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## NEET (UG) 2026 — Biology (Botany + Zoology)

Exam date: 3 May 2026 • Test Booklet Code: 11 • Questions 91–180 (90 questions) • +4 / –1

Questions as they appeared in NEET (UG) 2026 conducted by NTA. Answers per NTA key. Explanations by competitorspoint.com.

## Section A — Botany (Q. 91–135)

**91.** In angiosperms, root hairs arise from which one of the following regions of the root?

**(1)** The root cap zone
**(2)** The region of meristematic activity
**(3)** The region of elongation
**(4)** The region of maturation

**92.** In which one of the following, the ovules are not enclosed by an ovary wall and remain exposed?

**(1)** Funaria **(2)** Pinus
**(3)** Selaginella **(4)** Wolffia

**93.** In the lac operon, the z gene codes for

**(1)** permease **(2)** transacetylase
**(3)** beta-galactosidase **(4)** the repressor of lac operon

**94.** Exploring molecular, genetic and species-level diversity for products of economic importance is called

**(1)** Biofortification **(2)** Bioremediation
**(3)** Bioprospecting **(4)** Biomagnification

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

| List I | | List II | |
|---|---|---|---|
| **A.** | Genetically modified organism | **I.** | Agrobacterium tumefaciens |
| **B.** | Thermostable DNA polymerase | **II.** | Bt cotton |
| **C.** | Ti plasmid | **III.** | Thermus aquaticus |
| **D.** | pBR322 | **IV.** | Escherichia coli |

Choose the correct answer from the options given below:

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

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

| List I | | List II | |
|---|---|---|---|
| **A.** | Productivity | **I.** | Gross primary productivity minus respiration losses |
| **B.** | Net primary productivity | **II.** | Rate of formation of new organic matter by consumers |
| **C.** | Gross primary productivity | **III.** | Rate of biomass production |
| **D.** | Secondary productivity | **IV.** | Rate of production of organic matter during photosynthesis |

Choose the correct answer from the options given below :

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

**97.** Since the origin and diversification of life on Earth, there have been five episodes of mass extinction of species. How is the sixth extinction, which is in progress, different from the previous episodes?

**(1)** The present net species extinction rate is zero.
**(2)** The current species extinction rate is nearly 10 times faster than in previous episodes.
**(3)** The present species extinction rates are 100 to 1000 times faster than in the pre-human times.
**(4)** The current species extinction rates are far lower than those in previous episodes.

**98.** Alpha-helix is found in which level of protein structure?

**(1)** Secondary structure **(2)** Tertiary structure
**(3)** Primary structure **(4)** Quaternary structure

**99.** The main function of bulliform cells in grasses is :

**(1)** to make the leaf impermeable to fungal spores.
**(2)** to transport water.
**(3)** to perform photosynthesis.
**(4)** to minimize water loss during water stress.

**100.** Identify the correct sequence of steps in each cycle of Polymerase Chain Reaction :

**(1)** Extension → Annealing → Denaturation
**(2)** Annealing → Denaturation → Extension
**(3)** Denaturation → Extension → Annealing
**(4)** Denaturation → Annealing → Extension

**101.** Match List I with List II :

| List I (Phase of cell cycle) | | List II (Activity) | |
|---|---|---|---|
| **A.** | $G_1$ phase | **I.** | Actual cell division occurs |
| **B.** | S phase | **II.** | Cell is metabolically active and continuously grows but does not replicate its DNA |
| **C.** | $G_2$ Phase | **III.** | Synthesis of DNA occurs and the amount of DNA per cell doubles |
| **D.** | M phase | **IV.** | Proteins are synthesized while cell growth continues |

Choose the correct answer from the options given below :

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

**102.** Which of the following statements are correct?

**A.** The Amazon rainforest being cut and cleared for cultivation of soyabeans is an example of habitat loss.
**B.** Steller's sea cow and passenger pigeon became extinct due to over-exploitation by humans.
**C.** The Nile perch introduced into Lake Victoria in East Africa helped in population growth of cichlid fish in the lake.
**D.** Water hyacinth is an invasive species.
**E.** When a species becomes extinct, the plant and animal species associated with it are not affected.

Choose the correct answer from the options given below:

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

**103.** Which of the following statements are correct with reference to a transcription unit?

**A.** A transcription unit in DNA is defined primarily by three regions : promoter, structural gene and terminator.
**B.** The promoter is said to be located towards the 5🔔-end of the structural gene.
**C.** The promoter is a DNA sequence that provides binding site for RNA polymerase.
**D.** The promoter defines the template and coding strands.
**E.** The terminator is located towards the 3🔔-end of the coding strand and it defines the end of the process of transcription.

Choose the correct answer from the options given below:

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

**104.** Which one of the following statements is not true about the universal rules of binomial nomenclature?

**(1)** Biological names are generally in Latin
**(2)** Both the words in a biological name, when handwritten, are separately underlined or printed in italics
**(3)** The specific epithet in the biologial name starts with a small letter
**(4)** The first word in the biological name represents the specific epithet, while the second component denotes the genus

**105.** Match List I with List II:

| List I | | List II | |
|---|---|---|---|
| **A.** | Decomposition | **I.** | Accumulation of dark coloured amorphous colloidal substance |
| **B.** | Detritus | **II.** | Release of inorganic nutrients by the activity of microbes in soil |
| **C.** | Mineralisation | **III.** | Breaking down of complex organic matter into inorganic substances. |
| **D.** | Humification | **IV.** | Dead remains of plants and animals including fecal matter |

Choose the correct answer from the options given below:

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

**106.** Which one of the following is the site for active ribosomal RNA synthesis?

**(1)** Centrosome **(2)** Chromatin
**(3)** Nucleolus **(4)** Kinetochore

**107.** $2(C_{51}H_{98}O_6) + 145\ O_2 \rightarrow 102\ CO_2 + 98\ H_2O +$ energy The Respiratory Quotient (RQ) of a biomolecule used for respiration, as per the above equation would be :

**(1)** Between 0.5 and 0.95 **(2)** Less than 0.5

**(3)** 1.0 **(4)** Between 1.25 and 2

**108.** Match List I with List II :

| List I | | List II | |
|---|---|---|---|
| **A.** | Incomplete dominance | **I.** | Human skin colour |
| **B.** | Co-dominance | **II.** | Inheritance of flower colour in Antirrhinum sp. |
| **C.** | Pleiotropy | **III.** | Phenylketonuria disease in humans |
| **D.** | Polygenic inheritance | **IV.** | ABO blood groups |

Choose the correct answer from the options given below :

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

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

**109.** Arrange the following steps of DNA fingerprinting in a correct sequence.

**A.** Isolation of DNA and its digestion by restriction endonucleases.

**B.** Hybridisation using a labelled VNTR probe.

**C.** Transferring of separated DNA fragments to synthetic membranes.

**D.** Detection of hybridised DNA fragments by autoradiography.

**E.** Separation of DNA fragments by electrophoresis.

Choose the correct answer from the options given below :

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

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

**110.** Which of the following statements are correct with reference to packaging of DNA helix ?

**A.** Histones are organized to form a unit of eight molecules called histone octamer.

**B.** Histones are negatively charged basic proteins.

**C.** Histones are rich in the basic amino acid residues - lysine and arginine.

**D.** The positively charged DNA is wrapped around the histone octamer to form nucleosome.

**E.** The packaging of chromatin at higher levels requires an additional set of proteins called non-histone chromosomal proteins.

Choose the correct answer from the options given below :

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

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

**111.** Find the incorrect statement(s) about photosynthesis from the following:

**A.** The water splitting complex is associated with PS I.

**B.** $C_4$ plants use the $C_3$ pathway of $CO_2$ fixation as the main biosynthetic pathway.

**C.** In $C_4$ plants, photorespiration does not occur.

**D.** $C_3$ plants exhibit 'Kranz' anatomy.

**E.** ATP synthesis in chloroplast occurs through chemiosmosis.

Choose the answer from the options given below:

**(1)** B and C only **(2)** B only

**(3)** B and E only **(4)** A and D only

**112.** Arrange the following steps of somatic hybridisation in a correct sequence.

**A.** Digestion of cell walls.

**B.** Isolation of naked protoplasts.

**C.** Fusion of protoplasts to get hybrid protoplast.

**D.** Isolation of single cells from two different varieites of plants.

**E.** Growing of hybrid protoplast to form a new plant.

Choose the correct answer from the options given below:

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

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

**113.** Match List-I with List-II :

| List I | | List II | |
|---|---|---|---|
| **A.** | Conjunctive tissue | **I.** | Specialised cells in the vicinity of guard cells |
| **B.** | Casparian strips | **II.** | Endodermal cells rich in starch |
| **C.** | Subsidiary cells | **III.** | Tissue between xylem and phloem |
| **D.** | Starch sheath | **IV.** | Endodermal cells with suberin deposition |

Choose the correct answer from the options given below :

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

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

**114.** Which one of the following is not a characteristic of plant cells in the phase of elongation?

**(1)** New cell wall deposition **(2)** Cell enlargement

**(3)** Increased vacuolation **(4)** Large conspicuous nuclei

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

| List I (Growth Regulator) | | List II (Function/Effect) | |
|---|---|---|---|
| **A.** | 2,4-D | **I.** | Brewing industry |
| **B.** | $GA_3$ | **II.** | Stimulation of stomatal closure |
| **C.** | Kinetin | **III.** | Herbicide |
| **D.** | ABA | **IV.** | Nutrient mobilisation |

Choose the correct answer from the options given below :

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

**116.** The enzyme required for carboxylation in the Calvin cycle is

**(1)** Hexokinase
**(2)** PEP carboxylase
**(3)** RuBP carboxylase - oxygenase
**(4)** Carboxypeptidase

**117.** How many ATP and NADPH molecules are required to make one molecule of glucose through the Calvin pathway?

**(1)** 18 ATP and 12 NADPH **(2)** 12 ATP and 18 NADPH
**(3)** 24 ATP and 18 NADPH **(4)** 6 ATP and 12 NADPH

**118.** Which of the following floral formula is the correct floral formula of Solanaceae family?

**(1)** $\oplus\ \female\ \male\ K_{(5)}C_{(5)}A_5\ \underline{G}_{(2)}$
**(2)** $\oplus\ \female\ \male\ K_{(5)}\overbrace{C_{(5)}A_5}\ \underline{G}_{(2)}$
**(3)** $\oplus\ \female\ \male\ K_5C_5A_5\ \underline{G}_{(2)}$
**(4)** $\oplus\ \female\ \male\ K_5\overbrace{C_{(5)}A_5}\ \underline{G}_{(2)}$

**119.** Which of the following is an in situ conservation method?

**(1)** Sacred Groves **(2)** Wildlife Safari Parks
**(3)** Botanical Gardens **(4)** Seed Banks

**120.** Which of the following statements are not true regarding restriction endonucleases?

**A.** They are called molecular scissors.
**B.** These are the enzymes responsible for restricting the growth of bacteriophages in E. coli.
**C.** They cut the DNA only at the centre of the palindromic sites.
**D.** They remove nucleotides only from the ends of DNA fragments.
**E.** They recognise specific palindromic base-pair sequences.

Choose the answer from the options given below :

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

**121.** In racemose inflorescence, _____.

**(1)** The main axis terminates in a flower
**(2)** Flowers are solitary
**(3)** The growth is limited
**(4)** Flowers are borne in an acropetal succession

**122.** Arrange the following in the correct developmental sequence related to microsporogenesis :

**A.** Microspore tetrads
**B.** Sporogenous tissue
**C.** Pollen grains
**D.** Pollen mother cells

Choose the correct answer from the options given below :

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

**123.** Identify the correct statements about biomolecules.

**A.** Lipids are generally water soluble.
**B.** Proteins are polypeptides.
**C.** Polysaccharides are long chains of sugars.
**D.** Adenine and guanine are substituted pyrimidines.
**E.** Almost all enzymes are proteins.

Choose the correct answer from the options given below :

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

**124.** Which of the following statements are true with reference to the sex-determination in honeybees?

**A.** An offspring formed from the union of a sperm and an egg, develops as a female (queen or worker).
**B.** An unfertilized egg develops as a male by parthenogenesis.
**C.** A male has half the number of chromosomes than that of a female.
**D.** Males produce sperms by meiosis.
**E.** Honeybees have a haplodiploid sex-determination system.

Choose the correct answer from the options given below :

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

**125.** Heterophyllous development in response to environment is an example of which of the following phenomena?

**(1)** Redifferentiation **(2)** Elasticity
**(3)** Dedifferentiation **(4)** Plasticity

**126.** Which of the following statements are correct regarding amino acids?

**A.** They are substituted methanes.
**B.** Serine is an aromatic amino acid.
**C.** Valine is a neutral amino acid.
**D.** Lysine is an acidic amino acid.

Choose the correct answer from the options given below:

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

**127.** "The Evil Quartet" of biodiversity loss includes which of the following?

**(1)** Over-exploitation; Alien species invasions; Air pollution; Co-extinctions
**(2)** Habitat loss and fragmentation; Air pollution; Water pollution; Co-extinctions
**(3)** Habitat loss and fragmentation; over-exploitation; Alien species invasions; Co-extinctions
**(4)** Over-exploitation; Alien species invasions; Soil pollution; Co-extinctions

**128.** Match List-I with List-II:

| List I (Process) | | List II (Location) | |
|---|---|---|---|
| **A.** | Glycolysis | **I.** | Inner mitochondrial membrane |
| **B.** | ETS | **II.** | Mitochondrial matrix |
| **C.** | Accumulation of protons | **III.** | Cytoplasm |
| **D.** | Krebs' cycle | **IV.** | Intermembrane space |

Choose the correct answer from the options given below:

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

**129.** Which one of the following is a triploid cell?

**(1)** Synergid **(2)** Central cell
**(3)** Zygote **(4)** Primary endosperm cell

**130.** Which one of the following types of pollination brings genetically different types of pollen grains to the stigma?

**(1)** Autogamy **(2)** Xenogamy
**(3)** Geitonogamy **(4)** Cleistogamy

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

| List I (Placentation) | | List II (Example) | |
|---|---|---|---|
| **A.** | Marginal | **I.** | Mustard |
| **B.** | Axile | **II.** | Pea |
| **C.** | Parietal | **III.** | Marigold |
| **D.** | Basal | **IV.** | Lemon |

Choose the correct answer from the options given below :

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

**132.** The main criteria used for Five Kingdom Classification proposed By R.H. Whittaker (1969) included :

**A.** Cell structure
**B.** Body organization
**C.** Presence of flagellum
**D.** Reproduction
**E.** Phylogenetic relationships

Choose the correct answer from the options given below :

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

**133.** Match List I with List II :

| List I | | List II | |
|---|---|---|---|
| **A.** | Trypsin | **I.** | Intercellular ground substance |
| **B.** | Morphine | **II.** | Lectin |
| **C.** | Concanavalin A | **III.** | Enzyme |
| **D.** | Collagen | **IV.** | Alkaloid |

Choose the correct answer from the options given below :

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

**134.** Which of the following statements are correct with respect to DNA separation, isolation and visualization?

**A.** The cutting of DNA is done by molecular scissors.
**B.** The DNA fragments separate according to their size in an agarose gel, upon electrophoresis.
**C.** The separated DNA fragments can be seen without staining when exposed to UV light.
**D.** The separated DNA fragments, when stained with ethidium bromide, can be seen in visible light.

Choose the correct answer from the options given below :

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

**135.** Which one of the following disorders is caused by the substitution of Glutamic acid (Glu) by Valine (Val) at the sixth position of the beta globin chain of the haemoglobin molecule?

**(1)** Thalassemia **(2)** Sickle-cell anaemia
**(3)** Phenylketonuria **(4)** Haemophilia

## Section B — Zoology (Q. 136–180)

**136.** Match List I with List II:

| List I | | List II | |
|---|---|---|---|
| **A.** | Cortisol | **I.** | Stimulates the formation of alveoli in mammary glands |
| **B.** | Aldosterone | **II.** | Produces anti-inflammatory reactions |
| **C.** | Cholecystokinin | **III.** | Stimulates reabsorption of Na+ and water from renal tubule |
| **D.** | Progesterone | **IV.** | Stimulates secretion of pancreatic enzymes and bile juice |

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

**137.** Arrange the following events occuring in Renin-Angiotensin mechanism in the correct order:

**A.** Increase in blood pressure and Glomerular filtration rate
**B.** Reabsorption of Na+ and water from distal parts of tubule due to Aldosterone
**C.** Fall in Glomerular filtration rate
**D.** Vasoconstriction by Angiotensin II and release of Aldosterone.
**E.** Renin converts Angiotensinogen into Angiotensin I, followed by Angiotensin II.

Choose the correct answer from the options given below:

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

**138.** In humans, respiration occurs in the following steps. Arrange these steps in the correct order.

**A.** Diffusion of $O_2$ and $CO_2$ between blood and tissues
**B.** Diffusion of $O_2$ and $CO_2$ across alveolar membrane
**C.** Pulmonary ventilation by which atmospheric air is drawn in and CO 2 rich alveolar air is released out
**D.** Cellular respiration
**E.** Transport of gases by the blood

Choose the correct answer from the options given below

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

**139.** The following are the stages of life cycle of Plasmodium. Arrange the stages in the proper order.

**A.** The parasites reproduce asexually in RBCs, bursting the cells.
**B.** The parasites reproduce asexually in liver cells, bursting the cells and releasing into blood.
**C.** Gametocytes develop in RBCs.
**D.** Sporozoites reach the liver through the blood.
**E.** Female mosquito injects sporozoites into humans during bite.

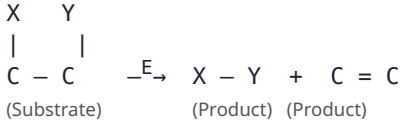
Choose the correct answer from the options given below:

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

**140.** Insertion of a foreign DNA at BamHI site in an E.coli cloning vector pBR322 results in the loss of antibiotic resistance towards:

**(1)** Ampicillin and tetracycline **(2)** Ampicillin
**(3)** Tetracycline **(4)** Gentamycin

**141.** The following reaction depicts the activity of a particular class of enzymes :




Identify the enzymes class ‘E’ from the following options :

**(1)** Transferases **(2)** Isomerases
**(3)** Lyases **(4)** Ligases

**142.** The specific receptors for neurotransmitters in a synapse are present on _____.

**(1)** Schwann cell **(2)** Pre-synaptic membrane
**(3)** Myelin sheath **(4)** Post-synaptic membrane

**143.** What is the probability of having children with ‘O’ blood group, where both mother and father are heterozygous for ‘A’ and ‘B’ blood group, respectively?

**(1)** 25% **(2)** 0%
**(3)** 75% **(4)** 50%

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

| List I (Respiratory Volume) | | List II (Capacity in mL) | |
|---|---|---|---|
| **A.** | ERV (Expiratory Reserve Volume) | **I.** | 2500 – 3000 mL |
| **B.** | RV (Residual Volume) | **II.** | 500 mL |
| **C.** | IRV (Inspiratory Reserve Volume) | **III.** | 1000 – 1100 mL |
| **D.** | TV (Tidal Volume) | **IV.** | 1100 – 1200 mL |

Choose the correct answer from the options given below :

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

**145.** Which of the following is not an example of convergent evolution?

**(1)** Flippers of penguins and dolphins
**(2)** Eyes of octopuses and mammals
**(3)** Fore limbs of whales and bats
**(4)** Wings of butterflies and birds

**146.** Male frogs can be distinguished from female frogs due to the presence of

**A.** Bulging eyes
**B.** Vocal sacs
**C.** Webbed digits in feet
**D.** Copulatory pad on first digit of fore limbs
**E.** Olive green-coloured skin with dark irregular spots

Choose the correct answer from the options given below

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

**147.** A group of researchers procured some fish like animals and upon investigation the following characters were observed:

**A.** Endoskeleton was made of cartilage.
**B.** Ectoparasitic; as they were found attached on fish skin with their circular sucking mouth.
**C.** Paired fins and scales were absent, but 7 pairs of gill slits were present.

Which of the following species of animals did they consider to fit best with these characters?

**(1)** Scoliodon sp. **(2)** Petromyzon sp.
**(3)** Exocoetus sp. **(4)** Branchiostoma sp.

**148.** Match List I with List II with respect to chronology of evolution of life forms

| List I | | List II | |
|---|---|---|---|
| **A.** | About 65 mya | **I.** | Jawless fish probably evolved |
| **B.** | About 500 mya | **II.** | The dinosaurs suddenly disappeared from the earth |
| **C.** | About 350 mya | **III.** | Seaweeds and few plants probably existed |
| **D.** | About 320 mya | **IV.** | Invertebrates were formed and became active |

Choose the correct answer from the options given below:

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

**149.** Match List I and List II

| List I | | List II | |
|---|---|---|---|
| **A.** | Progestasert | **I.** | Barrier made of rubber used by females |
| **B.** | Multiload 375 | **II.** | Oral contraceptive |
| **C.** | Diaphragm | **III.** | Hormone releasing IUD |
| **D.** | Saheli | **IV.** | Copper releasing IUD |

Choose the correct answer from the options given below:

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

**150.** The WBC count of a person's blood sample is 8000/cu mm. How many eosinophils and lymphocytes would be in the same blood sample approximately?

**(1)** 300 – 500/cu mm and 1200 – 1500/cu mm respectively
**(2)** 160 – 240/cu mm and 1600 – 2000/cu mm respectively
**(3)** 300 – 500/cu mm and 500 – 700/cu mm respectively
**(4)** 100 – 120/cu mm and 160 – 200/cu mm respectively

**151.** Match List I with List II:

| List I (Drug) | | List II (Effect) | |
|---|---|---|---|
| **A.** | Nicotine | **I.** | Causes sense of euphoria and increased energy |
| **B.** | Morphine | **II.** | Stimulates adrenal gland to release catecholamines into blood circulation |
| **C.** | Heroin | **III.** | Effective sedative and painkiller |
| **D.** | Cocaine | **IV.** | A depressant; slows down body function |

Choose the correct answer from the options given below:

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

**152.** The human protein named α-1-antitrypsin, obtained from transgenic animals, is used for the treatment of _____.

**(1)** Emphysema **(2)** Alzheimer's disease
**(3)** Rheumatoid arthritis **(4)** Cystic fibrosis

**153.** Select the set of fishes which belong to the class Osteichthyes:

**(1)** Devil fish, Cuttlefish and Hagfish
**(2)** Saw fish, Fighting fish and Dog fish
**(3)** Starfish, Hagfish and Cuttlefish
**(4)** Flying fish, Angel fish and Fighting fish

**154.** Select the incorrect statements from the following:

**A.** Digestive system in Platyhelminthes is incomplete.
**B.** Bilateral symmetry is a characteristic feature of adult Echinoderms.
**C.** Pseudocoelom is possessed by Aschelminthes.
**D.** Notochord is persistent throughout life in the class Chondrichthyes.
**E.** Members of class Reptilia maintain a constant body temperature.

Choose the answer from the options given below:

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

**155.** Non-membrane bound cell organelles found in both prokaryotic and eukaryotic cells are _____.

**(1)** Ribosomes **(2)** Lysosomes
**(3)** Centrosomes **(4)** Mitochondria

**156.** Which of the following equations depicts Verhulst-Pearl logistic population growth?

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

**157.** Select the incorrect statement with reference to Rh grouping.

**A.** Erythroblastosis foetalis is a condition observed having foetus with Rh –ve blood and mother with Rh+ve blood.
**B.** Rh antigen is observed on RBCs in the majority of human beings.
**C.** Before blood transfusion, Rh group should also be matched.
**D.** Rh incompatibility is observed when a pregnant mother is Rh–ve and the foetus is Rh+ve.
**E.** Erythroblastosis foetalis can be avoided by administering anti-Rh antibodies to the mother immediately after the delivery of the second child.

Choose the answer from the options given below :

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

**158.** Match List I with List II:

| List I (Bioactive molecules) | | List II (Importance) | |
|---|---|---|---|
| **A.** | Streptokinase | **I.** | Immunosuppressive agent |
| **B.** | Statins | **II.** | Removal of clots from the blood vessels |
| **C.** | Lipases | **III.** | Blood cholesterol-lowering agent |
| **D.** | Cyclosporin A | **IV.** | Detergent formulations |

Choose the correct answer from the options given below:

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

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

| List I | | List II | |
|---|---|---|---|
| **A.** | Molluscs | **I.** | Pulmonary respiration only |
| **B.** | Reptiles | **II.** | Branchial respiration |
| **C.** | Adult amphibians | **III.** | Cellular respiration |
| **D.** | Amoeba | **IV.** | Pulmonary and cutaneous respiration |

Choose the correct answer from the options given below:

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

**160.** The sixth mutant codon of beta globin gene causing polymerization of Haemoglobin and change in RBC shape is _____.

**(1)** GUG **(2)** AUG
**(3)** GAG **(4)** CAG

**161.** Choose the correct statements regarding muscle contraction.

**A.** A motor neuron carries a signal sent by the Central Nervous System (CNS) to the sarcolemma of the muscle fibre.

**B.** The neural signal generates an action potential which causes the release of $Ca^{2+}$ into sarcoplasm.

**C.** Increase in $Ca^{2+}$ inactivates the actin for breaking cross bridges.

**D.** Actin binds to the myosin head to form a cross bridge.

**E.** Shortening of sarcomere takes place, by pulling actin filaments towards the centre of 'A' band.

Choose the correct answer from the options given below :

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

**162.** Which of the following statements are correct with reference to human endoskeleton?

**A.** Human skull is monocondylic.

**B.** The joint between any two adjoining vertebrae is a cartilaginous joint.

**C.** In human beings, the number of cervical vertebrae is seven.

**D.** All ribs except the last 2 pairs are bicephalic.

**E.** The occipital bone of skull is articulated with atlas vertebra.

Choose the correct answer from the options given below:

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

**163.** Spermatogonia undergo a series of cell divisions to produce sperms. Select the correct statements from the following :

**A.** Spermatogonia always undergo meiotic cell division.

**B.** Primary spermatocytes divide mitotically to produce secondary spermatocytes.

**C.** Secondary spermatocytes, through their second meiotic division, produce haploid spermatids.

**D.** Spermatids produce spermatozoa through mitosis.

**E.** Spermatids transform into spermatozoa by spermiogenesis.

Choose the correct answer from the options given below:

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

**164.** The JGA (Juxta Glomerular Apparatus) is a special sensitive region formed by cellular modifications in _____ related to the same nephron.

**(1)** Distal convoluted tubule and efferent renal arteriole
**(2)** Proximal convoluted tubule and efferent renal arteriole
**(3)** Proximal convoluted tubule and afferent renal arteriole
**(4)** Distal convoluted tubule and afferent renal arteriole

**165.** Which one of the following is an appropriate example of sexual deceit?

**(1)** Female wasp and fig **(2)** Ophrys and bumblebee
**(3)** Sea anemone and clown fish **(4)** Cuckoo and crow

**166.** Choose the correct statements regarding frog's anatomy:

**A.** Hepatic portal system is the special venous connection between liver and intestine.

**B.** There are twelve pairs of cranial nerves arising from the brain.

**C.** The ureters and oviducts open separately into the cloaca in female frogs.

**D.** Hind-brain consists of cerebellum, medulla oblongata and optic lobes.

**E.** Sinus venosus joins the right atrium of heart.

Choose the correct answer from the options given below:

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

**167.** Match List I with List II related to embryonic development at various months of pregnancy:

| List I | | List II | |
|---|---|---|---|
| **A.** | The foetus movement starts and hair appears on the head | **I.** | 24 weeks of pregnancy |
| **B.** | The foetus develops limbs and digits | **II.** | 20 weeks of pregnancy |
| **C.** | The foetus develops external genital organs | **III.** | 8 weeks of pregnancy |
| **D.** | The foetus body is covered with fine hair; eyelids separate and eyelashes are formed | **IV.** | 12 weeks of pregnancy |

Choose the correct answer from the options given below:

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

**168.** In a population of a grasshopper species, the chromosome number of some members is 23 and some other members possess 24 chromosomes. The 23 and 24 chromosome-bearing members in this species are _____.

**(1)** females and males, respectively
**(2)** all males
**(3)** males and females, respectively
**(4)** all females

**169.** In which animal do haploid cells divide mitotically to produce gametes?

**(1)** Male honeybees **(2)** Male earthworms
**(3)** Male frogs **(4)** Male grasshoppers

**170.** Arrange the following cell layers/structures around the female gamete, from outer to inner side :

**A.** Zona pellucida
**B.** Perivitelline space
**C.** Corona radiata
**D.** Plasma membrane of ovum

Choose the correct answer from the options given below :

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

**171.** What is the reason behind production of large holes in 'Swiss Cheese'?

**(1)** The production of large amount of $CO_2$ by Propionibacterium sharmanii
**(2)** The production of large amount of $CO_2$ by Clostridium butylicum
**(3)** The production of large amount of $CO_2$ and $H_2$ by lactic acid bacteria called Lactobacillus
**(4)** The production of large amount of $CO_2$ and $H_2$ by Trichoderma polysporum

**172.** The toxin proteins isolated from Bacillus thuringiensis, coded by which of the following genes would contrl cotton bollworms and corn borer, respectively?

**(1)** cryIAc and cryIAb **(2)** cryIAc and cryIIAb
**(3)** cryIIAb and cryIAc **(4)** cryIAc and cryIIIAb

**173.** Ecological pyramids represent the relationship between the organisms at different trophic levels and they are generally inverted for:

**(1)** Pyramid of number in grassland
**(2)** Pyramid of energy in pond ecosystem
**(3)** Pyramid of biomass in grassland
**(4)** Pyramid of biomass in sea

**174.** Choose the correct statement regarding GIFT to overcome infertility.

**(1)** Ova collected from a female donor are transferred to the uterus of an infertile female.
**(2)** Early embryos with up to 8 blastomeres are transferred to the uterus of an infertile female.
**(3)** Early embryos with up to 8 blastomeres are transferred into the fallopian tube of an infertile female.
**(4)** It is the transfer of an ovum collected from a donor into the fallopian tube of another female who cannot produce ovum but can provide suitable envoronment for fertilization and development.

**175.** Choose the correct statements regarding cell organelles and their inclusions.

**A.** The endomembrane system includes Golgi complex, endoplasmic reticulum and mitochondria.
**B.** Rough endoplasmic reticulum bears ribosomes on its surface.
**C.** Both mitochondria and plastids have circular DNA.
**D.** A network of microtubules, microfilaments and intermediate filaments present in the cytoplasm is called cytoskeleton.
**E.** Mitochondrion is a single membrane-bound structure.

Choose the correct answer from the options given below :

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

**176.** Select the correct statements regarding cell membrane in eukaryotic cell.

**A.** Membrane of human RBCs has approximately 52% protein.
**B.** Major phospholipids are arranged in a bilayer.
**C.** Extensions of the plasma membrane into the cell form mesosomes.
**D.** Tails towards the inner part of lipids are hydrophobic and thus protected from aqueous medium.
**E.** Glycocalyx is present on the outer surface of the plasma membrane.

Choose the correct answer from the options given below:

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

**177.** Match List I with List II related to muscular/ skeletal system:

| List I | | List II | |
|---|---|---|---|
| **A.** | Tetany | **I.** | Inflammation of joints |
| **B.** | Arthritis | **II.** | Autoimmune disorder affecting neuromuscular junction |
| **C.** | Myasthenia gravis | **III.** | Wild contraction in muscle due to low $Ca^{2+}$ in body fluid |
| **D.** | Muscular dystrophy | **IV.** | Progressive degeneration of skeletal muscle |

Choose the correct answer from the options given below:

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

**178.** Evolution of human appears parallel to the progressive development of brain and language skills. As such, the evolution of individual species in the sequence of their appearance is:

**(1)** Ramapithecus → Homo habilis → Homo erectus → Neanderthal → Homo sapiens
**(2)** Homo sapiens → Ramapithecus → Homo habilis → Neanderthal → Homo erectus
**(3)** Homo habilis → Homo erectus → Ramapithecus → Neanderthal → Homo sapiens
**(4)** Neanderthal → Ramapithecus → Homo habilis → Homo erectus → Homo sapiens

**179.** The flightless bird with forelimbs modified as paddle-like structures suited for swimming is known as:

**(1)** Struthio **(2)** Neophron
**(3)** Aptenodytes **(4)** Psittacula

**180.** Choose the correct statements regarding population interactions between two species.

**A.** In both parasitism and commensalism, only one species benefits and the other species is harmed.
**B.** Both species benefit in mutualism.
**C.** Both species benefit in commensalism.
**D.** In parasitism, only one species benefits and the other species is harmed.
**E.** In amensalism, one species is harmed and the other is unaffected.

Choose the correct answer from the options given below:

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

# Answer key & explanations

Questions as they appeared in NEET (UG) 2026 conducted by NTA. Answers per NTA key. Explanations by competitorspoint.com. Official source: NTA provisional answer key, Test Booklet Code 11, exam date 03.05.2026.

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

**91.** **Ans (4)** Root hairs develop from epidermal cells of the zone of maturation, which also shows differentiated tissues.

**92.** **Ans (2)** Pinus is a gymnosperm – its ovules lie naked on megasporophylls; Funaria is a moss, Selaginella a pteridophyte and Wolffia an angiosperm.

**93.** **Ans (3)** In the lac operon, i codes the repressor, z codes β-galactosidase, y codes permease and a codes transacetylase.

**94.** **Ans (3)** Bioprospecting is the search of biodiversity (molecular, genetic, species level) for economically useful products.

**95.** **Ans (1)** Bt cotton is a GM crop; Taq polymerase comes from Thermus aquaticus; the Ti plasmid belongs to Agrobacterium; pBR322 is an E. coli vector.

**96.** **Ans (1)** Productivity = rate of biomass production; NPP = GPP – R; GPP = rate of organic matter made in photosynthesis; secondary productivity = new organic matter formed by consumers.

**97.** **Ans (3)** The ongoing sixth extinction is driven by human activity and is estimated to be 100–1000 times faster than pre-human extinction rates.

**98.** **Ans (1)** The α-helix (and β-pleated sheet) are hydrogen-bonded folding patterns of the polypeptide – the secondary structure.

**99.** **Ans (4)** Bulliform (motor) cells lose turgor under water stress, making the leaf roll inward and reducing water loss.

**100.** **Ans (4)** Each PCR cycle: heat denaturation of dsDNA → annealing of primers → extension by thermostable DNA polymerase.

**101.** **Ans (4)** $G_1$ – growth without DNA replication; S – DNA doubles; $G_2$ – protein synthesis continues; M – actual division.

**102.** **Ans (2)** A, B and D are correct. Nile perch caused extinction of >200 cichlid species (C wrong), and co-extinction affects obligately associated species (E wrong).

**103.** **Ans (4)** All five are NCERT statements: the promoter (5′ side, RNA-polymerase binding, defines template/coding strand) and terminator (3′ side) flank the structural gene.

**104.** **Ans (4)** In binomial nomenclature the first word is the genus (capitalised) and the second the specific epithet, so statement (4) is false.

**105.** **Ans (2)** Decomposition breaks complex organic matter down; detritus is the dead remains; mineralisation releases inorganic nutrients; humification forms dark amorphous humus.

**106.** **Ans (3)** The nucleolus is the site of active rRNA synthesis.

**107.** **Ans (1)** RQ = $CO_2$ evolved / $O_2$ consumed = 102/145 ≈ 0.7, typical of fats – between 0.5 and 0.95.

**108.** **Ans (1)** Antirrhinum flower colour – incomplete dominance; ABO ($I^A$ $I^B$) – co-dominance; phenylketonuria – pleiotropy; skin colour – polygenic.

**109.** **Ans (3)** DNA isolation & digestion → electrophoresis → blotting onto membrane → hybridisation with VNTR probe → autoradiography.

**110.** **Ans (1)** Histones are positively charged (B wrong) and the negatively charged DNA wraps around the octamer (D wrong); A, C, E are correct.

**111.** **Ans (4)** Water splitting is linked to PS II (A wrong) and Kranz anatomy is a $C_4$ feature (D wrong).

**112.** **Ans (1)** Single cells isolated → cell walls digested → naked protoplasts obtained → protoplasts fused → hybrid grown into a plant.

**113.** **Ans (3)** Conjunctive tissue lies between xylem and phloem; Casparian strips are suberin bands of endodermis; subsidiary cells surround guard cells; starch sheath is starch-rich endodermis.

**114.** **Ans (4)** Large conspicuous nuclei mark meristematic cells; elongating cells show vacuolation, enlargement and new wall deposition.

**115.** **Ans (1)** 2,4-D – herbicide; $GA_3$ – speeds malting in brewing; kinetin – nutrient mobilisation; ABA – stomatal closure.

**116.** **Ans (3)** RuBisCO (RuBP carboxylase-oxygenase) carboxylates RuBP in the Calvin cycle.

**117.** **Ans (1)** Each $CO_2$ fixed needs 3 ATP + 2 NADPH; six turns for one glucose = 18 ATP + 12 NADPH.

**118.** **Ans (2)** Solanaceae: ⊕ ♀ $K_{(5)}$ $C_{(5)}$ $A_5$ $G_{(2)}$ with stamens epipetalous – fused calyx and corolla, stamens attached to petals.

**119.** **Ans (1)** Sacred groves protect biodiversity in its natural habitat (in situ); the others are ex situ methods.

**120.** **Ans (4)** Restriction endonucleases cut a little away from the centre of the palindrome (C wrong); removing end nucleotides is done by exonucleases (D wrong).

**121.** **Ans (4)** In racemose inflorescence the main axis keeps growing and flowers arise laterally in acropetal succession.

**122.** **Ans (2)** Sporogenous tissue → microspore (pollen) mother cells → meiosis to microspore tetrads → pollen grains.

**123.** **Ans (2)** Lipids are generally water-insoluble and adenine/guanine are purines, so only B, C and E are correct.

**124.** **Ans (1)** Honeybees are haplodiploid: fertilised eggs become females, unfertilised eggs males; haploid males form sperm by mitosis, so D is false.

**125.** **Ans (4)** Forming different leaf forms in response to environment (heterophylly) is plasticity.

**126.** **Ans (3)** Amino acids are substituted methanes and valine is neutral; serine is a hydroxy (not aromatic) amino acid and lysine is basic.

**127.** **Ans (3)** The Evil Quartet: habitat loss & fragmentation, over-exploitation, alien species invasions and co-extinctions.

**128.** **Ans (3)** Glycolysis – cytoplasm; ETS – inner mitochondrial membrane; protons accumulate in intermembrane space; Krebs cycle – matrix.

**129.** **Ans (4)** The primary endosperm cell forms by fusion of a male gamete with two polar nuclei, so it is triploid (3n).

**130.** **Ans (2)** Only xenogamy (pollen from another plant) brings genetically different pollen to the stigma.

**131.** **Ans (1)** Marginal – pea; axile – lemon; parietal – mustard; basal – marigold.

**132.** **Ans (3)** Whittaker used cell structure, body organisation, mode of nutrition, reproduction and phylogeny – not flagellum.

**133.** **Ans (1)** Trypsin – enzyme; morphine – alkaloid; concanavalin A – lectin; collagen – intercellular ground substance.

**134.** **Ans (2)** Restriction enzymes cut DNA and fragments separate by size in agarose; bands are seen only after ethidium bromide staining under UV light, so C and D are wrong.

**135.** **Ans (2)** Sickle-cell anaemia results from Glu → Val substitution at the 6th position of the β-globin chain.

**136.** **Ans (3)** Cortisol – anti-inflammatory; aldosterone – $Na^+$/water reabsorption; CCK – pancreatic enzymes & bile; progesterone – alveoli formation in mammary glands.

**137.** **Ans (4)** Fall in GFR → renin forms angiotensin I/II → vasoconstriction & aldosterone → $Na^+$/water reabsorption → BP and GFR rise.

**138.** **Ans (3)** Breathing → diffusion across alveoli → transport by blood → diffusion between blood and tissues → cellular respiration.

**139.** **Ans (1)** Sporozoites injected by mosquito → reach liver → multiply in liver cells → multiply in RBCs → gametocytes form in RBCs.

**140.** **Ans (3)** The BamHI site lies in the tetracycline-resistance gene (tetR) of pBR322, so insertion there inactivates tetracycline resistance.

**141.** **Ans (3)** Lyases remove groups from substrates by non-hydrolytic means, leaving a double bond (C=C).

**142.** **Ans (4)** Neurotransmitter receptors are located on the post-synaptic membrane.

**143.** **Ans (1)** $I^Ai \times I^Bi$ gives $I^AI^B$, $I^Ai$, $I^Bi$ and ii in equal proportion, so ¼ (25%) are group O.

**144.** **Ans (1)** ERV 1000–1100 mL; RV 1100–1200 mL; IRV 2500–3000 mL; TV 500 mL.

**145.** **Ans (3)** Fore limbs of whales and bats share a common plan (homologous) – divergent, not convergent, evolution.

**146.** **Ans (4)** Male frogs have vocal sacs and a copulatory pad on the first digit of the fore limb.

**147.** **Ans (2)** Lampreys (Petromyzon) are cyclostomes: cartilaginous, jawless circular sucking mouth, ectoparasitic, no scales/paired fins, 6–15 pairs of gill slits.

**148.** **Ans (4)** ~65 mya dinosaurs vanished; ~500 mya invertebrates active; ~350 mya jawless fish; ~320 mya seaweeds and few plants.

**149.** **Ans (1)** Progestasert – hormone-releasing IUD; Multiload 375 – copper IUD; diaphragm – rubber barrier; Saheli – oral (non-steroidal) pill.

**150.** **Ans (2)** Eosinophils 2–3% of 8000 = 160–240; lymphocytes 20–25% of 8000 = 1600–2000 per cu mm.

**151.** **Ans (3)** Nicotine stimulates adrenal catecholamine release; morphine is a sedative-painkiller; heroin is a depressant; cocaine causes euphoria.

**152.** **Ans (1)** Transgenic animal-derived α-1-antitrypsin is used to treat emphysema.

**153.** **Ans (4)** Flying fish (Exocoetus), angel fish (Pterophyllum) and fighting fish (Betta) are bony fishes.

**154.** **Ans (2)** Adult echinoderms are radially symmetrical (B wrong) and reptiles are poikilothermous (E wrong).

**155.** **Ans (1)** Ribosomes lack a membrane and occur in both prokaryotes and eukaryotes.

**156.** **Ans (2)** Logistic growth: $dN/dt = rN[(K - N)/K]$, where K is the carrying capacity.

**157.** **Ans (3)** Erythroblastosis foetalis occurs with $Rh^-$ mother and $Rh^+$ foetus (A wrong); anti-Rh antibodies are given after the first delivery (E wrong).

**158.** **Ans (4)** Streptokinase – clot buster; statins – lower cholesterol; lipases – detergents; cyclosporin A – immunosuppressant.

**159.** **Ans (1)** Molluscs – gills (branchial); reptiles – lungs only; adult amphibians – lungs and skin; Amoeba – cellular respiration via body surface.

**160.** **Ans (1)** A single base change GAG → GUG in the 6th codon of β-globin replaces Glu by Val (sickle-cell).

**161.** **Ans (4)** $Ca^{2+}$ binds troponin and unmasks myosin-binding sites on actin (C wrong); A, B, D, E describe the sliding-filament events.

**162.** **Ans (2)** The human skull is dicondylic (A wrong) and all 12 pairs of ribs are bicephalic (D wrong).

**163.** **Ans (2)** Spermatogonia divide mitotically, primary spermatocytes undergo meiosis I, and spermatids become sperm by spermiogenesis – C and E are correct.

**164.** **Ans (4)** The JGA is formed by cellular modifications of the DCT and the afferent arteriole where they meet.

**165.** **Ans (2)** Ophrys orchid petals resemble a female bee, deceiving the male bee into pseudocopulation (sexual deceit).

**166.** **Ans (4)** Frogs have 10 pairs of cranial nerves (B wrong) and optic lobes belong to the mid-brain (D wrong).

**167.** **Ans (2)** 8 wk – limbs/digits; 12 wk – external genitalia; 20 wk – first movements and hair on head; 24 wk – fine body hair, eyelids separate.

**168.** **Ans (3)** Grasshoppers show XX–XO sex determination: XO males have 23 and XX females 24 chromosomes.

**169.** **Ans (1)** Male honeybees are haploid and form sperm by mitosis.

**170.** **Ans (3)** From outside: corona radiata → zona pellucida → perivitelline space → ovum plasma membrane.

**171.** **Ans (1)** Propionibacterium sharmanii releases large amounts of $CO_2$, producing the holes in Swiss cheese.

**172.** **Ans (1)** cryIAc and cryIIAb control cotton bollworms; cryIAb controls corn borer.

**173.** **Ans (4)** In the sea, a small biomass of phytoplankton supports a larger fish biomass – an inverted pyramid of biomass.

**174.** **Ans (4)** GIFT transfers an ovum from a donor into the fallopian tube of a female who cannot produce ova but can support fertilisation.

**175.** **Ans (4)** Mitochondria are double-membraned and not part of the endomembrane system (A, E wrong); B, C, D are correct.

**176.** **Ans (3)** Mesosomes are prokaryotic (C wrong). Per the NTA key A, B, D are correct; glycocalyx is treated as a prokaryotic envelope feature in NCERT.

**177.** **Ans (1)** Tetany – wild contractions from low $Ca^{2+}$; arthritis – joint inflammation; myasthenia gravis – autoimmune NMJ disorder; muscular dystrophy – progressive muscle degeneration.

**178.** **Ans (1)** Sequence: Ramapithecus → Homo habilis → Homo erectus → Neanderthal man → Homo sapiens.

**179.** **Ans (3)** Aptenodytes (penguin) is flightless with flipper-like (paddle) forelimbs for swimming.

**180.** **Ans (3)** Mutualism +/+, parasitism +/–, amensalism –/0 are correct; commensalism is +/0 (A and C wrong).