 \times \frac{20}{A}$   
 $\phi = 20 \times 10^4 \text{ W/m}^2$   
 $I = EA = \phi$

47. For transistor action, which of the following statements is correct?

- (1) Base, emitter and collector regions should have same doping concentrations.
- (2) Base, emitter and collector regions should have same size.
- (3) Both emitter junction as well as the collector junction are forward biased.
- (4) The base region must be very thin and lightly doped.



30. An electron is accelerated from rest through a potential difference of  $V$  volt. If the de Broglie wavelength of the electron is  $1.227 \times 10^{-2}$  nm, the potential difference is:

- (1) 10 V
- (2)  $10^2$  V
- (3)  $10^3$  V
- (4)  $10^4$  V

$10 \times 10^3$  (10<sup>4</sup>)

$$d = \frac{12.24}{\sqrt{V}}$$

$$\frac{12.24}{\sqrt{V}} = 1.227 \times 10^{-2}$$

31. A wire of length  $L$ , area of cross section  $A$  is hanging from a fixed support. The length of the wire changes to  $L_1$  when mass  $M$  is suspended from its free end. The expression for Young's modulus is:

- (1)  $\frac{MgL_1}{AL}$
- (2)  $\frac{Mg(L_1 - L)}{AL}$
- (3)  $\frac{MgL}{AL_1}$
- (4)  $\frac{MgL}{A(L_1 - L)}$

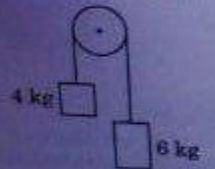
$$F = \frac{MgL}{A(L_1 - L)}$$

32. The Brewster's angle  $i_b$  for an interface should be:

- (1)  $0^\circ < i_b < 30^\circ$
- (2)  $30^\circ < i_b < 45^\circ$
- (3)  $45^\circ < i_b < 90^\circ$
- (4)  $i_b = 90^\circ$

$$\tan \theta = \mu$$

33. Two bodies of mass 4 kg and 6 kg are tied to the ends of a massless string. The string passes over a pulley which is frictionless (see figure). The acceleration of the system in terms of acceleration due to gravity ( $g$ ) is:



$$a = \frac{(6-4)g}{10}$$

$$= \frac{2g}{10}$$

$$= \frac{g}{5}$$

- (1)  $g$
- (2)  $g/2$
- (3)  $g/5$
- (4)  $g/10$

34. Dimensions of stress are:

- (1)  $[MLT^{-2}]$
- (2)  $[ML^2T^{-2}]$
- (3)  $[ML^2T^{-1}]$
- (4)  $[ML^{-1}T^{-2}]$

$$F/A$$

$$\frac{ML^{-1}T^{-2}}{L^2}$$

$$ML^{-1}T^{-2}$$

85. A screw gauge has least count of 0.01 mm and there are 50 divisions in its circular scale. The pitch of the screw gauge is:

- (1) 0.01 mm
- (2) 0.25 mm
- (3) 0.5 mm
- (4) 1.0 mm

$$(0.01) \times 50$$

$$= 0.5$$

86. The energy required to break one bond in DNA is  $10^{-20}$  J. This value in eV is nearly:

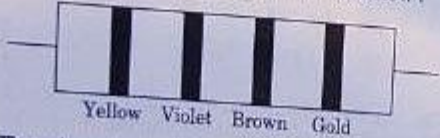
- (1) 6
- (2) 0.6
- (3) 0.06
- (4) 0.006

$$\frac{10^{-20} \times 1.6 \times 10^{19}}{1.6 \times 10^{-19}}$$

$$= 6.25 \times 10^{-2}$$

$$= 0.06$$

87. The color code of a resistance is given below:



The values of resistance and tolerance, respectively, are:

- (1) 470 k $\Omega$ , 5%
- (2) 47 k $\Omega$ , 10%
- (3) 4.7 k $\Omega$ , 5%
- (4) 470  $\Omega$ , 5%

8 0 47 x 10<sup>3</sup>

8 1

8 2

0 3

Y 4

G 5

B 5

2.47 x 10<sup>3</sup>

470

88. Assume that light of wavelength 600 nm is coming from a star. The limit of resolution of telescope whose objective has a diameter of 2 m is:

- (1)  $3.66 \times 10^{-7}$  rad
- (2)  $1.83 \times 10^{-7}$  rad
- (3)  $7.32 \times 10^{-7}$  rad
- (4)  $6.00 \times 10^{-7}$  rad

$$\frac{2.44 \lambda}{d}$$

$$= \frac{2.44 \times 600 \times 10^{-9}}{2}$$

$$= 7.32 \times 10^{-7}$$

89. The increase in the width of the depletion region in a p-n junction diode is due to:

- (1) forward bias only
- (2) reverse bias only
- (3) both forward bias and reverse bias
- (4) increase in forward current

$$\frac{1}{2.44 \lambda}$$

90. The energy equivalent of 0.5 g of a substance is:

- (1)  $4.5 \times 10^{16}$  J
- (2)  $4.5 \times 10^{13}$  J
- (3)  $1.5 \times 10^{13}$  J
- (4)  $0.5 \times 10^{13}$  J

$$(0.5) \times 9 \times 10^{16}$$

$$= 4.5 \times 10^{16}$$

91. Which of the following refer to correct example(s) of organisms which have evolved due to changes in environment brought about by anthropogenic action?

- (a) Darwin's Pinches of Galapagos islands.
- (b) Herbicide resistant weeds.
- (c) Drug resistant eukaryotes.
- (d) Man-created breeds of domesticated animals like dogs.

- (1) only (a)
- (2) (a) and (c)
- (3) (b), (c) and (d)
- (4) only (d)

94. Select the correct events that occur during inspiration.

- (a) Contraction of diaphragm
- (b) Contraction of external inter-costal muscles
- (c) Pulmonary volume decreases
- (d) Intra pulmonary pressure increases

- (1) (a) and (b)
- (2) (c) and (d)
- (3) (a), (b) and (d)
- (4) only (d)

95. The oxygenation activity of RuBisCo enzyme in photosynthesis leads to the formation of:

- (1) 2 molecules of 3-C compound
- (2) 1 molecule of 3-C compound
- (3) 1 molecule of 6-C compound
- (4) 1 molecule of 4-C compound and 1 molecule of 2-C compound

96. The infectious stage of *Plasmodium* that enters the human body is:

- (1) Trophozoites
- (2) Sporozoites
- (3) Female gametocytes
- (4) Male gametocytes

97. Which of the following statements about inclusion bodies is incorrect?

- (1) They are not bound by any membrane.
- (2) These are involved in ingestion of food particles.
- (3) They lie free in the cytoplasm.
- (4) These represent reserve material in cytoplasm.

98. Dissolution of the synaptonemal complex occurs during:

- (1) Pachytene
- (2) Zygotene
- (3) Diplotene
- (4) Leptotene

99. Ray florets have:

- (1) Inferior ovary
- (2) Superior ovary
- (3) Hypogynous ovary
- (4) Half inferior ovary

92. Match the following columns and select the correct option.

Column - I	Column - II
(a) Organ of Corti	(i) Connects middle ear and pharynx
(b) Cochlea	(ii) Coiled part of the labyrinth
(c) Eustachian tube	(iii) Attached to the oval window
(d) Stapes	(iv) Located on the basilar membrane

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

93. Identify the wrong statement with reference to immunity.

- (1) When exposed to antigen (living or dead) antibodies are produced in the host's body. It is called "Active immunity".
- (2) When ready-made antibodies are directly given, it is called "Passive immunity".
- (3) Active immunity is quick and gives full response.
- (4) Foetus receives some antibodies from mother, it is an example for passive immunity.

$$36 \times 4 \times 2.4 \times 10^{-14}$$



100. In gel electrophoresis, separated DNA fragments can be visualized with the help of:
- Acetocarmine in bright blue light
  - Ethidium bromide in UV radiation
  - Acetocarmine in UV radiation
  - Ethidium bromide in infrared radiation
101. In which of the following techniques, the embryos are transferred to assist those females who cannot conceive?
- ZIFT and IUT
  - GIFT and ZIFT
  - ICSI and ZIFT
  - GIFT and ICSI
102. Select the option including all sexually transmitted diseases.
- Gonorrhoea, Syphilis, Genital herpes
  - Gonorrhoea, Malaria, Genital herpes
  - AIDS, Malaria, Filariasis
  - Cancer, AIDS, Syphilis
103. Identify the **wrong** statement with reference to transport of oxygen.
- Binding of oxygen with haemoglobin is mainly related to partial pressure of  $O_2$ .
  - Partial pressure of  $CO_2$  can interfere with  $O_2$  binding with haemoglobin.
  - Higher  $H^+$  conc. in alveoli favours the formation of oxyhaemoglobin.
  - Low  $pCO_2$  in alveoli favours the formation of oxyhaemoglobin.
104. Identify the **incorrect** statement.
- Heart wood does not conduct water but gives mechanical support.
  - Sapwood is involved in conduction of water and minerals from root to leaf.
  - Sapwood is the innermost secondary xylem and is lighter in colour.
  - Due to deposition of tannins, resins, oils etc., heart wood is dark in colour.
105. Identify the **wrong** statement with regard to Restriction Enzymes.
- Each restriction enzyme functions by inspecting the length of a DNA sequence.
  - They cut the strand of DNA at palindromic sites.
  - They are useful in genetic engineering.
  - Sticky ends can be joined by using DNA ligase.
106. Floridean starch has structure similar to:
- Starch and cellulose
  - Amylopectin and glycogen
  - Mannitol and algin
  - Laminarin and cellulose
107. Choose the **correct** pair from the following.
- |                 |  |
|-----------------|--|
| (1) Ligase      | Join the two DNA molecules                 |
| (2) Polymerase  | Break the DNA into fragments               |
| (3) Nuclease    | Separate the two strands of DNA            |
| (4) Exonuclease | Make cuts at specific positions within DNA |
108. Embryological support for evolution was disapproved by:
- Karl Ernst von Baer
  - Alfred Wallace
  - Charles Darwin
  - Oparin
109. The first phase of translation is:
- Binding of mRNA to ribosome
  - Recognition of DNA molecule
  - Aminoacylation of tRNA
  - Recognition of an anti-codon

110. The plant parts which consist of two generations are within the other:
- (a) Pollen grains inside the anther
  - (b) Germinated pollen grain with two male gametes
  - Seed inside the fruit
  - (d) Embryo sac inside the ovule
- (a) only
  - (a), (b) and (c)
  - (c) and (d)
  - (a) and (d)
111. The number of substrate level phosphorylations in one turn of citric acid cycle is:
- Zero
  - One
  - Two
  - Three
112. Match the following columns and select the **correct** option.
- | Column - I         | Column - II                                 |
|--------------------|---|
| (a) Floating ribs  | (i) Located between second and seventh ribs |
| (b) Acromion       | (ii) Head of the Humerus                    |
| (c) Scapula        | (iii) Clavicle                              |
| (d) Glenoid cavity | (iv) Do not connect with the sternum        |
- | (a)       | (b)   | (c)  | (d)   |
|-----------|-------|------|-------|
| (1) (ii)  | (iv)  | (i)  | (iii) |
| (2) (i)   | (iii) | (ii) | (iv)  |
| (3) (iii) | (ii)  | (iv) | (i)   |
| (4) (iv)  | (iii) | (i)  | (ii)  |
113. Match the following diseases with the causative organism and select the **correct** option.
- | Column - I     | Column - II             |
|----------------|-------------------------|
| (a) Typhoid    | (i) <i>Wuchereria</i>   |
| (b) Pneumonia  | (ii) <i>Plasmodium</i>  |
| (c) Filariasis | (iii) <i>Salmonella</i> |
| (d) Malaria    | (iv) <i>Haemophilus</i> |
- | (a)       | (b)   | (c)   | (d)   |
|-----------|-------|-------|-------|
| (1) (i)   | (iii) | (ii)  | (iv)  |
| (2) (iii) | (iv)  | (i)   | (ii)  |
| (3) (ii)  | (i)   | (iii) | (iv)  |
| (4) (iv)  | (i)   | (ii)  | (iii) |
114. Montreal protocol was signed in 1987 for control of:
- Transport of Genetically modified organisms from one country to another
  - Emission of ozone depleting substances
  - Release of Green House gases
  - Disposal of e-wastes
115. The QRS complex in a standard ECG represents:
- Repolarisation of auricles
  - Depolarisation of auricles
  - Depolarisation of ventricles
  - Repolarisation of ventricles
116. Name the plant growth regulator which spraying on sugarcane crop, increases the length of stem, thus increasing the yield of sugar crop.
- Cytokinin
  - Gibberellin
  - Ethylene
  - Abscisic acid
117. How many true breeding pea plant varieties Mendel select as pairs, which were similar except in one character with contrasting traits?
- 4
  - 2
  - 14
  - 8
118. Bilaterally symmetrical and acoelomate animals are exemplified by:
- Ctenophora
  - Platyhelminthes
  - Aschelminthes
  - Annelida
119. Cuboidal epithelium with brush border of microvilli is found in:
- lining of intestine
  - ducts of salivary glands
  - proximal convoluted tubule of nephron
  - eustachian tube



120. Which is the important site of formation of glycoproteins and glycolipids in eukaryotic cells?

- Endoplasmic reticulum
- Peroxisomes
- Golgi bodies
- Polysomes

121. In light reaction, plastoquinone facilitates the transfer of electrons from:

- PS-II to Cyth<sub>b</sub>f complex
- Cyth<sub>b</sub>f complex to PS-I
- PS-I to NADP<sup>+</sup>
- PS-I to ATP synthase

122. Match the following concerning essential elements and their functions in plants:

- |               |   |
|---------------|---|
| (a) Iron      | (i) Photolysis of water                     |
| (b) Zinc      | (ii) Pollen germination                     |
| (c) Boron     | (iii) Required for chlorophyll biosynthesis |
| (d) Manganese | (iv) IAA biosynthesis                       |

Select the correct option:

- |                    |                         |                         |                         |
|--------------------|-------------------------|-------------------------|-------------------------|
| (a)                | (b)                     | (c)                     | (d)                     |
| (1) (i) (ii) (iii) | (2) (iv) (iii) (ii) (i) | (3) (iii) (iv) (ii) (i) | (4) (iv) (i) (ii) (iii) |

123. The roots that originate from the base of the stem are:

- Fibrous roots
- Primary roots
- Prop roots
- Lateral roots

124. From his experiments, S.L. Miller produced amino acids by mixing the following in a closed flask:

- CH<sub>4</sub>, H<sub>2</sub>, NH<sub>3</sub> and water vapor at 800°C
- CH<sub>3</sub>, H<sub>2</sub>, NH<sub>3</sub> and water vapor at 800°C
- CH<sub>4</sub>, H<sub>2</sub>, NH<sub>3</sub> and water vapor at 600°C
- CH<sub>3</sub>, H<sub>2</sub>, NH<sub>3</sub> and water vapor at 600°C

125. Identify the basic amino acid from the following:

- Tyrosine
- Glutamic Acid
- Lysine
- Valine

126. The process of growth is maximum during:

- Log phase
- Lag phase
- Senescence
- Dormancy

127. Presence of which of the following conditions in urine are indicative of Diabetes Mellitus?

- Uremia and Ketonuria
- Uremia and Renal Calculi
- Ketonuria and Glycosuria
- Renal calculi and Hyperglycemia

128. Select the correct match.

- |                         |  |
|-------------------------|--|
| (1) Haemophilia         | Y linked                                 |
| (2) Phenylketonuria     | Autosomal dominant trait                 |
| (3) Sickle cell anaemia | Autosomal recessive trait, chromosome-11 |
| (4) Thalassaemia        | X linked                                 |

129. Strobili or cones are found in:

- Salvinia
- Pteris
- Marchantia
- Equisetum

130. Identify the **wrong** statement with reference to the gene I that controls ABO blood groups.

- The gene (I) has three alleles.
- A person will have only two of the three alleles.
- When I<sup>A</sup> and I<sup>B</sup> are present together, they express same type of sugar.
- Allele  $\gamma$  does not produce any sugar.

131. Identify the **correct** statement with reference to human digestive system.

- Ileum opens into small intestine.
- Serosa is the innermost layer of the alimentary canal.
- Ileum is a highly coiled part.
- Vermiform appendix arises from duodenum.

132. Which of the following would help in prevention of diuresis?

- More water reabsorption due to undersecretion of ADH
- Reabsorption of Na<sup>+</sup> and water from renal tubules due to aldosterone
- Atrial natriuretic factor causes vasoconstriction
- Decrease in secretion of renin by JG cells

133. Match the following with respect to meiosis:

- |                |                     |
|----------------|---------------------|
| (a) Zygotene   | (i) Terminalization |
| (b) Pachytene  | (ii) Chiasmata      |
| (c) Diplotene  | (iii) Crossing over |
| (d) Diakinesis | (iv) Synapsis       |

Select the correct option from the following:

- |                         |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|-------------------------|
| (a)                     | (b)                     | (c)                     | (d)                     |
| (1) (iii) (iv) (i) (ii) | (2) (iv) (iii) (ii) (i) | (3) (i) (ii) (iv) (iii) | (4) (ii) (iv) (iii) (i) |

134. Which of the following is **not** an inhibitory substance governing seed dormancy?

- Gibberellic acid
- Abscisic acid
- Phenolic acid
- Para-ascorbic acid

135. Match the following columns and select the correct option.

- | Column - I                         | Column - II                        |
|------------------------------------|------------------------------------|
| (a) Br cotton                      | (i) Gene therapy                   |
| (b) Adenosine deaminase deficiency | (ii) Cellular defence              |
| (c) RNAi                           | (iii) Detection of HIV infection   |
| (d) PCR                            | (iv) <i>Bacillus thuringiensis</i> |

- |                         |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|-------------------------|
| (a)                     | (b)                     | (c)                     | (d)                     |
| (1) (iv) (i) (iii) (ii) | (2) (iii) (ii) (i) (iv) | (3) (ii) (iii) (iv) (i) | (4) (i) (ii) (iii) (iv) |

136. Match the following:

- |                                     |               |
|-------------------------------------|---------------|
| (a) Inhibitor of catalytic activity | (i) Haem      |
| (b) Possess peptide bonds           | (ii) Malonate |
| (c) Cell wall material in fungi     | (iii) Chitin  |
| (d) Secondary metabolite            | (iv) Collagen |

Choose the correct option from the following:

- |                         |                         |                         |                        |
|-------------------------|-------------------------|-------------------------|------------------------|
| (a)                     | (b)                     | (c)                     | (d)                    |
| (1) (ii) (iv) (iii) (i) | (2) (iii) (i) (iv) (ii) | (3) (iii) (iv) (i) (ii) | (4) (a) (iii) (i) (iv) |

137. The sequence that controls the copy number of the linked DNA in the vector, is termed:

- Selectable marker
- Ori site
- Palindromic sequence
- Recognition site

138. Snow-blindness in Antarctic region is due to:

- Freezing of fluids in the temperature
- Inflammation of cornea due to UV-B radiation
- High reflection of light from snow
- Damage to retina caused by infra-red

139. According to Robert May, the global species diversity is about:

- 1.5 million
- 20 million
- 50 million
- 7 million

140. By which method was a new breed 'Hisardale' of sheep formed by using Bikaneri ewes and Marinerams?

- Out crossing
- Mutational breeding
- Cross breeding
- Inbreeding

141. Which of the following regions of the globe exhibit highest species diversity?

- Western Ghats of India
- Madagascar
- Himalayas
- Amazon forests