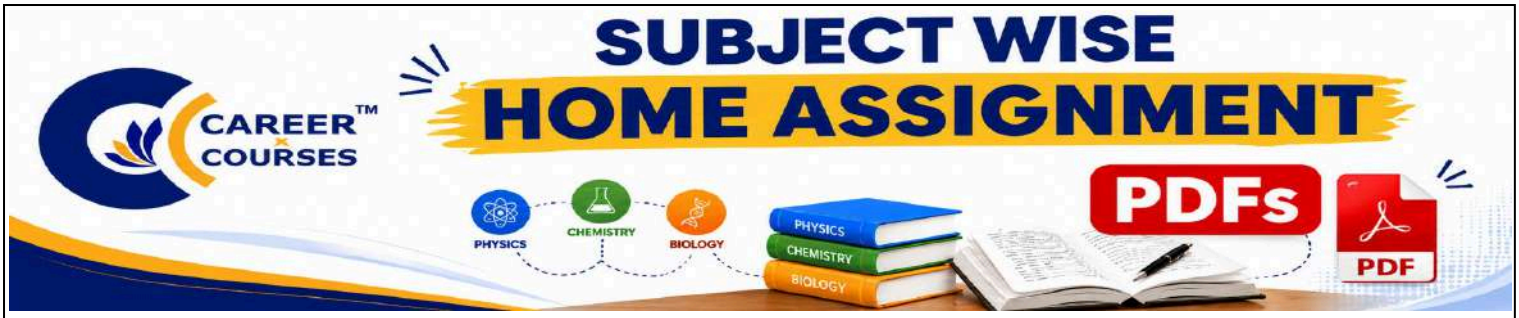


Career and Courses

Subjects : Biology | **NEET BIOLOGY** | **Date** : 10-11-2026

Total Marks : 600 | **Hours** : 3 Hours

Biology - Section A (MCQ)

1. Which of the following is against the rules of $ICBN$?

   A) Hand written scientific names should be underlined

   B) Every species should have a generic name and a specific epithet

   C) Scientific names are in Latin and should be italized.

   D) Generic and specific names should be written starting with small letters

2. In the taxonomic categories, which hierarchical arrangement in descending order is correct in case of animals?

   A) Kingdom, Class, Phylum, Family, Order, Genus, Species

   B) Kingdom, Order, Class, Phylum, Family, Genus, Species

   C) Kingdom, Order, Phylum, Class, Family, Genus, Species

   D) Kingdom, Phylum, Class, Order, Family, Genus, Species

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

   A) Biological names are generally in Latin.

   B) Both the words in a biological name, when handwritten, are separately underlined or printed in italics.

   C) The specific epithet in the biological name starts with a small letter.

   D) The first word in the biological name represents the specific epithet, while the second component denotes the genus.

4. Match List-l with List-II.

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

Choose the correct answer from the options given below:

   A) A-III, B-V, C-II, D-IV, E-I

   B) A-I, B-V, C-II, D-IV, E-III

   C) A-II, B-I, C-III, D-IV, E-V

   D) A-II, B-III, C-V, D-I, E-IV

5. Genus represents _____.

A) a group of closely related families
B) an individual plant or animal
C) a population of plants and animals
D) group of closely related species

6. 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 :

A) A, B, C, D and E
B) B, C and D only
C) A, B, D and E only
D) A, B and E only

7. Which of the following is a correct statement?

A) Bacteria are exclusively heterotrophic organisms.
B) Slime moulds are saprophytic organisms classified under Kingdom Monera.
C) Mycoplasma have DNA, Ribosome and cell wall
D) Cyanobacteria are a group of autotrophic organisms classified under Kingdom Monera.

8. The imperfect fungi which are decomposers of litter and help in mineral cycling belong to

A) Phycomycetes
B) Ascomycetes
C) Deuteromycetes
D) Basidiomycetes.

9. After karyogamy followed by meiosis, spores are produced exogenously in

A) Saccharomyces
B) Neurospora
C) Alternaria
D) Agaricus

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

A) chrysophytes
B) lichens
C) sponges
D) mycorrhiza

11. Floridean starch has structure similar to:

A) Laminarin and cellulose
B) Starch and cellulose
C) Amylopectin and glycogen
D) Mannitol and algin

12. Isogamous condition with non flagellated gametes is found in

A) Volvox
B) Fucus
C) Chlamydomonas
D) Spirogyra

13. From evolutionary point of view, retention of the female gametophyte with developing young embryo on the parent sporophyte for some time, is first observed in

A) Liverworts
B) Mosses
C) Pteridophytes
D) Gymnosperms

14. Pinus seed cannot germinate and establish without fungal association. This is because

A) its embryo is immature
B) it has obligate association with mycornhizae.
C) it has very hard seed coat.
D) its seeds contain inhibitors that prevent germination.

15. Given below are two statements : One labelled as Assertion A and the other labelled as Reason R :
Assertion A : In gymnosperms the pollen grains are released from the microsporangium and carried by air currents.
Reason R : Air currents carry the pollen grains to the mouth of the archegonia where the male gametes are discharged and pollen tube is not formed.
In the light of the above statements, choose the correct answer from the options given below :

A) A is false but R is true

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

C) Both A and R are true but R is NOT the current explanation of A

D) A is true but R is false

16. In which of the following phyla is radial symmetry found in adults but bilateral symmetry in larvae?

A) Echinodermata B) Ctenophora C) Hemichordata D) Coelenterata

17. Exoskeleton of arthropods is composed of :

A) Cellulose B) Chitin C) Glucosamine D) Cutin

18. Which of the following is not a characteristic of chordates?

A) Presence of post anal part (tail) B) Presence of notochord

C) Central nervous system is dorsal D) Absence of gills

19. Which of the following characteristics is mainly responsible for diversification of insects on land?

A) Exoskeleton B) Eyes

C) Segmentation D) Bilateral symmetry

20. Match the following group of organisms with their respective distinctive characteristics and select the correct option:

Organisms	Characteristics
(a) Platyhelminthes	(i) Cylindrical body with no segmentation
(b) Echinoderms	(ii) Warm blooded animals with direct development
(c) Hemichordates	(iii) Bilateral symmetry with incomplete digestive system
(d) Aves	(iv) Radial symmetry with indirect development

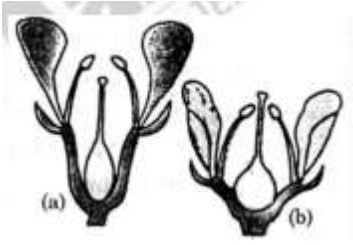
A) $(a)-(i),(b)-(ii),(c)-(iii),(d)-(iv)$ B) $(a)-(iii),(b)-(iv),(c)-(i),(d)-(ii)$

C) $(a)-(ii),(b)-(iii),(c)-(iv),(d)-(i)$ D) $(a)-(iv),(b)-(i),(c)-(ii),(d)-(iii)$

21. An example of edible underground stem is

A) carrot B) groundnut C) sweet potato D) potato

22. Identify the type of flowers based on the position of calyx, corolla and androecium with respect to the ovary from the given figures (a) and (b)



A) (a) Hypogynous; (b) Epigynous B) (a) Perigynous; (b) Epigynous

C) (a) Perigynous; (b) Perigynous D) (a) Epigynous; (b) Hypogynous

23. Among China rose, mustard, brinjal, potato, guava, cucumber, onion and tulip, how many plants have superior ovary?

A) Three B) Four C) Five D) Six

24. Which one of the following statements is correct?

A) The seed in grasses is not endospermic.

B) Mango is a parthenocarpic fruit.

C) A proteinaceous aleurone layer is present in maize grain.

D) A sterile pistil is called a staminode.

25. The Floral Diagram represents which one of the following families ?



A) Fabaceae B) Brassicaceae C) Solanaceae D) Liliaceae

26. Given below are two statements :
Statement I : Endarch and exarch are the terms often used for describing the position of secondary xylem in the plant body.
Statement II : Exarch condition is the most common feature of the root system.
In the light of the above statements, choose the correct answer from the options given below:

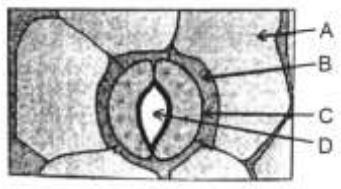
A) Statement I is incorrect but Statement II is true

B) Both Statement I and Statement II are true

C) Both Statement I and Statement II are false

D) Statement I is correct but Statement II is false

27. In the given figure, which component has thin outer walls and highly thickened inner walls?



A) D B) A C) B D) C

28. Bulliform cells are responsible for

A) Protecting the plant from salt stress.

B) Increased photosynthesis in monocots.

C) Providing large spaces for storage of sugars.

D) Inward curling of leaves in monocots.

29. Which of the following statements about cork cambium is incorrect?

A) It is a couple of layers thick

B) It forms secondary cortex on its outerside

C) It forms a part of periderm

D) It is responsible for the formation of lenticels

30. Cortex is the region found between

A) epidermis and stele

B) pericycle and endodermis

C) endodermis and pith

D) endodermis and vascular bundle.

31. The ciliated epithelial cells are required to move particles or mucus in a specific direction. In humans, these cells are mainly present in

A) Bile duct and Bronchioles

B) Fallopian tubes and Pancreatic duct

C) Eustachian tube and Salivary duct

D) Bronchioles and Fallopian tubes

32. Match List I with List II.

List I	List II
(A). Mast cells	(I). Ciliated epithelium
(B). Inner surface of bronchiole	(II). Areolar connective tissue
(C). Blood	(III). Cuboidal epithelium
(D). Tubular parts of nephron	(IV). Specialised connective tissue

Choose the correct answer from the options give below:

A) A-III, B-IV, C-II, D-I

B) A-I, B-II, C-IV, D-III

C) A-II, B-III, C-I, D-IV

D) A-II, B-I, C-IV, D-III

33. What external changes are visible after the last moult of a cockroach nymph?

A) Both forewings and hindwings develop

B) Labium develops

C) Mandibles become harder

D) Anal cerci develop

34. If the head of cockroach is removed, it may live for few days because

A) the head holds a $1/3^{\text{rd}}$ of a nervous system while the rest is situated along the dorsal part of its body.

B) the supra−oesophageal ganglia of the cockroach are situated in ventral part of abdomen.

C) the cockroach does not have nervous system.

D) the head holds a small proportion of a nervous system while the rest is situated along the ventral part of its body.

35. 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 :

A) B and C only

B) C and E only

C) A and B only

D) B and D only

36. Which one of the following is not an inclusion body found in prokaryotes?

A) Glycogen granule

B) Polysome

C) Phosphate granule

D) Cyanophycean granule

37. Which of the following statements with respect to Endoplasmic Reticulum is incorrect?

A) SER is devoid of ribosomes

B) In prokaryotes only RER are present

C) SER are the sites for lipid synthesis

D) RER has ribosomes attached to ER

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

A) amyloplast B) chloroplast C) chromoplast D) aleuroplast

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

A) Centrosome B) Chromatin C) Nucleolus D) Kinetochore

40. Match the Column$-I$ with Column$-II$

Column$-I$	Column$-II$
(a) Golgi apparatus	(i) Synthesis of protein
(b) Lysosomes	(ii) Trap waste and excretory products
(c) Vacuoles	(iii) Formation of glycoproteins and glycolipids
(d) Ribosomes	(iv) Digesting biomolecules

Choose the right match from options given below

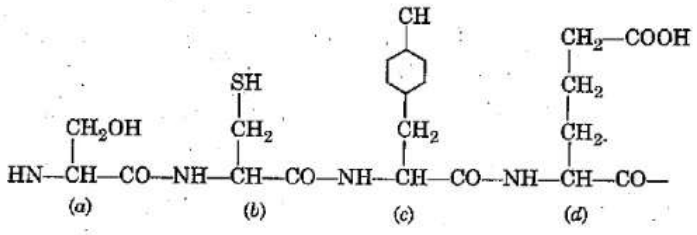
A) $(a)-(iii),(b)-(iv),(c)-(ii),(d)-(i)$ B) $(a)-(iv),(b)-(iii),(c)-(i),(d)-(ii)$

C) $(a)-(iii),(b)-(ii),(c)-(iv),(d)-(i)$ D) $(a)-(i),(b)-(ii),(c)-(iv),(d)-(iii)$

41. Following are the statements with reference to 'lipids'.
(a) Lipids having only single bonds are called unsaturated fatty acids.
(b) Lecithin is a phospholipid.
(c) Trihydroxy propane is glycerol.
(d) Palmitic acid has 20 carbon atoms including carboxyl carbon.
(e) Arachidonic acid has 16 carbon atoms.
Choose the correct answer from the options given below.

A) (a) and (b) only B) (c) and (d) only C) (b) and (c) only D) (b) and (e) only

42. The figure shows a hypothetical tetrapeptide portion of a protein with parts labelled A to D. Which one of the following options is correct ?



A) D is the acidic amino acid glutamic acid.

B) C is an aromatic amino acid tryptophan.

C) A is the C terminal amino acid and D is N terminal amino acid.

D) None of these

43. The protein portion of an enzyme is called _____.

A) Cofactor B) Coenzyme C) Apoenzyme D) Prosthetic group

44. Consider the following statements
(A) Coenzyme or metal ion that is tightly bound to enzyme protein is called prosthetic group.
(B) A complete catalytic active enzyme with its bound prosthetic group is called apoenzyme.
Select the correct option.

A) Both (A) and (B) are true.
B) (A) is true and (B) is false.
C) Both (A) and (B) are false
D) (A) is false and (B) is true.

45. Which one of the following statements is wrong?

A) Uracil is a pyrimidine.
B) Glycine is a sulphur containing amino acid.
C) Sucrose is a disaccharide.
D) Cellulose is a polysaccharide.

46. Following are the stages of cell division :
A. Gap 2 phase
B. Cytokinesis
C. Synthesis phase
D. Karyokinesis
E. Gap 1 phase
Choose the correct sequence of stages from the options given below :

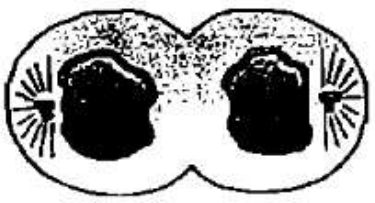
A) $E-B-D-A-C$
B) $B-D-E-A-C$
C) $E-C-A-D-B$
D) $C-E-D-A-B$

47. 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

A) A-IV, B-I, C-II, D-III
B) A-I, B-II, C-III, D-IV
C) A-III, B-IV, C-I, D-II
D) A-II, B-III, C-IV, D-I

48. A stage in cell division is shown in the figure. Select the answer which gives correct identi fication of the stage with its characteristics.



A) Cytokinesis ⇒ Cell plate formed,mitochondria distributed between two daughter cells.
B) Telophase ⇒ Endoplasmic reticulumand nucleolus not reformed yet.
C) Telophase ⇒ Nuclear envelopereforms,Golgi complex reforms.
D) Late anaphase ⇒ Chromosomes moveaway from equatorial plate, Golgi complex not present.

49. Given below are two statements:
Statement I: Chromosomes are fully condensed at the end of prophase I.
Statement II: Meiosis I resembles mitosis.
In the light of the above statements, choose the most appropriate answer from the options given below :

A) Statement I is incorrect, but Statement II is true

B) Both Statement I and Statement II are true

C) Both Statement I and Statement II are false

D) Statement I is correct, but Statement II is false

50. Arrange the following events of meiosis in correct sequence
(i) Crossing over
(ii) Synapsis
(iii) Terminalisation of chiasmata
(iv) Disappearance of nucleolus

A) $(i), (ii), (iii), (iv)$ B) $(ii), (iii), (iv), (i)$ C) $(ii), (i), (iv), (iii)$ D) $(ii), (i), (iii), (iv)$

51. Oxygen is *not* produced during photosynthesis by

A) $Green\ sulphur\ bacteria$ B) $Nostoc$

C) $Cycas$ D) $Chara$

52. 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.

A) A-III, B-IV, C-II, D-I B) A-III, B-I, C-II, D-IV

C) A-I, B-II, C-IV, D-III D) A-I, B-IV, C-III, D-II

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

A) $PS-I$ to ATP synthase B) $PS-II$ to Cytb$_6f$ complex

C) Cytb$_6f$ complex to $PS-I$ D) $PS-I$ to $NADP^+$

54. The oxygenation activity of $RuBisCo$ enzyme in photorespiration leads to the formation of

A) 1 molecule of $4-C$ compound and 1 molecule of $2-C$ compound.

B) 2 molecules of $3-C$ compound

C) 1 molecule of $3-C$ compound

D) 1 molecule of $6-C$ compound

55. The first stable product of CO_2 fixation in sorghum is:

A) Pyruvic acid B) Oxaloacetic acid

C) Succinic acid D) Phosphoglyceric acid

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

A) 412 B) 206 C) 309 D) 103

57. Identify the step in tricarboxylic acid cycle, which does not involve oxidation of substrate.

A) Succinic acid $\rightarrow$ Malic acid B) Succinyl-$CoA \rightarrow$ Succinic acid

C) Isocitrate $\rightarrow$ α-ketoglutaric acid D) Malic acid $\rightarrow$ Oxaloacetic acid

58. What is the role of NAD^{+} in cellular respiration?

A) It is the final electron acceptor for anaerobic respiration

B) It functions as an enzyme.

C) Sr It is a nucleotide source for ATP synthesis

D) It functions as an electron carrier.

59. Match List I with List II

List I	List II
ACitric acid cycle	I Cytoplasm
B Glycolysis	II Mitochondrial matrix
C Electron transport system	III Intermembrane space of mitochondria
D Proton gradient	IV Inner mitochondrial membrane

Choose the correct answer from the options given below:

A) $A-II, B-I, C-IV, D-III$ B) $A-III, B-IV, C-I, D-II$

C) $A-IV, B-III, C-II, D-I$ D) $A-I, B-II, C-III, D-IV$

60. In which one of the following processes CO_2 is not released?

A) Aerobic respiration in plants B) Aerobic respiration in animals

C) Alcoholic fermentation D) Lactate fermentation

61. The process of growth is maximum during

A) Dormancy B) Log phase C) Lag phase D) Senescence

62. Dr. F. Went noted that if coleoptile tips were removed and placed on agar for one hour, the agar would produce a bending when placed on one side of freshlycut coleoptile stumps. Of what significance is this experiment ?

A) It made possible the isolation and exact identification of auxin.

B) It is the basis for quantitative determination of small amounts of growthpromoting substances.

C) It supports the hypothesis that IAA is auxin.

D) It demonstrated polar movement of auxins.

63. The plant hormone used to destroy weeds in a field is :

A) IAA B) NAA C) $2,4-D$ D) IBA

64. During seed germination its stored food is mobilized by

A) ABA B) gibberellin C) ethylene D) cytokinin.

65. Production of Cucumber has increased manifold in recent years. Application of which of the following phytohormones has resulted in this increased yield as the hormone is known to produce female flowers in the plants:

A) Gibberellin B) Ethylene C) Cytokinin D) ABA

66. Select the correct statement

A) Expiration occurs due to external intercostal muscles

B) Intrapulmonary pressure is lower than the atmospheric pressure during inspiration.

C) Inspiration occurs when atmospheric pressure is less than intrapulmonary pressure.

D) Expiration is initiated due to contraction of diaphragm

67. Match List I with List II :

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

Choose the correct answer from the options given below :

A) A-III, B-IV, C-I, D-II B) A-III, B-I, C-IV, D-II

C) A-I, B-III, C-II, D-IV D) A-I, B-II, C-III, D-IV

68. The partial pressure of oxygen in the alveoli of the lungs is

A) equal to that in the blood B) more than that in the blood

C) less than that in the blood D) less than that of carbon dioxide.

69. Under normal physiological conditions in human being every $100ml$ of oxygenated blood can deliver ml of O_2 to the tissues.

A) $5\,ml$ B) $4\,ml$ C) $10\,ml$ D) $2\,ml$

70. Which of the following options correctly represents the lung conditions in asthma and emphysema, respectively?

A) Inflammation of bronchioles; Decreased respiratory surface

B) Decreased respiratory surface; Inflammation of bronchioles

C) Increased respiratory surface; Inflammation of bronchioles

D) Increased number of bronchioles; Increased respiratory surface

71. Name the blood cells, whose reduction in number can cause clotting disorder, leading to excessive loss of blood from the body.

A) Erythrocytes B) Leucocytes C) Neutrophils D) Thrombocytes

72. Which of the following conditions cause erythroblastosis foetalis?

A) Both mother and foetus $Rh^{+\text{ve}}$ B) Mother Rhtve and foetus Rh^{-ve}

C) Mother Rh^{-ve} and foetus $Rh^{+\text{ve}}$ D) Both mother and foetus Rh^{-ve}

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

A) sino-atrial node B) bicuspid valve C) tricuspid valve D) semilunar valve

74. Doctors use stethoscope to hear the sounds produced during each cardiac cycle. The second sound is heard when

A) AV node receives signal from SA node

B) AV valves open up

C) Ventricular walls vibrate due to gushing in of blood from atria

D) Semilunar valves close down after the blood flows into vessels from ventricles.

75. Match List I with List II :

List I	List I
A P wave	I Heart muscles are electrically silent.
B QRS complex	II Depolarisation of ventricles.
C T wave	III Depolarisation of atria.
D $T-P$ gap	IV Repolarisation of ventricles.

Choose the correct answer from the options given below :

A) $A-III, B-II, C-IV, D-I$

B) $A-II, B-III, C-I, D-IV$

C) $A-IV, B-II, C-I, D-III$

D) $A-I, B-III, C-IV, D-II$

76. Nitrogenous waste is excreted in the form of pellet or paste by :

A) Salamandra B) Hippocampus C) Pavo D) Ornithorhynchus

77. Removal of proximal convoluted tubule from the nephron will result in

A) no change in quality and quantity of urine

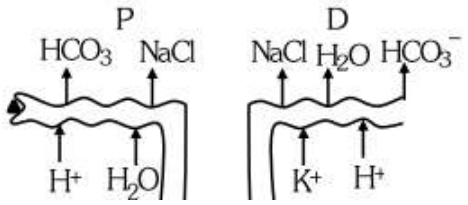
B) no urine formation

C) more diluted urine

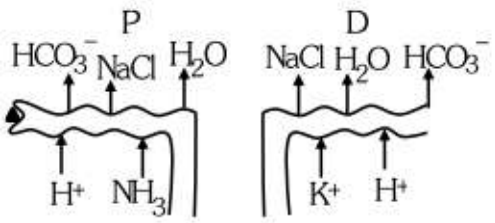
D) more concentrated urine.

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

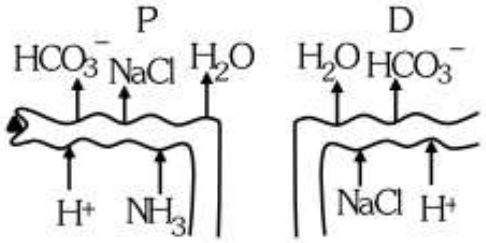
A)



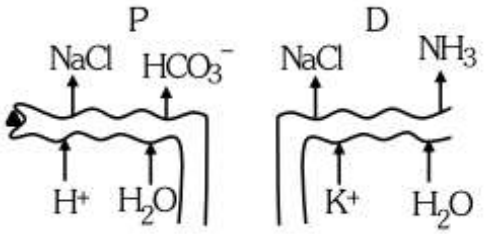
B)



C)



D)



79. Match the items given in Column I with those in Column II and select the correct option given below:

Column$I$	Column II
(a) Glycosuria	(i) Accumulation of uric acid in joints
(b) Gout	(ii) Mass of crystallised salts within the kidney
(c) Renal calculi	(iii) Inflammation in glomeruli
(d) Glomerular nephritis	(iv) Presence of glucose in urine

A) $a-iv, b-i, c-ii, d-iii$ B) $a-iii, b-ii, c-iv, d-i$

C) $a-ii, b-iii, c-i, d-iv$ D) $a-i, b-ii, c-iii, d-iv$

80. Match the items given in Column I with those in Column II and select the correct option given below:

Column I $(Function)$	Column II $(PartofExcretorySystem)$
(a) Ultrafiltration	(i) Henle's loop
(b) Concentration of urine	(ii) Ureter
(c) Transport of urine	(iii) Urinary bladder
(d)Storage of urine	(iv) Malpighian corpuscle
	(v)Proximal convoluted tubule

A) $a-v, b-iv, c-i, d-iii$ B) $a-iv, b-v, c-ii, d-iii$

C) $a-v, b-iv, c-i, d-ii$ D) $a-iv, b-i, c-ii, d-iii$

81. Out of 'X' pairs of ribs in humans only 'Y' pairs are true ribs. Select the option that correctly represents values of X and Y and provides their explanation.

A) $X=12, Y=5 \Rightarrow$ True ribs are attacheddorsally to vertebral column and sternum on the two ends

B) $X=24, Y=2 \Rightarrow$ The true ribs aredorsally attached to vertebral column but are free on ventral side

C) $X=24, Y=12 \Rightarrow$ True ribs are dorsallyattached to vertebral column but are free on ventral side

D) $X=12, Y=7 \Rightarrow$ True ribs are attacheddorsally to vertebral column and ventrally to the sternum

82. Which of the following diseases is an autoimmune disorder?

A) Myasthenia gravis B) Arthritis C) Osteoporosis D) Gout

83. Which of the following joints would allow no movements?

A) Synovial joint B) Ball and Socket joint

C) Fibrous joint D) Cartilaginous joint

84. Sliding filament theory can be best explained as

A) actin and myosin filaments do not shorten but rather slide pass each other

B) when myofilaments slide pass each other, myosin filaments shorten while actin filaments do not shorten

C) when myofilaments slide pass each other actin filaments shorten while myosin filaments do not shorten

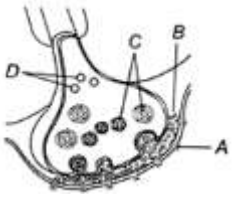
D) actin and myosin filaments shorten and slide pass each other.

85. Stimulation of a muscle fiber by a motor neuron occurs at

A) the neuromuscular junction
B) the transverse tubules
C) the myofibril
D) the sacroplasmic reticulum.

86. The specific receptors for neurotransmitters in a synapse are present on :
A) Schwann cell
B) Pre-synaptic membrane
C) Myelin sheath
D) Post-synaptic membrane

87. A diagram showing axon terminal and synapse is given. Identify correctly at least two of $A - D$.



A) A - Neurotransmitter, B - Synaptic cleft
B) C - Neurotransmitter, D - Ca^{++}
C) A - Receptor, C - Synaptic vesicles
D) B - Synaptic connection, D - K^{+}

88. Injury localized to the hypothalamus would most likely disrupt
A) short - term memory
B) co-ordination during locomotion
C) executive functions, such as decision making
D) regulation of body temperature.

89. The parts of human brain that helps in regulation of sexual behaviour, expression of excitement, pleasure, rage, fear etc. are:
A) Corpus callosum and thalamus
B) Limbic system and hypothalamus
C) Corpora quadrigemina and hippocampus
D) Brain stem and epithalamus

90. Which of the following regions of the brain is incorrectly paired with its function?
A) Corpus callosum $\Rightarrow$ communication between the left and right cerebral cortices
B) Cerebrum $\Rightarrow$ calculation and contemplation
C) Medulla oblongata $\Rightarrow$ homeostatic control
D) Cerebellum $\Rightarrow$ language comprehension

91. Which of the following hormones released from the pituitary is actually synthesized in the hypothalamus?
A) Luteinizing hormone (LH)
B) Anti-diuretic hormone (ADH)
C) Follicle-stimulating hormone (FSH)
D) Adrenocorticotropic hormone (ACTH)

92. Graves' disease is caused due to
A) hyposecretion of thyroid gland
B) hypersecretion of thyroid gland
C) hyposecretion of adrenal gland
D) hypersecretion of adrenal gland.

93. 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 :

A) A, B and C Only B) A, B, C and D C) A, C and D Only D) A, B and D Only

94. Name a peptide hormone which acts mainly on hepatocytes, adipocytes and enhances cellular glucose uptake and utilisation.

A) Insulin B) Glucagon C) Secretin D) Gastrin

95. Which of the following statements is correct in relation to the endocrine system?

A) Nonnutrient chemicals produced by the body in trace amounts that act as intercellular messenger are known as hormones.

B) Releasing and inhibitory hormones are produced by the pituitary gland.

C) Adenohypophysis is under direct neural regulation of the hypothalamus.

D) Organs in the body like gastrointestinal tract, heart, kidney and liver do not produce any hormones.

96. Arrange the following in the correct development 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 :

A) D, A, C, B B) B, D, A, C C) B, D, C, A D) A, D, C, B

97. The ovule of an angiosperm is technically equivalent to

A) megasporangium B) megasporophyll C) megaspore mother cell D) megaspore.

98. Identify the set of correct statements:
A. The flowers of Vallisneria are colourful and produce nectar.
B. The flowers of water lily are not pollinated by water.
C. In most of water-pollinated species, the pollen grains are protected from wetting.
D. Pollen grains of some hydrophytes are long and ribbon like.
E. In some hydrophytes, the pollen grains are carried passively inside water.
Choose the correct answer from the options given below.

A) A, B, C and D only B) A, C, D and E only C) B, C, D and E only D) C, D and E only

99. Which one of the following is a triploid cell ?

A) Synergid B) Central cell

C) Zygote D) Primary endosperm cell

100. Non-albuminous seed is produced in

A) maize B) castor C) wheat D) pea.

101. Extrusion of second polar body from egg nucleus occurs

A) after entry of sperm but before fertilization
B) after fertilization
C) before entry of sperm into ovum
D) simultaneously with first cleavage

102. Match the items given in the Column I with those in Column II and select the correct option given below:

Column I	Column II
(a) Proliferative Phase	(i) Breakdown of endometrical lining
(b)Secretory Phase	(ii) Follicular phase
(c) Menstruation	(iii) Luteal Phase

A) $a-ii, b-iii, c-i$
B) $a-iii, b-ii, c-i$
C) $a-iii, b-i, c-ii$
D) $a-i, b-iii, c-ii$

103. Which of the following best illustrates "feedback" in development?

A) Tissue X secretes RNA which changes the development of tissue Y.
B) As tissue X develops, it secretes enzymes that inhibit the development of tissue Y.
C) As tissue X develops, it secretes something that induces tissue Y to develop.
D) As tissue X develops, it secretes something that slows down the growth of tissue Y.

104. Which of these is not an important component of initiation of parturition in humans?

A) Increase in estrogen and progesterone ratio
B) Synthesis of prostaglandins
C) Release of Oxytocin
D) Release of Prolactin

105. Which of the following hormones is responsible for both the milk ejection reflex and the foetal ejection reflex ?

A) Estrogen
B) Prolactin
C) Oxytocin
D) Relaxin

106. One of the following is not a method of contraception. Which one?

A) Condoms
B) Pills of a combination of oxytocin and vasopressin
C) Lippes loop
D) Tubectomy

107. The contraceptive $`SAHELI'$

A) is a post -coital contraceptive
B) increases the concentration of estrogen and prevents ovulation in females.
C) is an IUD.
D) blocks estrogen receptors in the uterus, preventing eggs from getting implanted

108. Lippe's loop is a typer of contraceptive used as:

A) Vault barrier
B) Non-Medical IUDs
C) Copper releasing IUD
D) Cervical barrier

109. Which of the following sexually transmitted diseases is not completely curable?

A) Gonomhoea
B) Genital warts
C) Genital herpes
D) Chlamydiasis

110. Choose the correct statement regarding GIFT to overcome infertility.

A) Ova collected from a female donor are transferred to the uterus of an infertile female.

B) Early embryos with up to 8 blastomeres are transferred to the uterus of an infertile female.

C) Early embryos with up to 8 blastomeres are transferred to the uterus of an infertile female.

D) 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 environment for fertilization and development.

111. If two persons with 'AB' blood group marry and have sufficiently large number of children, these children could be classified as 'A' blood group: 'AB' blood group : 'B' blood group in 1 : 2 : 1 ratio. Modern technique of protein electrophoresis reveals presence of both 'A' and 'B' type proteins in 'AB' blood group individuals.This in an example of

A) partial dominance B) complete dominance C) codominance D) incomplete dominance.

112. Given below are two statements : one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A):
Mendel's law of Independent assortment does not hold good for the genes that are located closely on the same chromosome.
Reason (R) :
Closely located genes assort independently.
In the light of the above statements, choose the correct answer from the options given below:

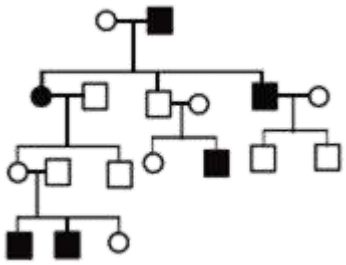
A) Both (A) and (R) are correct but (R) is not the correct explanation of (A)

B) (A) is correct but (R) is not correct

C) (A) is not correct but (R) is correct

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

113. In the following human pedigree, the filled symbols represent the affected individuals. Identify the type of given pedigree.



A) Autosomal recessive B) X-linked dominant C) Autosomal dominant D) X-linked recessive

114. Down's syndrome in humans is due to

A) three 'X' chromosomes B) three copies of chromosome 21

C) monosomy D) two 'Y' chromosomes.

115. If the distance between two consecutive base pairs is $0.34\,nm$ and the total number of base pairs of a DNA double helix in a typical mammalian cell is $6.6 \times 10^9\ bp$, then the length of the DNA is approximately

A) 2.7 meters B) 2.0 meters C) 2.5 meters D) 2.2 meters

116. What is the role of RNA polymerase III in the process of transcription in eukaryotes?

A) Transcribes $rRNAs$ ($28S$, 18 S and 5.8 S) B) Transcribes $tRNA$, $5s\,rRNA$ and $snRNA$

C) Transcribes precursor of $mRNA$

D) Transcribes only $snRNAs$

117. Under which of the following conditions will there be no change in the reading frame of following $mRNA$ $5'AACAGCGGUGCUAUU3'$

A) Insertion of *G* at 5^{th} position

B) Deletion of *G* from 5^{th} position

C) Insertion of A at G at 4^{th} and 5^{th} positions respectively

D) Deletion of GGU from 7^{th} , 8^{th} and 9^{th} positions

118. In an inducible operon, the genes are

A) usually not expressed unless a signal turns them ”on”.

B) usuallyexpressed unless a signal turns them “off”.

C) never expressed

D) always expresser.

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

A) Analogy, convergent

B) Homology, divergent

C) Homology, convergent

D) Analogy, divergent

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

A) Physico-chemical approach to study and understand living organisms

B) Physiological approach to study and understand living organisms

C) Chemical approach to study and understand living organisms

D) Behavioural approach to study and understand living organisms

121. Which is the most common mechanism of genetic variation in the population of a sexually reproducing organism ?

A) Genetic drift

B) Recombination

C) Transduction

D) Chromosomal aberrations

122. 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 :

A) Ramapithecus → Homo habilis → Homo erectus → Neanderthal → Homo sapiens

B) Homo sapiens → Ramapithecus → Homo habilis → Neanderthal → Homo erectus

C) Homo habilis → Homo erectus → Ramapithecus → Neanderthal → Homo sapiens

D) Neanderthal → Ramapithecus → Homo habilis → Homo erectus → Homo sapiens

123. Antivenom injection contains preformed antibodies while polio drops that are administered into the body contain

A) gamma globulin

B) attenuated pathogens

C) activated pathogens

D) harvested antibodies.

124. In higher vertebrates, the immune system can distinguish selfcells and non-self. If this property is lost due to genetic abnormality and it attacks selfcells, then it leads to

A) autoimmune disease

B) active immunity

C) allergic response

D) graft rejection.

125.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 :

A) A-III, B-II, C-IV, D-I

B) A-II, B-III, C-IV, D-I

C) A-II, B-III, C-I, D-IV

D) A-III, B-II, C-I, D-IV

126.Match List I with List II

List I	List II
A. Common cold	I. Plasmodium
B. Haemozoin	II. Typhoid
C. Widal test	III. Rhinoviruses
D. Allergy	IV. Dust mites

:Choose the correct answer from the options given below :

A) $A-I, B-III, C-II, D-IV$

B) $A-III, B-I, C-II, D-IV$

C) $A-IV, B-II, C-III, D-I$

D) $A-II, B-IV, C-III, D-I$

127.Conversion of milk to curd improves its nutritional value by increasing the amount of

A) Vitamin E

B) Vitamin D

C) Vitamin B_{12}

D) Vitamin A

128.Identify the microorganism which is responsible for the production of an immunosuppressive molecule cyclosporin A :

A) Clostridium butylicum

B) Aspergillus niger

C) Streptocaccus cenevisiae

D) Trichoderma polysporum

129.A good producer of citric acid is

A) Clostridium

B) Saccharomyces

C) Aspergillus

D) Pseudomonas.

130.Microbe used for biocontrol of pest butterfly caterpillars is

A) Saccharomyces cerevisiae

B) Bacillus thuringiensis

C) Streptococcus sp.

D) Trichoderma sp.

131.In the following palindromic base sequences of DNA, which one can be cut easily by particular restriction enzyme?

A) $5'GAATTC3'; 3'CTTAAG5'$

B) $5'CTCAGT3; 3'GAGTCA5'$

C) $5'GTATTC3'; 3'CATAAG5'$

D) $5'GATACT33; 3'CTATGA5'$

132.The two antibiotic resistance genes on vector $pBR322$ are for

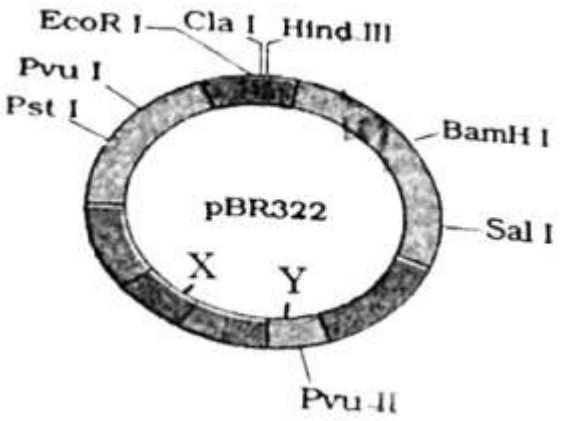
A) Ampicillin and Tetracycline

B) Ampicillin and Chloramphenicol

C) Chloramphenicol and Tetracycline

D) Tetracycline and Kanamycin

133. The following diagram showing restriction sites in E. coli cloning vector pBR322. Find the role of ' X ' and ' Y genes:



A) The gene ' X ' is responsible for controlling the copy number of the linked DNA and ' Y ' for protein involved in the replication of Plasmid.

B) The gene ' X ' is for protein involved in replication of Plasmid and ' Y for resistance to antibiotics.

C) Gene ' X ' is responsible for recognitions sites and ' Y ' is responsible for antibiotic resistance

D) The gene ' X ' is responsible for resistance to antibiotics and ' Y ' for protein involved in the replication of Plasmid.

134. During PCR, primers bind to the DNA strands in the _____ step.

A) ligation B) denaturation C) extension D) annealing

135. Bt cotton variety that was developed by the introduction of toxin gene of Bacillus thuringiensis (Bt) is resistant to

A) Insect predators B) Insect pests C) Fungal diseases D) Plant nematodes

136. RNA interference is used for which of the following purposes in the field of biotechnology?

A) To reduce post harvest losses

B) To develop a plant tolerant to abiotic stresses

C) To develop a pest resistant plant against infestation by nematode

D) To enhance the mineral usage by the plant

137. Which one of the following techniques does not serve the purpose of early diagnosis of a disease for its early treatment?

A) Enzyme Linked Immuno-Sorbent Assay $(ELISA)$ technique

B) Serum and Urine analysis

C) Recombinant DNA Technology

D) Polymerase Chain Reaction (PCR) technique

138. In India, the organisation responsible for assessing the safety of introducing genetically modified organisms for public use is

A) Council for Scientific and Industrial Research $(CSIR)$

B) Indian Council of Medical Research $(ICMR)$

C) Research Committee on Genetic Manipulation $(RCGM)$

D) Genetic Engineering Appraisal Committee $(GEAC)$

139. In a growing population of a country,

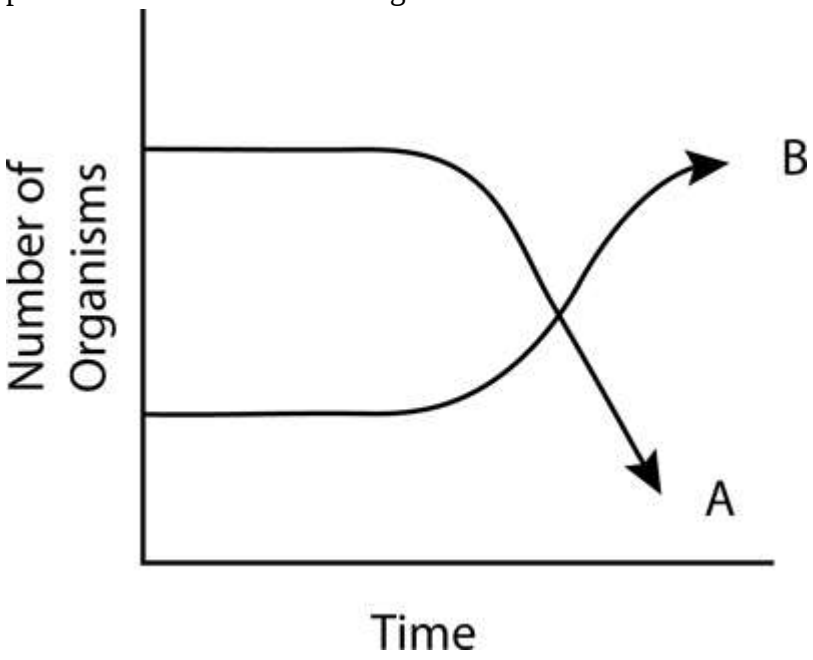
A) Pre-productive individuals are more than the reproductive individuals

B) Pre-reproductive individuals are less than reproductive individuals

C) reproductive individuals and pre- reproductive individuals are equal in number

D) reproductive individuals are less than the post- reproductive individuals.

140. The following graph depicts changes in two populations (A and B) of herbivores in a grassy field. A possible reason for these changes is that



A) population A produced more offspring than population B

B) population A consumed the members of population B

C) both plant populations in this habitat decreased

D) population B competed more successfully for food than population A

141. Match List-I with List-II.

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

Choose the correct answer from the options given below:

A) A-III, B-I, C-II, D-IV

B) A-III, B-IV, C-II, D-I

C) A-I, B-II, C-III, D-IV

D) A-II, B-I, C-IV, D-III

142. In which of the following interactions both partners are adversely affected?

A) Parasitism B) Mutualism C) Competition D) Predation

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

A) gm^{-2} B) KCalm^{-2} C) KCalm^{-3} D) $(\mathrm{KCalm}^{-2})\,\mathrm{yr}^{-1}$

144. Given below are two statements:

Statement I :

Decomposition is a process in which the detritus is degraded into simpler substances by microbes.

Statement II :
Decomposition is faster if the detritus is rich in lignin and chitin
In the light of the above statements, choose the correct answer from the options given below:

A) Both Statement I and Statement II are incorrect

B) Statement I is correct but Statement II is incorrect

C) Statement I is incorrect but Statement II is correct

D) Both Statement I and Statement II are correct

145. Match the trophic levels with their correct species examples in grassland ecosystem.

(a) Fourth trophic level	(i) Crow
(b) Second trophic level	(ii) Vulture
(c) First trophic level	(iii) Rabbit
(d) Third trophic level	(iv) Grass

Select the correct option :
(a) (b) (c) (d)

A) (i) (ii) (iii) (iv)

B) (ii) (iii) (iv) (i)

C) (iii) (ii) (i) (iv)

D) (iv) (iii) (ii) (i)

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

A) Pyramid of number in grassland

B) Pyramid of energy in pond ecosystem

C) Pyramid of biomass in grassland

D) Pyramid of biomass in sea

147. Which of the following regions of the globe exhibits highest species diversity?

A) Amazon forests

B) Western Ghats of India

C) Madagascar

D) Himalayas

148. 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 ?

A) The present net species extinction rate is zero.

B) The current species extinction rate is nearly 10 times faster than that in previous episodes.

C) The present species extinction rates are 100 to 1000 times faster than in the pre-human times.

D) The current species extinction rates are far lower than those in previous episodes.

149. Which one of the following is not used for ex situ plant conservation?

A) Shifting cultivation

B) Botanical gardens

C) Field gene banks

D) Seed banks

150. The historic Convention on Biological Diversity, 'The Earth Summit' was held in Rio de Janeiro in the year

A) 2002

B) 1985

C) 1992

D) 1986