

**BIOLOGY**

91. Given below are two statements :

**Statement I** : Chromosomes are fully condensed at the end of prophase I.

**Statement II** : Meiosis I resembles mitosis.

In the light of the above statements, choose the **most appropriate** answer from the options given below :

- (1) **Statement I** is correct, but **Statement II** is false
- (2) **Statement I** is incorrect, but **Statement II** is true
- (3) Both **Statement I** and **Statement II** are true
- (4) Both **Statement I** and **Statement II** are false

**Answer (1)**

92. Which of the following is **not** a characteristic of chordates?

- (1) Absence of gills
- (2) Presence of post anal part (tail)
- (3) Presence of notochord
- (4) Central nervous system is dorsal

**Answer (1)**

93. Phyllotaxy is the pattern of arrangement of \_\_\_\_\_.

- (1) fruits
- (2) sepals
- (3) leaves
- (4) flowers

**Answer (3)**

94. Which one of the following statements is **incorrect**?

- (1) Glucagon stimulates glycogenolysis
- (2)  $\beta$ -cells of pancreas secrete insulin
- (3)  $\alpha$ -cells of pancreas secrete glucagon
- (4)  $\alpha$ -cells of pancreas secrete insulin

**Answer (4)**

95. The plastid that stores xanthophyll is known as \_\_\_\_\_.

- (1) aleuroplast
- (2) amyloplast
- (3) chloroplast
- (4) chromoplast

**Answer (4)**

96. Match **List-I** with **List-II**.

	<b>List-I</b>		<b>List-II</b>
A.	Fusion of protoplasts between gametes	I.	Meiosis
B.	Fusion of two nuclei	II.	Plasmogamy
C.	Generation of haploid spores	III.	Karyogamy

Choose the **correct** answer from the options given below :

- (1) A-III, B-II, C-I
- (2) A-I, B-III, C-II
- (3) A-II, B-III, C-I
- (4) A-II, B-I, C-III

**Answer (3)**

97. Given below are two statements:

**Statement I:** In gymnosperms, the male and female gametophytes remain within the sporangia.

**Statement II:** In gymnosperms, seeds are not covered.

In the light of the above statements, choose the **most appropriate** answer from the options given below:

- (1) **Statement I** is correct but **Statement II** is incorrect
- (2) **Statement I** is incorrect but **Statement II** is correct
- (3) Both **Statement I** and **Statement II** are correct
- (4) Both **Statement I** and **Statement II** are incorrect

**Answer (3)**

98. In water, frogs respire using \_\_\_\_\_.

- (1) lungs
- (2) trachea
- (3) skin
- (4) buccal cavity

**Answer (3)**

99. Mad cow disease is caused by \_\_\_\_\_.

- (1) *Aspergillus sp.*
- (2) *Mycoplasma sp.*
- (3) prions
- (4) viroids

**Answer (3)**

100. Which of the following statements regarding photorespiration are correct?

- (a) Do not occur in C<sub>3</sub> plants
- (b) CO<sub>2</sub> is consumed and O<sub>2</sub> is generated
- (c) Phosphoglycolate is formed
- (d) No synthesis of ATP and NADPH

Choose the **correct** answer from the options given below:

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

**Answer (4)**

101. Select the correct sequence of experiments that led to a gradual understanding of photosynthesis in green plants.

- (1) Release of oxygen → production of glucose → absorption spectra of chlorophyll a and b → role of air
- (2) Production of glucose → role of air → release of oxygen → absorption spectra of chlorophyll a and b
- (3) Absorption spectra of chlorophyll a and b → production of glucose → release of oxygen → role of air
- (4) Role of air → release of oxygen → production of glucose → absorption spectra of chlorophyll a and b

**Answer (4)**

102. How many turns of Calvin cycle are required for the formation of three molecules of glucose?

- (1) 1
- (2) 18
- (3) 6
- (4) 3

**Answer (2)**

103. Mitochondrial inner membrane encloses \_\_\_\_\_.

- (1) mucus
- (2) aqueous humor
- (3) matrix
- (4) cytosol

**Answer (3)**

104. Which of the following statements is **incorrect**?

- (1) Fibrin is produced from fibrinogen
- (2) Fibrinogen is produced from fibrin
- (3) Blood coagulates in response to an injury
- (4) Blood clot consists of fibrins

**Answer (2)**

105. Sphenopsida class belongs to \_\_\_\_\_.

- (1) gymnosperms
- (2) pteridophytes
- (3) bryophytes
- (4) angiosperms

**Answer (2)**



110. In frogs, the number of pairs of cranial nerves arising from the brain are \_\_\_\_\_.

- (1) 10 (2) 12  
(3) 6 (4) 9

**Answer (1)**

111. Cell theory was formulated by \_\_\_\_\_.

- (1) Singer and Nicolson  
(2) Antonie Von Leeuwenhoek  
(3) Schleiden and Schwann  
(4) Robert Brown

**Answer (3)**

112. Which of the following statements related to pituitary gland are **correct**?

- (a) It is divided anatomically into adenohypophysis and neurohypophysis  
(b) It secretes follicle stimulating hormone  
(c) It secretes melanocyte stimulating hormone  
(d) It does not secrete prolactin

Choose the **correct** answer from the options given below :

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

**Answer (4)**

113. Which of the following is **not** a prokaryote?

- (1) Mycoplasma  
(2) Fungi  
(3) Bacteria  
(4) Blue green algae

**Answer (2)**

114. Length of the stem at time 0 is 20 cm. The arithmetic growth rate is 30 cm per day. What is the length of the stem at the end of the 7<sup>th</sup> day?

- (1) 230 cm  
(2) 460 cm  
(3) 50 cm  
(4) 170 cm

**Answer (1)**

115. Which of the following is **not** a part of human central neural system?

- (1) Pia mater
- (2) Pericardium
- (3) Arachnoid
- (4) Dura mater

**Answer (2)**

116. Which of the following plant growth regulators promotes internode elongation prior to flowering in cabbage?

- (1) Indole butyric acid
- (2) Ethephon
- (3) Abscisic acid
- (4) Gibberellin

**Answer (4)**

117. Match **List-I** with **List-II**.

	<b>List-I</b>		<b>List-II</b>
A.	Marginal placentation	I.	<i>Argemone</i>
B.	Axile placentation	II.	Tomato
C.	Parietal placentation	III.	<i>Primrose</i>
D.	Free central placentation	IV.	Pea

Choose the **correct** answer from the options given below :

- (1) A-IV, B-III, C-I, D-II
- (2) A-IV, B-II, C-I, D-III
- (3) A-II, B-IV, C-I, D-III
- (4) A-IV, B-II, C-III, D-I

**Answer (2)**

118. Which of the following plant growth regulators is used as herbicide?

- (1) Abscisic acid
- (2) Gibberellin
- (3) 2, 4-D
- (4) Kinetin

**Answer (3)**

119. Given below are two statements :

**Statement I** : When any plane passing through the central axis of the body divides the organism into two identical halves, it is called radial symmetry.

**Statement II** : In phylum Echinodermata, both adults and larvae are radially symmetrical.

In the light of the above statements, choose the **most appropriate** answer from the options given below :

- (1) **Statement I** is correct but **Statement II** is incorrect
- (2) **Statement I** is incorrect but **Statement II** is correct
- (3) Both **Statement I** and **Statement II** are correct
- (4) Both **Statement I** and **Statement II** are incorrect

**Answer (1)**

120. Match **List-I** with **List-II**.

	<b>List-I</b>		<b>List-II</b>
A.	Starch	I.	Fights infection
B.	Antibody	II.	Energy storage
C.	Concanavalin A	III.	Glucose transport
D.	Glut-4	IV.	Lectin

Choose the **correct** answer from the options given below :

- (1) A-II, B-I, C-III, D-IV
- (2) A-I, B-II, C-III, D-IV
- (3) A-I, B-II, C-IV, D-III
- (4) A-II, B-I, C-IV, D-III

**Answer (4)**

121. The number of vertebrae in a human is \_\_\_\_\_.

- (1) 26
- (2) 206
- (3) 7
- (4) 12

**Answer (1)**

122. Which pigment has absorption peak at 700 nm in the photosynthetic reaction centre PS I (P700)?

- (1) Xanthophylls
- (2) Carotenoids
- (3) Chlorophyll b
- (4) Chlorophyll a

**Answer (4)**

123. Arrange the following taxonomic categories in ascending order.

- |             |             |
|-------------|-------------|
| (a) Genus   | (b) Class   |
| (c) Order   | (d) Phylum  |
| (e) Family  | (f) Kingdom |
| (g) Species |             |

Choose the **correct** answer from the options given below :

- (1) (g), (c), (d), (b), (e), (a), (f)  
 (2) (f), (c), (b), (g), (d), (e), (a)  
 (3) (g), (a), (e), (c), (b), (d), (f)  
 (4) (a), (c), (d), (g), (f), (b), (e)

**Answer (3)**

124. Match **List-I** with **List-II**.

	List-I		List-II
A.	Family	I.	Sapindales
B.	Genus	II.	Dicotyledonae
C.	Class	III.	Anacardiaceae
D.	Phylum	IV.	Angiospermae
E.	Order	V.	<i>Mangifera</i>

Choose the **correct** answer from the options given below :

- (1) A-II, B-III, C-V, D-I, E-IV  
 (2) A-III, B-V, C-II, D-IV, E-I  
 (3) A-I, B-V, C-II, D-IV, E-III  
 (4) A-II, B-I, C-III, D-IV, E-V

**Answer (2\*) (Conceptual errata)**

125. Arrange the following elements in descending order of their contribution to percentage weight of the human body.

- (a) Oxygen  
 (b) Carbon  
 (c) Hydrogen  
 (d) Nitrogen

Choose the **correct** answer from the options given below :

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

**Answer (3)**

126. Match **List-I** with **List-II**.

	<b>List-I</b>		<b>List-II</b>
A.	Cristae	I.	Flat membrane sacs in stroma of chloroplast
B.	Cisternae	II.	Infoldings in mitochondria
C.	Thylakoids	III.	Cell membrane
D.	Phospholipid	IV.	Disc shaped sacs in the Golgi apparatus

Choose the **correct** answer from the options given below:

- (1) A-II, B-IV, C-III, D-I  
 (2) A-IV, B-III, C-I, D-II  
 (3) A-III, B-IV, C-I, D-II  
 (4) A-II, B-IV, C-I, D-III

**Answer (4)**

127. The number of action potentials generated by sino-atrial node (SAN) in a healthy human is \_\_\_\_\_ per minute.

- (1) 100 – 110  
 (2) 120 - 140  
 (3) 28 – 30  
 (4) 70 – 75

**Answer (4)**

128. Symbiotic association between fungi and algae are called \_\_\_\_\_.

- (1) mycorrhiza  
 (2) chrysophytes  
 (3) lichens  
 (4) sponges

**Answer (3)**

129. How many molecules of pyruvic acid are produced at the end of glycolysis from 206 molecules of glucose?

- (1) 103  
 (2) 412  
 (3) 206  
 (4) 309

**Answer (2)**

130. Which of the following represents the correct sequence of arrangement of bones in the lower limb of humans?

- (1) Femur-patella-tibia-tarsal  
 (2) Femur-tarsal-patella-tibia  
 (3) Femur-tibia-patella-tarsal  
 (4) Patella-femur-tibia-tarsal

**Answer (1)**

131. Genus represents \_\_\_\_\_.
- (1) a group of closely related species
  - (2) a group of closely related families
  - (3) an individual plant or animal
  - (4) a population of plants and animals

**Answer (1)**

132. The correct sequence of adult cell cycle phases is \_\_\_\_\_.
- (1) G1-S-G2-M
  - (2) S-M-G2-G1
  - (3) G1-G2-S-M
  - (4) G1-M-G2-S

**Answer (1)**

133. Endomembrane system includes \_\_\_\_\_.
- (1) mitochondria, chloroplast, peroxisomes and vacuole
  - (2) Golgi complex, chloroplast, peroxisomes and vacuole
  - (3) endoplasmic reticulum, Golgi complex, lysosomes and vacuole
  - (4) endoplasmic reticulum, chloroplast, peroxisomes and vacuole

**Answer (3)**

134. Photorespiration reaction catalyzed by RuBisCo is shown below:



Identify "X" from the given options:

- (1) Oxaloacetate
- (2) Malate
- (3) Phosphoenolpyruvate
- (4) 2-Phosphoglycolate

**Answer (4)**

135. Which of the following are characteristic features of Solanaceae family?

- (a) Flowers are bisexual and actinomorphic
- (b) Calyx have five sepals and are united
- (c) Androecium have five stamens and are epipetalous
- (d) Ovary is inferior

Choose the **correct** answer from the options given below :

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

**Answer (3)**

136. Sperm motility is due to \_\_\_\_\_.

- (1) amoeboid movement
- (2) muscular movement
- (3) flagellar movement
- (4) ciliary movement

**Answer (3)**

137. Given below are two statements : one is labelled as **Assertion A** and the other is labelled as **Reason R**.

**Assertion A** : Abingdon tortoise in Galapagos islands became extinct within a decade after goats were introduced.

**Reason R** : Goats were more efficient at browsing than Abingdon tortoise.

In the light of the above statements, choose the **most appropriate** answer from the options given below:

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

**Answer (3)**

138. Match **List-I** with **List-II**.

	<b>List-I</b>		<b>List-II</b>
A.	Both species are harmed	I.	Predation
B.	One species is harmed and the other is benefited	II.	Mutualism
C.	Both species are benefited	III.	Competition
D.	One is benefited while the other has no effect	IV.	Commensalism

Choose the **correct** answer from the options given below:

- (1) A-II, B-I, C-IV, D-III
- (2) A-III, B-I, C-II, D-IV
- (3) A-III, B-IV, C-II, D-I
- (4) A-I, B-II, C-III, D-IV

**Answer (2)**

139. Which of the following struture is **not** a part of the male reproductive system?

- (1) Vasa efferentia
- (2) Infundibulum
- (3) Rete testis
- (4) Epididymis

**Answer (2)**

140. Which of the following plant produces non-albuminous seeds?

- (1) Barley
- (2) Pea
- (3) Wheat
- (4) Maize

**Answer (2)**

141. Which of the following statements about lac-operon is **correct**?

- (1) Genes *i*, *z*, *y* and *a* share single common promoter
- (2) Galactose can act as an inducer of lac operon
- (3) Gene *i* is constitutively expressed
- (4) Lactose activates repressor to bind to the operator

**Answer (3)**

142. Which of the following is used as an effective sedative and painkiller for treating post-surgery patients?

- (1) Morphine
- (2) Anti-retroviral drugs
- (3) Interferon
- (4) Antibiotics

**Answer (1)**

143. Which of the following is the **correct** order of arrangement of vertebrate column from the head to toe?

- (1) Cervical vertebra, lumbar vertebra, thoracic vertebra, sacrum
- (2) Cervical vertebra, thoracic vertebra, lumbar vertebra, sacrum
- (3) Cervical vertebra, thoracic vertebra, sacrum, lumbar vertebra
- (4) Sacrum, lumbar vertebra, thoracic vertebra, cervical vertebra

**Answer (2)**

144. Muscle contraction is initiated by a signal sent by the central nervous system by the release of \_\_\_\_\_ .

- (1) cyclic guanine monophosphate
- (2) cyclic adenine monophosphate
- (3) acetyl choline
- (4) acetyl coenzyme A

**Answer (3)**

145. Given below are two statements : one is labelled as **Assertion A** and the other is labelled as **Reason R**.

**Assertion A** : Forelimbs of human and bats are homologous.

**Reason R** : Forelimbs of humans and bats have similar anatomical structure.

In the light of the above statements, choose the **most appropriate** answer from the options given below.

- (1) **A** is true but **R** is false
- (2) **A** is false but **R** is true
- (3) Both **A** and **R** are correct and **R** is the correct explanation of **A**
- (4) Both **A** and **R** are true, but **R** is not the correct explanation of **A**

**Answer (3)**

146. Given below are two statements :

**Statement I** : Down's syndrome is caused by the absence of one of the X-chromosomes.

**Statement II** : Turner's syndrome is caused by the presence of an additional copy of the chromosomes.

In the light of the above statements, choose the **correct** answer from the options given below :

- (1) **Statement I** is correct but **Statement II** is incorrect
- (2) **Statement I** is incorrect but **Statement II** is correct
- (3) Both **Statement I** and **Statement II** are correct
- (4) Both **Statement I** and **Statement II** are incorrect

**Answer (4)**

147. Which of the following statements about the reabsorption process in Henle's loop are **correct**?

- (a) The descending limb of Henle's loop is permeable to water but almost impermeable to electrolytes.
- (b) Urine gets concentrated in Henle's loop.
- (c) Reabsorption of  $\text{Na}^+$  and water takes place in Henle's loop.
- (d) Active or passive transport of electrolytes occurs in the ascending limb of Henle's loop.

Choose the **correct** answer from the options given below:

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

**Answer (\*)**

148. If the diploid chromosome number of typical angiosperm is 36, what would be the chromosome number in its endosperm?

- (1) 54
- (2) 72
- (3) 18
- (4) 36

**Answer (1)**

149. Arrange the following in descending order of number of species in the Amazonian rain forest.

- (a) Plants
- (b) Birds
- (c) Fishes
- (d) Invertebrates
- (e) Mammals

Choose the **correct** answer from the options given below :

- (1) (e) > (b) > (a) > (c) > (d)
- (2) (b) > (a) > (d) > (c) > (e)
- (3) (c) > (b) > (d) > (e) > (a)
- (4) (d) > (a) > (c) > (b) > (e)

**Answer (4)**

150. A population of diploid organisms is at Hardy-Weinberg equilibrium. If the frequency of allele A is 0.1, the frequency of AA is \_\_\_\_\_.

- (1) 0.10
- (2) 0.99
- (3) 0.01
- (4) 0.02

**Answer (3)**

151. The opening between the right atrium and the right ventricle is guarded by \_\_\_\_\_.

- (1) semilunar valve
- (2) sino-atrial node
- (3) bicuspid valve
- (4) tricuspid valve

**Answer (4)**

152. Which of the following enzymes synthesizes precursor mRNA?

- (1) RNA polymerase III
- (2) DNA polymerase
- (3) RNA polymerase I
- (4) RNA polymerase II

**Answer (4)**

**Sol.** The RNA polymerase II transcribes precursor of mRNA, the heterogeneous nuclear RNA (hnRNA)

153. Given below are two statements : one is labelled as **Assertion A** and the other is labelled as **Reason R**.

**Assertion A :** In recombinant DNA technology, lysozyme is used for disrupting bacterial cells while cellulase is for plant cells.

**Reason R :** Isolation of genetic material needs disruption of cells.

In the light of the above statements, choose the **most appropriate** answer from the options given below :

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

**Answer (3)**

154. Which of the following hormone is **not** secreted by human placenta?

- (1) Progesterone
- (2) LH
- (3) hCG
- (4) Estrogen

**Answer (2)**

155. Colostrum, secreted by mother during initial days of lactation, is abundant in \_\_\_\_\_.

- (1) IgA
- (2) IgD
- (3) IgG
- (4) IgM

**Answer (1)**

156. Consider a population of 10 million cells. Given the per-capita birth rate of 0.002 (per unit time) and the per-capita death rate of 0.002 (per unit time), the expected number of cells after 10 generations is \_\_\_\_\_.

- (1) 10 million
- (2) 100 million
- (3) 1 million
- (4) 5 million

**Answer (1)**

157. Given below are two statements :

**Statement I** : Plasmids are autonomously replicating DNA.

**Statement II** : Plasmids are extrachromosomal DNA.

In the light of the above statements, choose the **most appropriate** answer from the options given below :

- (1) **Statement I** is correct but **Statement II** is incorrect
- (2) **Statement I** is incorrect but **Statement II** is correct
- (3) Both **Statement I** and **Statement II** are correct
- (4) Both **Statement I** and **Statement II** are incorrect

**Answer (3)**

158. During PCR, primers bind to the DNA strands in the \_\_\_\_\_ step.

- (1) annealing
- (2) ligation
- (3) denaturation
- (4) extension

**Answer (1)**

159. Match **List-I** with **List-II**.

	<b>List-I</b>		<b>List-II</b>
A.	Transformation	I.	Restriction enzyme
B.	Cloning site	II.	Transfer DNA to host bacteria
C.	Selection	III.	Replication
D.	Ori	IV.	Antibiotic

Choose the **correct** answer from the options given below:

- (1) A-III, B-IV, C-II, D-I
- (2) A-IV, B-I, C-III, D-II
- (3) A-II, B-I, C-IV, D-III
- (4) A-I, B-II, C-IV, D-III

**Answer (3)**

160. Adaptive radiation in placental mammals and Australian Marsupials leading to similarity between distant species is an example of \_\_\_\_\_.

- (1) founder effect
- (2) genetic drift
- (3) divergent evolution
- (4) convergent evolution

**Answer (4)**

161. The covering of ovum at ovulation is \_\_\_\_\_.

- (1) zona pellucida
- (2) chorion
- (3) endometrium
- (4) zona radiata

**Answer (1)**

162. Which of the following statements are **Correct** ?

- (a) Energy flow from producers to consumers is unidirectional
- (b) Energy pyramid can never be inverted
- (c) Transfer of energy follows the 1% law

Choose the **correct** answer from the options given below :

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

**Answer (4)**

163. How many theca are present in each lobe of a typical bilobed angiosperm anther ?

- (1) 8
- (2) 12
- (3) 2
- (4) 6

**Answer (3)**

164. Which of the following statements is **correct** about *Plasmodium*?

- (1) Gametocytes develop in mosquito gut
- (2) Fertilization takes place in mosquito gut
- (3) Reproduces sexually in liver cells
- (4) Reproduces sexually in RBCs

**Answer (2)**

165. For a person with blood group 'O', which of the following is **not** a possible combination of parents' blood group genotypes?

- (1) Father :  $I^B i$  and Mother :  $I^B i$
- (2) Father :  $I^A I^B$  and Mother :  $I^A i$
- (3) Father :  $I^A i$  and Mother :  $I^B i$
- (4) Father :  $I^A i$  and Mother :  $I^A i$

**Answer (2)**

166. Which of the following is used as a clot buster?

- (1) Cyclosporin A
- (2) Statins
- (3) Streptokinase
- (4) Penicillin

**Answer (3)**

167. Which of the following disease is **not** sexually transmitted?

- (1) Gonorrhoea
- (2) Genital warts
- (3) Syphilis
- (4) Tuberculosis

**Answer (4)**

168. Given below are two statements : one is labelled as **Assertion A** and the other is labelled as **Reason R**.

**Assertion A** : In an experiment, Mendel observed that the F<sub>1</sub> progeny plants are all tall and none are dwarf.

**Reason R** : Stem height is a contrasting trait, with tall being dominant and dwarf being recessive.

In the light of the above statements, choose the **most appropriate** answer from the options given below :

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

**Answer (3)**

169. The method of directly of injecting a sperm into ovum in assisted reproductive technology is called :

- (1) Intra cytoplasmic sperm injection (ICSI)
- (2) Embryo transfer (ET)
- (3) Gamete intra fallopian transfer (GIFT)
- (4) Zygote intra fallopian transfer (ZIFT)

**Answer (1)**

170. The inactive form of Bt toxin is converted to the active form in the insect gut \_\_\_\_\_
- (1) by proteases
  - (2) by nucleases
  - (3) due to alkaline pH
  - (4) due to acidic pH

**Answer (3)**

171. Given below are two statements : one is labelled as **Assertion A** and the other is labelled as **Reason R**.  
**Assertion A** : The logistic growth model of populations is considered more realistic than the exponential growth model.

**Reason R** : Resources are finite.

In the light of the above statements, choose the **most appropriate** answer from the options given below :

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

**Answer (3)**

172. Which of the following are secondary lymphoid organs?

- |                 |             |
|-----------------|-------------|
| (a) Bone marrow | (b) Tonsils |
| (c) Spleen      | (d) Thymus  |

Choose the correct answer from the options given below:

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

**Answer (4)**

173. Which of the following in female gametophyte of an angiosperm helps in guiding the pollen tube for fertilizing the eggs?

- (1) Central cells
- (2) Polar nucleus
- (3) Antipodals
- (4) Synergids

**Answer (4)**

174. Given below are two statements:

**Statement I** : Ovulation is caused by LH surge leading to rupture of Graafian follicles.

**Statement II**: Graafian follicle remaining after ovulation transform into corpus luteum and secretes large amount of estrogen.

In the light of the above statements, choose the **most appropriate** answer from the options given below:

- (1) **Statement I** is correct but **Statement II** is incorrect
- (2) **Statement I** is incorrect but **Statement II** is correct
- (3) Both **Statement I** and **Statement II** are correct
- (4) Both **Statement I** and **Statement II** are incorrect

**Answer (1)**

175. Given below are two statements :

**Statement I** : Modern *Homo sapiens* arose in Australia and moved across continents.

**Statement II** : *Homo sapiens* arose around 75000 to 10000 years ago.

In the light of the above statements, choose the **most appropriate** answer from the options given below :

- (1) **Statement I** is correct but **Statement II** is incorrect
- (2) **Statement I** is incorrect but **Statement II** is correct
- (3) Both **Statement I** and **Statement II** are correct
- (4) Both **Statement I** and **Statement II** are incorrect

**Answer (2)**

176. Which of the following are primary consumers in a food chain?

- (1) Herbivores
- (2) Carnivores
- (3) Parasites
- (4) Predators

**Answer (1)**

177. Which of the following is **not** evidence for evolution?

- (1) Embryological support for evolution as proposed by Ernst Haeckel
- (2) Divergent evolution of anatomical structures such as forelimbs
- (3) Convergent evolution of traits like wings of birds and butterflies
- (4) Paleontological evidence from fossil records

**Answer (1, 3\*)**

178. Sponges exchange  $O_2$  with  $CO_2$  by \_\_\_\_\_.

- (1) tracheal tubes
- (2) gills
- (3) simple diffusion over their entire body surfaces
- (4) moist cuticle

**Answer (3)**

179. Match **List-I** with **List-II**.

**List-I**

- (A) Excess growth hormone
- (B) Luteinizing hormone
- (C) Vasopressin
- (D) Oxytocin

**List-II**

- (I) Reabsorption of water and electrolytes in kidney
- (II) Contraction of uterus during child birth
- (III) Acromegaly
- (IV) Ovulation

Choose the **correct** answer from the options given below:

- (1) A-II, B-IV, C-I, D-III
- (2) A-IV, B-III, C-I, D-II
- (3) A-III, B-IV, C-II, D-I
- (4) A-III, B-IV, C-I, D-II

**Answer (4)**

180. Natural selection can lead to \_\_\_\_\_.

- (a) stabilisation (b) genetic drift  
(c) directional change (d) disruption

Choose the **correct** answer from the options given below :

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

**Answer (4)**

