

BIOLOGY

91. The number of vertebrae in a human is _____.
- (1) 12 (2) 26
(3) 206 (4) 7

Answer (2)

92. Which one of the following statements is **incorrect**?
- (1) α -cells of pancreas secrete insulin
(2) Glucagon stimulates glycogenolysis
(3) β -cells of pancreas secrete insulin
(4) α -cells of pancreas secrete glucagon

Answer (1)

93. Given below are two statements:

Statement I : The class name Reptilia refers to creeping or crawling mode of locomotion.

Statement II : All organisms belonging to Reptilia have three chambered heart.

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

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

Answer (2)

94. 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) (a), (b) and (c) only (2) (c) and (d) only
(3) (b) and (c) only (4) (a) and (b) only

Answer (1)

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

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

Answer (1)

96. In water, frogs respire using _____.

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

Answer (4)

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

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

Answer (1)

98. Phyllotaxy is the pattern of arrangement of _____.

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

Answer (4)

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

	List-I		List-II
A.	Spherical	I.	Vibrio
B.	Rod	II.	Cocci
C.	Comma	III.	Spirilla
D.	Spirillum	IV.	Bacilli

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

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

Answer (2)

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

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

Answer (3)

106. The correct sequence of adult cell cycle phases is _____.

- (1) G1-M-G2-S
- (2) G1-S-G2-M
- (3) S-M-G2-G1
- (4) G1-G2-S-M

Answer (2)

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

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

Answer (2)

108. Cell theory was formulated by _____.

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

Answer (4)

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

Answer (2)

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

- (a) Do not occur in C₃ plants
- (b) CO₂ is consumed and O₂ is generated
- (c) Phosphoglycolate is formed
- (d) No synthesis of ATP and NADPH

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

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

Answer (1)

111. Which of the following are characteristics of prokaryotic cells?

- (a) Ribosomes are made of 50S and 30S subunits
- (b) They can have plasmids
- (c) They contain mesosome
- (d) They have peroxisomes

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

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

Answer (3)

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

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

Answer (1)

113. Endomembrane system includes _____.

- (1) endoplasmic reticulum, chloroplast, peroxisomes and vacuole
- (2) mitochondria, chloroplast, peroxisomes and vacuole
- (3) Golgi complex, chloroplast, peroxisomes and vacuole
- (4) endoplasmic reticulum, Golgi complex, lysosomes and vacuole

Answer (4)

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

Answer (3*) (Conceptual errata)

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

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

Answer (1)

116. The plastid that stores xanthophyll is known as _____.

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

Answer (1)

117. Photorespiration reaction catalyzed by RuBisCo is shown below:



Identify "X" from the given options:

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

Answer (1)

118. Match List-I with List-II.

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

Answer (3)

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

Answer (4)

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

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

Answer (1)

121. Mitochondrial inner membrane encloses _____.

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

Answer (4)

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

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

Answer (3)

123. Symbiotic association between fungi and algae are called _____.

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

Answer (4)

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

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

Answer (3)

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

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

Answer (4)

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

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

Answer (3)

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

Answer (4)

128. In frogs, the number of pairs of cranial nerves arising from the brain are _____.

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

Answer (2)

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

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

Answer (1)

130. Sphenopsida class belongs to _____.
- (1) angiosperms (2) gymnosperms
(3) pteridophytes (4) bryophytes

Answer (3)

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

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

Answer (4)

132. Which of the following is **not** a prokaryote?
- (1) Blue green algae (2) Mycoplasma
(3) Fungi (4) Bacteria

Answer (3)

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

Answer (2)

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

Answer (2)

135. Mad cow disease is caused by _____.
- (1) viroids (2) *Aspergillus sp.*
(3) *Mycoplasma sp.* (4) prions

Answer (4)

136. The opening between the right atrium and the right ventricle is guarded by _____.

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

Answer (1)

137. The inactive form of Bt toxin is converted to the active form in the insect gut _____

- (1) due to acidic pH (2) by proteases
 (3) by nucleases (4) due to alkaline pH

Answer (4)

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

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

Answer (4)

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

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

Answer (4)

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

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

Answer (3)

141. Sperm motility is due to _____.

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

Answer (4)

142. 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 F₁ 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) Both **A** and **R** are correct but **R** is not the correct explanation of **A**
- (2) **A** is correct but **R** is not correct
- (3) **A** is not correct but **R** is correct
- (4) Both **A** and **R** are correct and **R** is the correct explanation of **A**

Answer (4)

143. During PCR, primers bind to the DNA strands in the _____ step.
- (1) extension
 - (2) annealing
 - (3) ligation
 - (4) denaturation

Answer (2)

144. Which of the following plant produces non-albuminous seeds?
- (1) Maize
 - (2) Barley
 - (3) Pea
 - (4) Wheat

Answer (3)

145. For a person with blood group 'O', which of the following is **not** a possible combination of parents' blood group genotypes?
- (1) Father : $I^A i$ and Mother : $I^A i$
 - (2) Father : $I^B i$ and Mother : $I^B i$
 - (3) Father : $I^A I^B$ and Mother : $I^A i$
 - (4) Father : $I^A i$ and Mother : $I^B i$

Answer (3)

146. Which of the following is used as a clot buster?
- (1) Penicillin
 - (2) Cyclosporin A
 - (3) Statins
 - (4) Streptokinase

Answer (4)

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

Answer (1)

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

Answer (4)

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

Answer (4)

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

Answer (*)

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

Answer (1)

152. Which of the following is the **correct** order of arrangement of vertebrate column from the head to toe?
- (1) Sacrum, lumbar vertebra, thoracic vertebra, cervical vertebra
 - (2) Cervical vertebra, lumbar vertebra, thoracic vertebra, sacrum
 - (3) Cervical vertebra, thoracic vertebra, lumbar vertebra, sacrum
 - (4) Cervical vertebra, thoracic vertebra, sacrum, lumbar vertebra

Answer (3)

153. If the diploid chromosome number of typical angiosperm is 36, what would be the chromosome number in its endosperm?
- (1) 36
 - (2) 54
 - (3) 72
 - (4) 18

Answer (2)

154. Sponges exchange O₂ with CO₂ by _____.
- (1) moist cuticle
 - (2) tracheal tubes
 - (3) gills
 - (4) simple diffusion over their entire body surfaces

Answer (4)

155. Which of the following disease is **not** sexually transmitted?
- (1) Tuberculosis
 - (2) Gonorrhoea
 - (3) Genital warts
 - (4) Syphilis

Answer (1)

156. Which of the following in female gametophyte of an angiosperm helps in guiding the pollen tube for fertilizing the eggs?
- (1) Synergids
 - (2) Central cells
 - (3) Polar nucleus
 - (4) Antipodals

Answer (1)

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

Answer (1)

158. The covering of ovum at ovulation is _____.
- (1) zona radiata (2) zona pellucida
 (3) chorion (4) endometrium

Answer (2)

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

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

Answer (3)

160. Which of the following structure is **not** a part of the male reproductive system?
- (1) Epididymis (2) Vasa efferentia
 (3) Infundibulum (4) Rete testis

Answer (3)

161. Which of the following are primary consumers in a food chain?
- (1) Predators (2) Herbivores
 (3) Carnivores (4) Parasites

Answer (2)

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

Answer (4)

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

Answer (4)

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

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

Answer (3)

165. 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) 0.02
- (2) 0.10
- (3) 0.99
- (4) 0.01

Answer (4)

166. Adaptive radiation in placental mammals and Australian Marsupials leading to similarity between distant species is an example of _____.

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

Answer (1)

167. Colostrum, secreted by mother during initial days of lactation, is abundant in _____.

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

Answer (2)

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

Answer (4)

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

Answer (2)

170. 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), (c) and (d) only
(2) (a), (b), (c) and (d)
(3) (a) and (c) only
(4) (a) only

Answer (1)

171. The method of directly of injecting a sperm into ovum in assisted reproductive technology is called :
- (1) Zygote intra fallopian transfer (ZIFT)
(2) Intra cytoplasmic sperm injection (ICSI)
(3) Embryo transfer (ET)
(4) Gamete intra fallopian transfer (GIFT)

Answer (2)

172. Which of the following is used as an effective sedative and painkiller for treating post-surgery patients?
- (1) Antibiotics
(2) Morphine
(3) Anti-retroviral drugs
(4) Interferon

Answer (2)

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

Answer (1)

174. Which of the following is **not** evidence for evolution?
- (1) Paleontological evidence from fossil records
(2) Embryological support for evolution as proposed by Ernst Heckel
(3) Divergent evolution of anatomical structures such as forelimbs
(4) Convergent evolution of traits like wings of birds and butterflies

Answer (2/4*)

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

Answer (4)

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

Answer (3)

177. 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) 5 million
- (2) 10 million
- (3) 100 million
- (4) 1 million

Answer (2)

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

Answer (1)

179. Muscle contraction is initiated by a signal sent by the central nervous system by the release of _____ .
- (1) acetyl coenzyme A
 - (2) cyclic guanine monophosphate
 - (3) cyclic adenine monophosphate
 - (4) acetyl choline

Answer (4)

180. Which of the following enzymes synthesizes precursor mRNA?
- (1) RNA polymerase II
 - (2) RNA polymerase III
 - (3) DNA polymerase
 - (4) RNA polymerase I

Answer (1)

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



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