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NEET (UG) 2025 — Biology (Botany + Zoology)

Exam date: 4 May 2025 • Test Booklet Code: 47 • Questions 91–180 (90 questions) • +4 / –1

NEET (UG) 2025 conducted by NTA. Answers per NTA final key. Explanations by competitorspoint.com.

Biology — Botany + Zoology (Q. 91–180, single combined section as in the 2025 paper)

91. Which of the following is the unit of productivity of an Ecosystem?

(1) (kcal m^{-2}) yr^{-1} **(2)** g m^{-2}

(3) kcal m^{-2} **(4)** kcal m^{-3}

92. The first menstruation is called :

(1) Ovulation **(2)** Menopause

(3) Menarche **(4)** Diapause

93. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A) : All vertebrates are chordates but all chordates are not vertebrate.

Reason (R) : The members of subphylum Vertebrata possess notochord during the embryonic period, and the notochord is replaced by cartilaginous or bony vertebral column in adults.

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

(1) (A) is false but (R) is true

(2) Both (A) and (R) are true and (R) is the correct explanation of (A)

(3) Both (A) and (R) are true but (R) is not the correct explanation of (A)

(4) (A) is true but (R) is false

94. Genes R and Y follow independent assortment. If RRYY produce round yellow seeds and rryy produce wrinkled green seeds, what will be the phenotypic ratio of the F2 generation?

(1) Phenotypic ratio - 9 : 7

(2) Phenotypic ratio - 1 : 2 : 1

(3) Phenotypic ratio - 3 : 1

(4) Phenotypic ratio - 9 : 3 : 3 : 1

95. Given below are two statements :

Statement I : The DNA fragments extracted from gel electrophoresis can be used in construction of recombinant DNA.

Statement II : Smaller size DNA fragments are observed near anode while larger fragments are found near the wells in an agarose gel.

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

(1) Statement I is incorrect but statement II is correct

(2) Both statement I and statement II are correct

(3) Both statement I and statement II are incorrect

(4) Statement I is correct but statement II is incorrect

96. What is the main function of the spindle fibers during mitosis?

(1) To regulate cell growth **(2)** To separate the chromosomes

(3) To synthesize new DNA **(4)** To repair damaged DNA

97. How many meiotic and mitotic divisions need to occur for the development of a mature female gametophyte from the megaspore mother cell in an angiosperm plant?

(1) No Meiosis and 2 Mitosis **(2)** 2 Meiosis and 3 Mitosis

(3) 1 Meiosis and 2 Mitosis **(4)** 1 Meiosis and 3 Mitosis

98. Identify the statement that is NOT correct.

(1) Constant region of heavy and light chains are located at C-terminus of antibody molecules

(2) Each antibody has two light and two heavy chains.

(3) The heavy and light chains are held together by disulfide bonds.

(4) Antigen binding site is located at C-terminal region of antibody molecules.

99. Consider the following :

A. The reductive division for the human female gametogenesis starts earlier than that of the male gametogenesis.

B. The gap between the first meiotic division and the second meiotic division is much shorter for males compared to females.

C. The first polar body is associated with the formation of the primary oocyte.

D. Luteinizing Hormone (LH) surge leads to disintegration of the endometrium and onset of menstrual bleeding.

Choose the correct answer from the options given below:

(1) B and C are true **(2)** A and B are true
(3) A and C are true **(4)** B and D are true

100. Given below are two statements : One is labelled as Assertion (A) and other is labelled as Reason (R).

Assertion (A) : Cells of the tapetum possess dense cytoplasm and generally have more than one nucleus.

Reason (R) : Presence of more than one nucleus in the tapetum increases the efficiency of nourishing the developing microspore mother cells.

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

(1) A is false but R is true
(2) Both A and R are true and R is the correct explanation of A
(3) Both A and R are true but R is NOT the correct explanation of A
(4) A is true but R is false

101. The blue and white selectable markers have been developed which differentiate recombinant colonies from non-recombinant colonies on the basis of their ability to produce colour in the presence of a chromogenic substrate. Given below are two statements about this method:

Statement I : The blue coloured colonies have DNA insert in the plasmid and they are identified as recombinant colonies.

Statement II : The colonies without blue colour have DNA insert in the plasmid and are identified as recombinant colonies.

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

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

102. In bryophytes, the gemmae help in which one of the following?

(1) Gaseous exchange **(2)** Sexual reproduction
(3) Asexual reproduction **(4)** Nutrient absorption

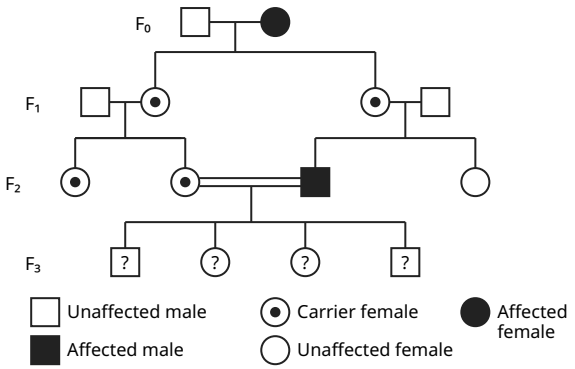
103. Match List I with List II:

List I		List II	
A.	Adenosine	**I.**	Nitrogen base
B.	Adenylic acid	**II.**	Nucleotide
C.	Adenine	**III.**	Nucleoside
D.	Alanine	**IV.**	Amino acid

Choose the option with all correct matches.

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

104. With the help of given pedigree, find out the probability for the birth of a child having no disease and being a carrier (has the disease mutation in one allele of the gene) in F3 generation.



(1) Zero **(2)** 1/4
(3) 1/2 **(4)** 1/8

105. Consider the following statements regarding function of adrenal medullary hormones :

A. It causes pupillary constriction.
B. It is a hyperglycemic hormone.
C. It causes piloerection.
D. It increases strength of heart contraction.

Choose the correct answer from the options given below :

(1) D only **(2)** C and D only
(3) B, C and D only **(4)** A, C and D only

106. Which of the following is an example of a zygomorphic flower?

(1) Chilli **(2)** Petunia
(3) Datura **(4)** Pea

107. Who proposed that the genetic code for amino acids should be made up of three nucleotides?

(1) Franklin Stahl **(2)** George Gamow
(3) Francis Crick **(4)** Jacques Monod

108. Given below are two statements:

Statement I: In ecosystem, there is unidirectional flow of energy of sun from producers to consumers.

Statement II: Ecosystems are exempted from 2nd law of thermodynamics.

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

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

109. Sweet potato and potato represent a certain type of evolution. Select the correct combination of terms to explain the evolution.

(1) Analogy, divergent **(2)** Analogy, convergent
(3) Homology, divergent **(4)** Homology, convergent

110. All living members of the class Cyclostomata are :

(1) Ectoparasite **(2)** Free living
(3) Endoparasite **(4)** Symbiotic

111. Histones are enriched with :

(1) Phenylalanine & Arginine
(2) Lysine & Arginine
(3) Leucine & Lysine
(4) Phenylalanine & Leucine

112. Which one of the following equations represents the Verhulst-Pearl Logistic Growth of population?

(1) $dN/dt = N [(r – K)/K]$
(2) $dN/dt = r [(K – N)/K]$
(3) $dN/dt = rN [(K – N)/K]$
(4) $dN/dt = rN [(N – K)/N]$

113. Given below are two statements : one is labelled as Assertion (A), and the other is labelled as Reason (R).

Assertion (A) : The primary function of the Golgi apparatus is to package the materials made by the endoplasmic reticulum and deliver it to intracellular targets and outside the cell.

Reason (R) : Vesicles containing materials made by the endoplasmic reticulum fuse with the cis face of the Golgi apparatus, and they are modified and released from the trans face of the Golgi apparatus.

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

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

114. Which of the following statements about RuBisCO is true?

(1) It catalyzes the carboxylation of RuBP
(2) It is active only in the dark
(3) It has higher affinity for oxygen than carbon dioxide
(4) It is an enzyme involved in the photolysis of water

115. Match List-I with List-II.

List I		List II	
A.	Progesterone	**I.**	Pars intermedia
B.	Relaxin	**II.**	Ovary
C.	Melanocyte stimulating hormone	**III.**	Adrenal Medulla
D.	Catecholamines	**IV.**	Corpus luteum

Choose the correct answer from the options given below :

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

116. The protein portion of an enzyme is called:

(1) Prosthetic group **(2)** Cofactor
(3) Coenzyme **(4)** Apoenzyme

117. Which of the following enzyme(s) are NOT essential for gene cloning?

A. Restriction enzymes
B. DNA ligase
C. DNA mutase
D. DNA recombinase
E. DNA polymerase

Choose the correct answer from the options given below:

(1) B and C only **(2)** C and D only
(3) A and B only **(4)** D and E only

118. Which of the following type of immunity is present at the time of birth and is a non-specific type of defence in the human body?

(1) Humoral Immunity **(2)** Acquired Immunity
(3) Innate Immunity **(4)** Cell-mediated Immunity

119. Which factor is important for termination of transcription?

(1) γ (gamma) **(2)** α (alpha)
(3) σ (sigma) **(4)** ρ (rho)

120. Which of the following hormones released from the pituitary is actually synthesized in the hypothalamus?

(1) Adrenocorticotropic hormone (ACTH)
(2) Luteinizing hormone (LH)
(3) Anti-diuretic hormone (ADH)
(4) Follicle-stimulating hormone (FSH)

121. Which of the following microbes is NOT involved in the preparation of household products?

A. Aspergillus niger
B. Lactobacillus
C. Trichoderma polysporum
D. Saccharomyces cerevisiae
E. Propionibacterium sharmanii

Choose the correct answer from the options given below:

(1) C and E only **(2)** A and B only
(3) A and C only **(4)** C and D only

122. Given below are two statements :

Statement I : Fig fruit is a non-vegetarian fruit as it has enclosed fig wasps in it.

Statement II : Fig wasp and fig tree exhibit mutual relationship as fig wasp completes its life cycle in fig fruit and fig fruit gets pollinated by fig wasp.

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

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

123. Role of the water vascular system in Echinoderms is :

A. Respiration and Locomotion
B. Excretion and Locomotion
C. Capture and transport of food
D. Digestion and Respiration
E. Digestion and Excretion

Choose the correct answer from the options given below :

(1) B, D and E Only **(2)** A and B Only
(3) A and C Only **(4)** B and C Only

124. After maturation in primary lymphoid organs, the lymphocytes migrate for interaction with antigens to secondary lymphoid organ(s)/ tissue(s) like

A. thymus
B. bone marrow
C. spleen
D. lymph nodes
E. Peyer's patches

Choose the correct answer from the options given below :

(1) C, D, E only **(2)** B, C, D only
(3) A, B, C only **(4)** E, A, B only

125. Match List I with List II:

List I		List II	
A.	The Evil Quartet	**I.**	Cryopreservation
B.	Ex situ conservation	**II.**	Alien species invasion
C.	Lantana camara	**III.**	Causes of biodiversity losses
D.	Dodo	**IV.**	Extinction

Choose the option with all correct matches.

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

126. Read the following statements on plant growth and development.

A. Parthenocarpy can be induced by auxins.
B. Plant growth regulators can be involved in promotion as well as inhibition of growth.
C. Dedifferentiation is a prerequisite for re-differentiation.
D. Abscisic acid is a plant growth promoter.
E. Apical dominance promotes the growth of lateral buds.

Choose the option with all correct statements.

(1) B, D, E only **(2)** A, B, C only
(3) A, C, E only **(4)** A, D, E only

127. Match List-I with List-II.

List I		List II	
A.	Pteridophyte	**I.**	Salvia
B.	Bryophyte	**II.**	Ginkgo
C.	Angiosperm	**III.**	Polytrichum
D.	Gymnosperm	**IV.**	Salvinia

Choose the option with all correct matches.

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

128. Why can't insulin be given orally to diabetic patients?

(1) Its bioavailability will be increased
(2) Human body will elicit strong immune response
(3) It will be digested in Gastro-Intestinal (GI) tract
(4) Because of structural variation

129. Which one of the following is the characteristic feature of gymnosperms?

(1) Gymnosperms have flowers for reproduction
(2) Seeds are enclosed in fruits
(3) Seeds are naked
(4) Seeds are absent

130. Consider the statement: "Frogs respire in water by skin and buccal cavity and on land by skin, buccal cavity and lungs."

Choose the correct answer from the following :

(1) The statement is false for both environments
(2) The statement is true for water but false for land
(3) The statement is true for both environments
(4) The statement is false for water but true for land

131. Silencing of specific mRNA is possible via RNAi because of

(1) Non-complementary ssRNA **(2)** Complementary dsRNA
(3) Inhibitory ssRNA **(4)** Complementary tRNA

132. Twins are born to a family that lives next door to you. The twins are a boy and a girl. Which of the following must be true?

(1) They have 75% identical genetic content.
(2) They are monozygotic twins.
(3) They are fraternal twins.
(4) They were conceived through in vitro fertilization.

133. Match List I with List II :

List I		List II	
A.	Scutellum	**I.**	Persistent nucellus
B.	Non-albuminous seed	**II.**	Cotyledon of Monocot seed
C.	Epiblast	**III.**	Groundnut
D.	Perisperm	**IV.**	Rudimentary cotyledon

Choose the option with all correct matches.

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

134. In frog, the Renal portal system is a special venous connection that acts to link :

(1) Kidney and lower part of body
(2) Liver and intestine
(3) Liver and kidney
(4) Kidney and intestine

135. Match List-I with List-II.

List I		List II	
A.	Heart	**I.**	Erythropoietin
B.	Kidney	**II.**	Aldosterone
C.	Gastro-intestinal tract	**III.**	Atrial natriuretic factor
D.	Adrenal Cortex	**IV.**	Secretin

Choose the correct answer from the options given below :

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

136. Cardiac activities of the heart are regulated by:

A. Nodal tissue
B. A special neural centre in the medulla oblongata
C. Adrenal medullary hormones
D. Adrenal cortical hormones

Choose the correct answer from the options given below :

(1) A, B and D Only **(2)** A, B and C Only
(3) A, B, C and D **(4)** A, C and D Only

137. Streptokinase produced by bacterium Streptococcus is used for

(1) Removing clots from blood vessels
(2) Curd production
(3) Ethanol production
(4) Liver disease treatment

138. Who is known as the father of Ecology in India?

(1) Birbal Sahni **(2)** S.R. Kashyap
(3) Ramdeo Misra **(4)** Ram Udar

139. Given below are two statements : One is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A) : A typical unfertilised, angiosperm embryo sac at maturity is 8 nucleate and 7-celled.

Reason (R) : The egg apparatus has 2 polar nuclei.

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

(1) A is false but R is true
(2) Both A and R are true and R is the correct explanation of A
(3) Both A and R are true but R is NOT the correct explanation of A
(4) A is true but R is false

140. Neoplastic characteristics of cells refer to :

A. A mass of proliferating cell
B. Rapid growth of cells
C. Invasion and damage to the surrounding tissue
D. Those confined to original location

Choose the correct answer from the options given below:

(1) B, C, D only **(2)** A, B only
(3) A, B, C only **(4)** A, B, D only

141. Given below are the stages in the life cycle of pteridophytes. Arrange the following stages in the correct sequence.

A. Prothallus stage
B. Meiosis in spore mother cells
C. Fertilisation
D. Formation of archegonia and antheridia in gametophyte.
E. Transfer of antherozoids to the archegonia in presence of water.

Choose the correct answer from the options given below:

(1) E, D, C, B, A **(2)** B, A, D, E, C
(3) B, A, E, C, D **(4)** D, E, C, A, B

142. Given below are two statements : One is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A) : Both wind and water pollinated flowers are not very colourful and do not produce nectar.

Reason (R) : The flowers produce enormous amount of pollen grains in wind and water pollinated flowers.

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

(1) A is false but R is true
(2) Both A and R are true and R is the correct explanation of A
(3) Both A and R are true but R is NOT the correct explanation of A
(4) A is true but R is false

143. Which one of the following enzymes contains 'Haem' as the prosthetic group?

(1) Catalase **(2)** RuBisCo
(3) Carbonic anhydrase **(4)** Succinate dehydrogenase

144. Match List-I with List-II.

List I		List II	
A.	Emphysema	**I.**	Rapid spasms in muscle due to low Ca^{2+} in body fluid
B.	Angina Pectoris	**II.**	Damaged alveolar walls and decreased respiratory surface
C.	Glomerulonephritis	**III.**	Acute chest pain when not enough oxygen is reaching to heart muscle
D.	Tetany	**IV.**	Inflammation of glomeruli of kidney

Choose the correct answer from the options given below :

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

145. Find the statement that is NOT correct with regard to the structure of monocot stem.

(1) Phloem parenchyma is absent.
(2) Hypodermis is parenchymatous.
(3) Vascular bundles are scattered.
(4) Vascular bundles are conjoint and closed.

146. Which of the following statements is correct about location of the male frog copulatory pad?

(1) First digit of the fore limb
(2) First and Second digit of fore limb
(3) First digit of hind limb
(4) Second digit of fore limb

147. Given below are two statements:

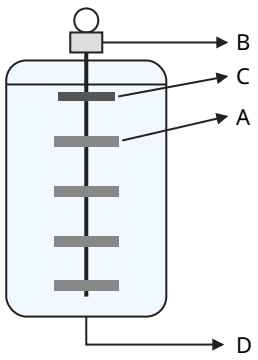
Statement I : The primary source of energy in an ecosystem is solar energy.

Statement II : The rate of production of organic matter during photosynthesis in an ecosystem is called net primary productivity (NPP).

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

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

148. Identify the part of a bio-reactor which is used as a foam breaker from the given figure.



(1) C **(2)** A
(3) B **(4)** D

149. Polymerase chain reaction (PCR) amplifies DNA following the equation.

(1) $2N^2$ **(2)** N^2
(3) 2^n **(4)** $2n + 1$

150. Match List - I with List - II.

List I		List II	
A.	Head	**I.**	Enzymes
B.	Middle piece	**II.**	Sperm motility
C.	Acrosome	**III.**	Energy
D.	Tail	**IV.**	Genetic material

Choose the correct answer from the options given below :

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

151. Given below are two statements:

Statement I: In a floral formula ⊕ stands for zygomorphic nature of the flower, and G stands for inferior ovary.

Statement II: In a floral formula ⊕ stands for actinomorphic nature of the flower and G stands for superior ovary.

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

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

152. From the statements given below choose the correct option :

A. The eukaryotic ribosomes are 80S and prokaryotic ribosomes are 70S.
B. Each ribosome has two sub-units.
C. The two sub-units of 80S ribosome are 60S and 40S while that of 70S are 50S and 30S.
D. The two sub-units of 80S ribosome are 60S and 20S and that of 70S are 50S and 20S.
E. The two sub-units of 80S are 60S and 30S and that of 70S are 50S and 30S.

(1) B, D, E are true **(2)** A, B, C are true
(3) A, B, D are true **(4)** A, B, E are true

153. Each of the following characteristics represents a Kingdom proposed by Whittaker. Arrange the following in increasing order of complexity of body organization.

A. Multicellular heterotrophs with cell wall made of chitin.
B. Heterotrophs with tissue/organ/organ system level of body organization.
C. Prokaryotes with cell wall made of polysaccharides and amino acids.
D. Eukaryotic autotrophs with tissue/organ level of body organization.
E. Eukaryotes with cellular body organization.

Choose the correct answer from the options given below :

(1) C, E, A, B, D **(2)** A, C, E, B, D
(3) C, E, A, D, B **(4)** A, C, E, D, B

154. The correct sequence of events in the life cycle of bryophytes is

A. Fusion of antherozoid with egg.
B. Attachment of gametophyte to substratum.
C. Reduction division to produce haploid spores.
D. Formation of sporophyte.
E. Release of antherozoids into water.

Choose the correct answer from the options given below :

(1) D, E, A, B, C **(2)** D, E, A, C, B
(3) B, E, A, C, D **(4)** B, E, A, D, C

155. Which of the following statements are correct?

A. Computed tomography and magnetic resonance imaging detect cancers of internal organs.
B. Chemotherapeutic drugs are used to kill non-cancerous cells.
C. α-interferon activates the cancer patient's immune system and helps in destroying the tumour.
D. Chemotherapeutic drugs are biological response modifiers.
E. In the case of leukaemia blood cell counts are decreased.

Choose the correct answer from the options given below:

(1) A and C only **(2)** B and D only
(3) D and E only **(4)** C and D only

156. Name the class of enzyme that usually catalyses the following reaction :

$$S - G + S' \rightarrow S + S' - G$$

where G = a group other than hydrogen, S = a substrate, S′ = another substrate

(1) Ligase **(2)** Hydrolase
(3) Lyase **(4)** Transferase

157. Find the correct statements :

A. In human pregnancy, the major organ systems are formed at the end of 12 weeks.
B. In human pregnancy, the major organ systems are formed at the end of 8 weeks.
C. In human pregnancy, the heart is formed after one month of gestation.
D. In human pregnancy, limbs and digits develop by the end of the second month.
E. In human pregnancy, the appearance of hair is usually observed in the fifth month.

Choose the correct answer from the options given below :

(1) A, C, D and E only **(2)** A and E only
(3) B and C only **(4)** B, C, D and E only

158. Which of the following is an example of non-distilled alcoholic beverage produced by yeast?

(1) Rum **(2)** Whisky
(3) Brandy **(4)** Beer

159. Given below are two statements :

Statement I : In the RNA world, RNA is considered the first genetic material evolved to carry out essential life processes. RNA acts as a genetic material and also as a catalyst for some important biochemical reactions in living systems. Being reactive, RNA is unstable.

Statement II : DNA evolved from RNA and is a more stable genetic material. Its double helical strands being complementary, resist changes by evolving repairing mechanism.

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

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

160. Given below are two statements :

Statement I : Transfer RNAs and ribosomal RNA do not interact with mRNA.

Statement II : RNA interference (RNAi) takes place in all eukaryotic organisms as a method of cellular defence.

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

(1) Statement I is incorrect but statement II is correct

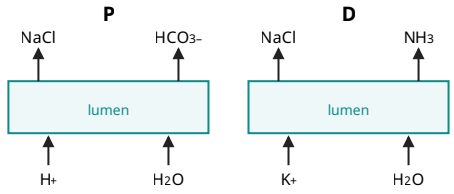
(2) Both statement I and statement II are correct

(3) Both statement I and statement II are incorrect

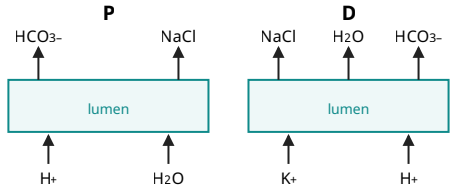
(4) Statement I is correct but statement II is incorrect

161. Which of the following diagrams is correct with regard to the proximal (P) and distal (D) tubule of the Nephron.

(1)



(2)



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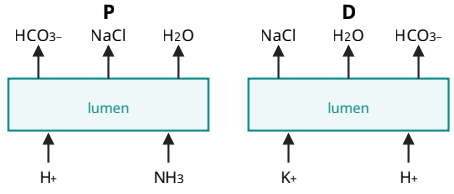
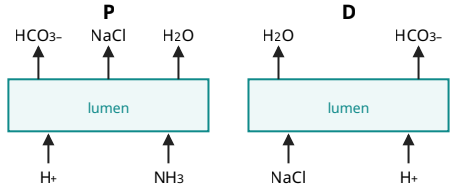


(4)



162. What is the pattern of inheritance for polygenic trait?

(1) X-linked recessive inheritance pattern

(2) Mendelian inheritance pattern

(3) Non-mendelian inheritance pattern

(4) Autosomal dominant pattern

163. In the seeds of cereals, the outer covering of endosperm separates the embryo by a protein-rich layer called :

(1) Aleurone layer **(2)** Coleoptile

(3) Coleorhiza **(4)** Integument

164. Match List I with List II:

List I		List II	
A.	Chlorophyll a	**I.**	Yellow-green
B.	Chlorophyll b	**II.**	Yellow
C.	Xanthophylls	**III.**	Blue-green
D.	Carotenoids	**IV.**	Yellow to Yellow-orange

Choose the option with all correct matches.

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

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

165. Which of the following genetically engineered organisms was used by Eli Lilly to prepare human insulin?

(1) Phage **(2)** Bacterium

(3) Yeast **(4)** Virus

166. Which of the following are the post-transcriptional events in a eukaryotic cell?

A. Transport of pre-mRNA to cytoplasm prior to splicing.

B. Removal of introns and joining of exons.

C. Addition of methyl group at 5′ end of hnRNA.

D. Addition of adenine residues at 3′ end of hnRNA.

E. Base pairing of two complementary RNAs.

Choose the correct answer from the options given below :

(1) C, D, E only **(2)** A, B, C only

(3) B, C, D only **(4)** B, C, E only

167. Match List-I with List-II.

List I		List II	
A.	Centromere	**I.**	Mitochondrion
B.	Cilium	**II.**	Cell division
C.	Cristae	**III.**	Cell movement
D.	Cell membrane	**IV.**	Phospholipid Bilayer

Choose the correct answer from the options given below :

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

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

168. Match List I with List II:

List I		List II	
A.	Alfred Hershey and Martha Chase	**I.**	Streptococcus pneumoniae
B.	Euchromatin	**II.**	Densely packed and dark-stained
C.	Frederick Griffith	**III.**	Loosely packed and light-stained
D.	Heterochromatin	**IV.**	DNA as genetic material confirmation

Choose the correct answer from the options given below:

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

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

169. Which chromosome in the human genome has the highest number of genes?

(1) Chromosome 10 **(2)** Chromosome X
(3) Chromosome Y **(4)** Chromosome 1

170. What are the potential drawbacks in adoption of the IVF method?

A. High fatality risk to mother
B. Expensive instruments and reagents
C. Husband/wife necessary for being donors
D. Less adoption of orphans
E. Not available in India
F. Possibility that the early embryo does not survive

Choose the correct answer from the options given below :

(1) A, B, C, E, F only **(2)** B, D, F only
(3) A, C, D, F only **(4)** A, B, C, D only

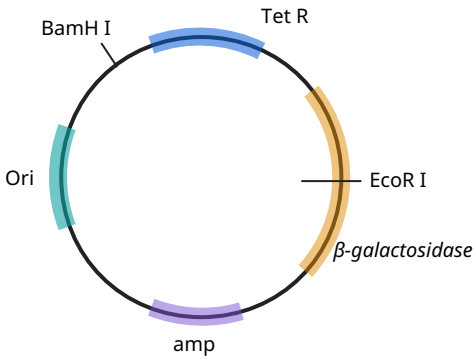
171. Which one of the following is an example of ex-situ conservation?

(1) Protected areas **(2)** National Park
(3) Wildlife Sanctuary **(4)** Zoos and botanical gardens

172. A specialised membranous structure in a prokaryotic cell which helps in cell wall formation, DNA replication and respiration is

(1) Endoplasmic Reticulum **(2)** Mesosome
(3) Chromatophores **(4)** Cristae

173.



In the above represented plasmid, an alien piece of DNA is inserted at EcoRI site. Which of the following strategies will be chosen to select the recombinant colonies?

(1) Blue colour colonies grown on ampicillin plates can be selected.
(2) Using ampicillin & tetracycline containing medium plate.
(3) Blue colour colonies will be selected.
(4) White colour colonies will be selected.

174. What is the name of the blood vessel that carries deoxygenated blood from the body to the heart in a frog?

(1) Vena cava **(2)** Aorta
(3) Pulmonary artery **(4)** Pulmonary vein

175. Which of the following organisms cannot fix nitrogen?

A. Azotobacter
B. Oscillatoria
C. Anabaena
D. Volvox
E. Nostoc

Choose the correct answer from the options given below :

(1) E only **(2)** A only
(3) D only **(4)** B only

176. While trying to find out the characteristic of a newly found animal, a researcher did the histology of adult animal and observed a cavity with presence of mesodermal tissue towards the body wall but no mesodermal tissue was observed towards the alimentary canal. What could be the possible coelom of that animal?

(1) Spongocoelomate **(2)** Acoelomate
(3) Pseudocoelomate **(4)** Schizocoelomate

177. Which one of the following statements refers to Reductionist Biology?

(1) Behavioural approach to study and understand living organisms
(2) Physico-chemical approach to study and understand living organisms
(3) Physiological approach to study and understand living organisms
(4) Chemical approach to study and understand living organisms

178. Epiphytes that are growing on a mango branch is an example of which of the following?

(1) Amensalism **(2)** Commensalism
(3) Mutualism **(4)** Predation

179. Which one of the following phytohormones promotes nutrient mobilization which helps in the delay of leaf senescence in plants?

(1) Cytokinin **(2)** Ethylene
(3) Abscisic acid **(4)** Gibberellin

180. The complex II of mitochondrial electron transport chain is also known as

(1) NADH dehydrogenase **(2)** Cytochrome bc1
(3) Succinate dehydrogenase **(4)** Cytochrome c oxidase

Answer key & explanations

NEET (UG) 2025 conducted by NTA. Answers per NTA final key. Explanations by competitorspoint.com. Official source: NTA final answer key, Test Booklet Code 47, exam date 04.05.2025.

91 – 1	**92** – 3	**93** – 2	**94** – 4	**95** – 2	**96** – 2	**97** – 4	**98** – 4	**99** – 2	**100** – 2
101 – 1	**102** – 3	**103** – 4	**104** – 2	**105** – 3	**106** – 4	**107** – 2	**108** – 4	**109** – 2	**110** – 1
111 – 2	**112** – 3	**113** – 2	**114** – 1	**115** – 2	**116** – 4	**117** – 2	**118** – 3	**119** – 4	**120** – 3
121 – 3	**122** – 3	**123** – 3	**124** – 1	**125** – 3	**126** – 2	**127** – 3	**128** – 3	**129** – 3	**130** – 4
131 – 2	**132** – 3	**133** – 2	**134** – 1	**135** – 1	**136** – 2	**137** – 1	**138** – 3	**139** – 4	**140** – 3
141 – 2	**142** – 3	**143** – 1	**144** – 1	**145** – 2	**146** – 1	**147** – 4	**148** – 1	**149** – 3	**150** – 2
151 – 1	**152** – 2	**153** – 3	**154** – 4	**155** – 1	**156** – 4	**157** – 1	**158** – 4	**159** – 2	**160** – 1
161 – 3	**162** – 3	**163** – 1	**164** – 3	**165** – 2	**166** – 3	**167** – 1	**168** – 4	**169** – 4	**170** – 2
171 – 4	**172** – 2	**173** – 4	**174** – 1	**175** – 3	**176** – 3	**177** – 2	**178** – 2	**179** – 1	**180** – 3

91. **Ans (1)** Productivity is the rate of biomass production, expressed as g m^{-2} yr^{-1} or (kcal m^{-2}) yr^{-1} – a quantity per area per time.

92. **Ans (3)** The first menstruation at puberty is called menarche.

93. **Ans (2)** Vertebrates have a notochord only in the embryo, replaced by a vertebral column in adults; hence every vertebrate is a chordate, but not every chordate is a vertebrate.

94. **Ans (4)** A dihybrid cross with independent assortment gives an F_2 phenotypic ratio of 9 : 3 : 3 : 1.

95. **Ans (2)** Eluted gel bands are used to build rDNA; DNA is negatively charged, so smaller fragments move farthest towards the anode and larger ones stay near the wells.

96. **Ans (2)** Spindle fibres attach to kinetochores and pull sister chromatids to opposite poles.

97. **Ans (4)** MMC → 4 megaspores by one meiosis; the functional megaspore then undergoes 3 free-nuclear mitoses to give the 8-nucleate embryo sac.

98. **Ans (4)** Antigen-binding sites lie at the N-terminal variable regions; constant regions are at the C-terminus.

99. **Ans (2)** Female meiosis begins in the foetus and arrests for years, so A and B are true. The first polar body forms with the secondary oocyte, and menstruation follows a fall in progesterone, not the LH surge.

100. **Ans (2)** Per NTA, both statements are true and R explains A: binucleate/multinucleate tapetal cells with dense cytoplasm nourish developing pollen. (Disputed – see report.)

101. **Ans (1)** Insertion inactivates the β-galactosidase gene, so recombinant colonies are white (no colour); non-recombinants are blue.

102. **Ans (3)** Gemmae are green multicellular asexual buds of liverworts that detach and grow into new plants.

103. **Ans (4)** Adenosine – nucleoside; adenylic acid – nucleotide; adenine – nitrogen base; alanine – amino acid.

104. **Ans (2)** The pedigree indicates X-linked recessive inheritance; carrier female × affected male gives X^aX^a, X^aX, X^aY, XY – one in four (1/4) is a non-diseased carrier.

105. **Ans (3)** Adrenaline/noradrenaline raise blood glucose, cause piloerection and strengthen heartbeat, but dilate (not constrict) the pupil.

106. **Ans (4)** Pea (Fabaceae) has a zygomorphic papilionaceous corolla; chilli, petunia and datura are actinomorphic.

107. **Ans (2)** George Gamow argued that 20 amino acids need a triplet code ($4^3 = 64$ combinations).

108. **Ans (4)** Energy flows one way from the sun through producers to consumers, and ecosystems obey the second law of thermodynamics.

109. **Ans (2)** Sweet potato (root) and potato (stem) differ in origin but have the same function – analogy resulting from convergent evolution.

110. **Ans (1)** Living cyclostomes (lampreys, hagfish) are ectoparasites on fishes.

111. **Ans (2)** Histones are basic proteins rich in lysine and arginine.

112. **Ans (3)** Logistic growth: dN/dt = rN[(K – N)/K], K being the carrying capacity.

113. **Ans (2)** Golgi vesicles from ER fuse at the cis face, contents are modified and released from the trans face – which explains its packaging/delivery role.

114. **Ans (1)** RuBisCO carboxylates RuBP; it has higher affinity for CO_2 and is not involved in photolysis.

115. **Ans (2)** Progesterone – corpus luteum; relaxin – ovary; MSH – pars intermedia; catecholamines – adrenal medulla.

116. **Ans (4)** The protein part of a holoenzyme is the apoenzyme.

117. **Ans (2)** Gene cloning needs restriction enzymes, ligase and polymerase; 'DNA mutase' and 'DNA recombinase' are not required.

118. **Ans (3)** Innate immunity is present from birth and is non-specific.

119. **Ans (4)** The rho (ρ) factor terminates transcription in prokaryotes; sigma (σ) initiates it.

120. **Ans (3)** ADH (vasopressin) is synthesised in hypothalamic neurons and released from the posterior pituitary.

121. **Ans (3)** Trichoderma polysporum (cyclosporin A) and Propionibacterium sharmanii are industrial microbes, not used for household products like curd or bread.

122. **Ans (3)** The fig wasp is a pollinator in a mutualistic relationship; calling fig a non-vegetarian fruit is not a scientific statement.

123. **Ans (3)** The echinoderm water vascular system helps in locomotion, capture and transport of food, and respiration.

124. **Ans (1)** Secondary lymphoid organs include spleen, lymph nodes, tonsils and Peyer's patches; thymus and bone marrow are primary.

125. **Ans (3)** Evil Quartet – causes of biodiversity loss; ex situ – cryopreservation; Lantana – alien invasive; dodo – extinct.

126. **Ans (2)** ABA is a growth inhibitor and apical dominance suppresses lateral buds; A, B, C are correct.

127. **Ans (3)** Salvinia – pteridophyte; Polytrichum – bryophyte; Salvia – angiosperm; Ginkgo – gymnosperm.

128. **Ans (3)** Insulin is a protein, so it would be digested by proteases in the GI tract.

129. **Ans (3)** Gymnosperm ovules and seeds are naked – not enclosed in an ovary or fruit.

130. **Ans (4)** In water a frog respires through the skin (cutaneous); on land it uses skin, buccal cavity and lungs.

131. **Ans (2)** RNAi uses complementary dsRNA that binds and silences the target mRNA.

132. **Ans (3)** Monozygotic twins are always the same sex, so a boy–girl pair must be dizygotic (fraternal).

133. **Ans (2)** Scutellum – monocot cotyledon; non-albuminous seed – groundnut; epiblast – rudimentary cotyledon; perisperm – persistent nucellus.

134. **Ans (1)** The renal portal system of frogs links the lower body to the kidneys.

135. **Ans (1)** Heart – ANF; kidney – erythropoietin; GI tract – secretin; adrenal cortex – aldosterone.

136. **Ans (2)** Heart activity is autoregulated by nodal tissue and moderated by the medullary cardiac centre and adrenal medullary hormones.

137. **Ans (1)** Streptokinase is a 'clot buster' used to remove clots from blood vessels.

138. **Ans (3)** Ramdeo Misra is regarded as the father of ecology in India.

139. **Ans (4)** The mature embryo sac is 7-celled and 8-nucleate, but the two polar nuclei are in the central cell, not the egg apparatus.

140. **Ans (3)** Neoplastic (malignant) cells proliferate rapidly and invade surrounding tissue; confinement to the original site is benign behaviour.

141. **Ans (2)** Spore mother cells undergo meiosis → spores germinate into prothallus → sex organs form → antherozoids reach archegonia in water → fertilisation.

142. **Ans (3)** Wind/water-pollinated flowers lack colour and nectar and produce abundant pollen, but pollen abundance does not explain the lack of colour.

143. **Ans (1)** Catalase contains haem (iron porphyrin) as its prosthetic group.

144. **Ans (1)** Emphysema – damaged alveolar walls; angina – chest pain from cardiac O_2 shortage; glomerulonephritis – glomerular inflammation; tetany – spasms from low Ca^{2+}.

145. **Ans (2)** The monocot stem hypodermis is sclerenchymatous, not parenchymatous.

146. **Ans (1)** The copulatory (nuptial) pad of male frogs is on the first digit of the forelimb.

147. **Ans (4)** Solar energy is the primary source; the rate of organic matter production in photosynthesis is GPP, not NPP.

148. **Ans (1)** In a stirred-tank bioreactor the foam breaker sits near the top of the shaft (C), above the impellers.

149. **Ans (3)** Each PCR cycle doubles DNA, giving 2^n copies after n cycles.

150. **Ans (2)** Head – genetic material; middle piece – mitochondria for energy; acrosome – enzymes; tail – motility.

151. **Ans (1)** ⊕ denotes actinomorphic and % zygomorphic; G with a line below means superior ovary – only Statement II is correct.

152. **Ans (2)** Eukaryotic 80S = 60S + 40S, prokaryotic 70S = 50S + 30S, each with two subunits.

153. **Ans (3)** Monera (C) → Protista (E) → Fungi (A) → Plantae (D) → Animalia (B).

154. **Ans (4)** Gametophyte attaches to substratum → antherozoids released into water → fertilisation → sporophyte forms → meiosis gives spores.

155. **Ans (1)** CT/MRI detect internal cancers and α-interferon boosts immunity; chemotherapeutics kill cancer cells, and BRMs are things like interferon.

156. **Ans (4)** Transferases move a group (other than hydrogen) from one substrate to another.

157. **Ans (1)** Major organs form by 12 weeks, the heart after one month, limbs/digits by 2 months and hair in the 5th month.

158. **Ans (4)** Beer is made from malted cereals by yeast fermentation without distillation.

159. **Ans (2)** RNA was the first genetic material and catalyst but is unstable; DNA evolved from it and is more stable due to its double helix and repair.

160. **Ans (1)** tRNA and rRNA do interact with mRNA during translation; RNAi is a cellular defence in eukaryotes.

161. **Ans (3)** PCT reabsorbs HCO_3^-, NaCl and water and secretes H^+ and NH_3; DCT reabsorbs NaCl, water and HCO_3^- and secretes K^+ and H^+.

162. **Ans (3)** Polygenic traits show continuous variation and do not follow simple Mendelian ratios.

163. **Ans (1)** The protein-rich aleurone layer separates the endosperm from the embryo in cereals.

164. **Ans (3)** Chl a – blue-green; chl b – yellow-green; xanthophylls – yellow; carotenoids – yellow to yellow-orange.

165. **Ans (2)** Eli Lilly produced human insulin chains in E. coli – a bacterium.

166. **Ans (3)** Post-transcriptional processing: splicing, 5′ capping (methyl guanosine) and 3′ poly-A tailing.

167. **Ans (1)** Centromere – cell division; cilium – movement; cristae – mitochondrion; cell membrane – phospholipid bilayer.

168. **Ans (4)** Hershey–Chase proved DNA is genetic material; euchromatin is loose and light; Griffith used Streptococcus pneumoniae; heterochromatin is dense and dark.

169. **Ans (4)** Chromosome 1 has the most genes (≈2968) in the human genome.

170. **Ans (2)** IVF is expensive, embryos may fail to survive and it reduces adoption of orphans; it does exist in India.

171. **Ans (4)** Zoos and botanical gardens conserve species outside their natural habitat (ex situ).

172. **Ans (2)** Mesosomes, infoldings of the bacterial membrane, help in wall formation, DNA replication and respiration.

173. **Ans (4)** Insertion at EcoRI inactivates β-galactosidase, so recombinant colonies are white with chromogenic substrate.

174. **Ans (1)** In frogs, the vena cava returns deoxygenated blood to the heart (via the sinus venosus).

175. **Ans (3)** Volvox is a green alga that cannot fix nitrogen; Azotobacter, Oscillatoria, Anabaena and Nostoc can.

176. **Ans (3)** Mesoderm lining the body wall but not the gut indicates a pseudocoelom.

177. **Ans (2)** Reductionist biology studies life by physico-chemical approaches.

178. **Ans (2)** Epiphytes benefit from the mango branch without harming it – commensalism.

179. **Ans (1)** Cytokinins promote nutrient mobilisation and delay leaf senescence.

180. **Ans (3)** Complex II of the ETS is succinate dehydrogenase.