



KCET

TOP 200 QUESTIONS

Botany

1. Which of the following is not a feature of Arthropoda?

- (A) Chitinous exoskeleton
- (B) Segmented body
- (C) Book gills
- (D) Cellular level of organization

2. Consider the following animals and their features.

- (A) Ornithorhynchus is an oviparous mammal with hair on its body.
- (B) Aptenodytes is a flightless bird adapted for swimming, with a four-chambered heart.
- (C) Pteropus possesses pneumatic bones and shows viviparity.
- (D) Delphinus is an aquatic mammal that respire through lungs and lacks pinnae.

How many of the above combinations are entirely correct?

- (A) One
- (B) Two
- (C) Three
- (D) Four

3. Match the column I with column II.

Column I (Animal)		Column II (Characteristic)	
(A)	<i>Sepia</i>	(I)	Undergoes retrogressive metamorphosis
(B)	<i>Antedon</i>	(II)	Possesses an ink sac for defense
(C)	<i>Ascidia</i>	(III)	Bioluminescence is well-marked
(D)	<i>Ctenoplana</i>	(IV)	Mouth is directed upwards, anus on the same surface

Choose the correct answer from the options given below.

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

4. Which of the following is not a characteristic feature of class Chondrichthyes?

- (A) Gills slits are separate and without operculum
- (B) Predaceous with powerful jaws
- (C) Notochord is persistent throughout life
- (D) Air bladder present

5. Birds are known for their ability to fly, for which their bones are:

- (A) solid and heavy.
- (B) pneumatic (hollow with air cavities).
- (C) cartilaginous.
- (D) dense and strong.

6. A common characteristic of all vertebrates without exception is :

- (A) The presence of well-developed skull
- (B) The division of body into head, neck, trunk and tail
- (C) Their body covered with an exoskeleton
- (D) The possession of two pairs of functional appendages

7. Read the following statements (A-D).

- A. In mammals, different types of teeth are present in the jaw.
 - B. The skin of mammals posses hairs.
 - C. Struthio is viviparous and development is direct.
 - D. Ichthyophis is a limbless amphibian.
- Choose the option with correct statements.

- (A) A and C only
- (B) B and C only
- (C) A, B and D only
- (D) A, C and D only

8. Which is not characteristic of a frog?

- (A) Exhibits mimicry
- (B) The skin is always maintained in a moist condition.
- (C) Dorsal side of body has dark irregular spots.
- (D) On the ventral side, the skin is uniformly olive green.

9. The phenomena in which organisms hide themselves and take shelter in moist and cool deep burrows to prevent water loss and internal body damages due to the extreme heat is called
- Hibernation
 - Mimicry
 - Aestivation
 - None of the above

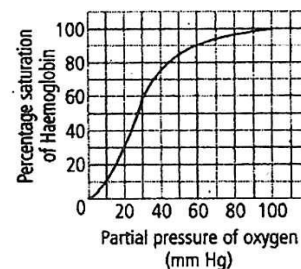
10. Match List-I with List-II regarding frog.

List-I		List-II	
(A)	Olfactory lobes	(I)	Vertebral Column
(B)	Cerebellum	(II)	Fore brain
(C)	Optic lobes	(III)	Mid brain
(D)	Spinal cord	(IV)	Hind brain

Choose the correct answer from the options given below:

- A-III, B-IV, C-II, D-I
 - A-II, B-IV, C-III, D-I
 - A-IV, B-III, C-II, D-I
 - A-IV, B-II, C-III, D-I
11. A key difference between male and female frogs is that males possess:
- A nictitating membrane and tympanum
 - Webbed hind limbs
 - A copulatory pad and sound-producing vocal sacs
 - A long, bilobed tongue
12. Find the mismatch pair.
- Secondary metabolites - Scents, gums, spices
 - Enzymes - Trypsin
 - Primary metabolites - Antibiotics, Alkaloids
 - Intercellular ground substances – Collagen
13. Given below are two statements:
Statement I: A protein is imagined as a line, the left end represented by first amino acid (C-terminal) and the right end represented by last amino acid (N-terminal).
Statement II: Adult human haemoglobin, consists of 4 subunits (two subunits of α type and two subunits of β type.)
In the light of the above statements, choose the correct answer from the options given below:
- Both Statement I and Statement II are false.
 - Statement I is true but Statement II is false.
 - Statement I is false but Statement II is true.
 - Both Statement I and Statement II are true

14. Which of the following pairs are purines?
- Adenine and Cytosine
 - Thymine and Uracil
 - Guanine and Adenine
 - Cytosine and Guanine
15. Malonate is a competitive inhibitors of:
- succinic dehydrogenase.
 - carbonic anhydrase.
 - carboxy peptidase.
 - ligase.
16. Choose the correct statement with reference to transport of oxygen.
- Binding of oxygen with haemoglobin is not related to partial pressure of O_2 .
 - High temperature in alveoli favours the formation of oxyhaemoglobin.
 - Higher H^+ concentration in alveoli favours the formation of oxyhaemoglobin.
 - Low pCO_2 in alveoli favours the formation of oxyhaemoglobin.
17. Lungs are made up of air-filled sacs, the alveoli. They do not collapse even after forceful expiration, because of
- Inspiratory reserve volume
 - Tidal volume
 - Expiratory reserve volume
 - Residual volume
18. Which factors favour the binding of CO_2 with Hb in tissues?
- High pCO_2 and high pO_2
 - Low pCO_2 and high pO_2
 - Low pCO_2 and low pO_2
 - High pCO_2 and low pO_2
19. Which of the following is incorrect about the given graph?

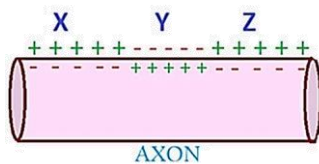


- Increase in partial pressure of CO_2 shift the curve to right.
- At low temperature the curve shifts to left.
- At high pH the curve shifts to right.
- Decrease in partial pressure of oxygen shifts the curve to right.

20. Which of the following statements is incorrect about transport of respiratory gases?
 (A) About 97 per cent of O_2 is transported by RBCs in the blood.
 (B) 3 per cent of O_2 is carried in a dissolved state through the plasma.
 (C) 20-25 per cent of CO_2 is transported by RBCs in the form of carbaminohaemoglobin.
 (D) 70 per cent carbon dioxide is carried in a dissolved state through plasma.
21. Which of the following disorder results in difficulty in breathing causing wheezing due to inflammation of bronchi and bronchioles?
 (A) Pleurisy.
 (B) Asthma.
 (C) Emphysema.
 (D) Fibrosis.
22. Which of the following options is correct?
 (A) Serum = plasma – clotting factors
 (B) Serum = plasma + clotting factors
 (C) Serum = plasma – blood corpuscles
 (D) Serum = plasma – minerals
23. Person with blood group AB is considered as universal recipient because he has:
 (A) Both A and B antigens in the plasma but no antibodies
 (B) Both A and B antigens on RBC but no antibodies in the plasma
 (C) Both A and B antibodies in the plasma
 (D) No antigen on RBC and no antibody in the plasma
24. Which of the following pair of WBCs are phagocytic cells that destroy foreign organisms entering the body?
 (A) Neutrophils and monocytes
 (B) Basophils and monocytes
 (C) Neutrophils and lymphocytes
 (D) Monocytes and lymphocytes
25. Which of the following layer can differentiate an artery from a vein?
 (A) Tunica intima (B) Tunica media
 (C) Tunica externa (D) None of these
26. Select the incorrect statement.
 (A) Incomplete double circulation is found in fishes.
 (B) Fats are absorbed through lymph in the lacteals present in intestinal villi.
 (C) Conditional reabsorption of Na^+ and H_2O takes place in DCT.
 (D) Afferent arterioles supply blood to the glomerulus.
27. Which is the correct sequence of filtration of blood in nephron of kidney?
 (A) Endothelium of blood vessels → Podocyte → Basement substances
 (B) Podocyte → Basement substances → Endothelium of blood vessels
 (C) Endothelium of blood vessels → Basement substances → Podocyte
 (D) Basement substances → Endothelium of blood vessels → Podocyte
28. Select the incorrect statement regarding mechanism of urine formation in man.
 (A) The glomerular filtration rate is about 125 mL per minute.
 (B) The ultrafiltration is opposed by the colloidal osmotic pressure of plasma.
 (C) Human kidneys produce four times concentrated urine than the initial filtrate formed.
 (D) The counter current system contributes in diluting the urine.
29. A fall in glomerular filtration rate (GFR) activates
 (A) adrenal cortex to release aldosterone.
 (B) adrenal medulla to release adrenaline.
 (C) juxta - glomerular cells to release renin.
 (D) posterior pituitary to release vasopressin.
30. Contractile unit of muscles is a part of myofibril between
 (A) Z-line and I band
 (B) Z-line and Z-line
 (C) Z-line and A-band
 (D) A-band and I-band
31. Which ion is essential to initiate muscle contraction?
 (A) Sodium (Na^+) (B) Potassium (K^+)
 (C) Calcium (Ca^{2+}) (D) Chloride (Cl^-)
32. Which statement is correct for muscle contraction?
 (A) The length of the H-zone is increased.
 (B) The length of the A-bands remains constant.
 (C) The length of the I-bands gets increased.
 (D) The length of two Z-lines gets increased.
33. Chronic autoimmune disorder affecting neuromuscular junction leading to fatigue, weakening and paralysis of skeletal muscle is called as:
 (A) Myasthenia gravis
 (B) Gout
 (C) Arthritis
 (D) Muscular dystrophy

34. A tract of nerve fibres called corpus callosum connects:
 (A) cerebrum and thalamus.
 (B) thalamus and hypothalamus.
 (C) two halves of cerebral hemispheres.
 (D) cerebral cortex and hippocampus.
35. Brain stem consists of:
 (A) medulla, pons and midbrain.
 (B) medulla, pons and cerebrum.
 (C) medulla, pons and cerebellum.
 (D) medulla, pons and hypothalamus.
36. If Medulla oblongata is destroyed then which of the following functions will be affected?
 (A) No thermoregulation
 (B) No vision
 (C) No memory
 (D) No response when pricked with a needle
37. During the propagation of a nerve impulse, the action potential results from the movement of:
 (A) K^+ ions from extracellular fluid to intracellular fluid.
 (B) Na^+ ions from intracellular fluid to extracellular fluid.
 (C) K^+ ions from intracellular fluid to extracellular fluid.
 (D) Na^+ ions from extracellular fluid to intracellular fluid.

38. In the given diagram showing the axonal membrane and impulse propagation, what is the direction of the nerve impulse?



- (A) $X \rightarrow Y$ (B) $Y \rightarrow X$
 (C) $Z \rightarrow Y$ (D) $Y \rightarrow Z$
39. Which of the following statement is not associated with midbrain?
 (A) The ventral portion of the midbrain consists mainly of four round swellings (lobes) called corpora quadrigemina
 (B) Located between the thalamus of the forebrain and pons of the hindbrain
 (C) The canal called the cerebral aqueduct passes through the midbrain
 (D) Hindbrain and midbrain constitute the brain stem

40. Prolonged hyperglycemia leads to a complex disorder called
 (A) Diabetes mellitus (B) Diabetes insipidus
 (C) Cretinism (D) Myxoedema
41. Find the incorrect match w.r.t the glands and their secretions.
 (A) Pituitary gland – Estrogen
 (B) Hypothalamus – Somatostatin
 (C) Pineal gland – Melatonin
 (D) Adrenal gland – Catecholamines
42. Which of the following statements about neurohypophysis is correct?
 (A) It stores the hormones produced by adenohypophysis.
 (B) It is poorly developed and functionless in humans.
 (C) It stores and releases hormones secreted by hypothalamus.
 (D) It secretes its own hormones.
43. The role of cAMP in hormone action is to:
 (A) act as the secondary messenger which in turn regulates cellular metabolism.
 (B) activate adenylate cyclase.
 (C) bind a specific hormone receptor on the plasma membrane.
 (D) form hormone receptor complex and regulate gene expression.
44. Given below are two statements:
 Statement I: The adrenal cortex secretes small amounts of androgenic steroids.
 Statement II: Androgens produce anabolic (synthetic) effects on protein and carbohydrate metabolism.
 In the light of the above statements, choose the most appropriate answer from the options given below:
 (A) Statement I is correct but Statement II is incorrect.
 (B) Statement I is incorrect but Statement II is correct.
 (C) Both Statement I and Statement II are correct.
 (D) Both Statement I and Statement II are incorrect.

45. Which is correct sequence of male accessory ducts starting from the testis?
 (A) Rete testis → vasa efferentia → epididymis → vas deferens
 (B) Rete testis → vas deferens → vasa efferentia → epididymis
 (C) Rete testis → vas deferens → vas epididymis → vasa efferentia
 (D) Rete testis → vas efferentia → vasa deferens → epididymis
46. Spermatozoa are nourished during their development by:
 (A) Sertoli cells
 (B) Connective tissue cells
 (C) Interstitial cells
 (D) None of these
47. Read the following statements (A-E).
 A. The human male ejaculates about 200 to 300 million sperms during a coitus.
 B. In vasectomy, a small part of the vas deferens is removed or tied up through a small incision on the scrotum.
 C. Cervical caps is an example of natural method of contraception.
 D. The tail of sperm helps in motility.
 E. 45 to 50 billion MTPs are performed in a year all over the world.
 How many of the above statements is/are incorrect?
 (A) Two (B) One
 (C) Four (D) Three
48. Mark the incorrect statement.
 (A) Each testis has about 250 compartments called testicular lobules.
 (B) Each seminiferous tubule is lined on its inside by male germ cells and Sertoli cells.
 (C) Interstitial cells are present in seminiferous tubules.
 (D) The male sex accessory ducts include rete testis, vasa efferentia, epididymis and vas deferens.
49. Choose the option with correct sequence.
 A. Mammary lobes
 B. Mammary ducts
 C. Lactiferous duct
 D. Mammary ampulla
 E. Mammary tubules
 (A) A → B → C → D → E
 (B) B → C → D → A → E
 (C) A → E → B → D → C
 (D) C → E → D → B → A
50. Which hormone level reaches peak during lutea phase of menstrual cycle?
 (A) Luteinising hormone
 (B) Progesterone
 (C) Follicle stimulating hormone
 (D) Oestrogen
51. Which of the following statements is incorrect about menstrual cycle?
 (A) The first menstruation begins at puberty and is called menarche.
 (B) Lack of menstruation may due to stress and poor health.
 (C) Cyclic menstruation is an indicator of normal reproductive phase.
 (D) In presence of fertilisation, corpus luteum degenerates in luteal phase.
52. What is the correct sequence of sperm formation ?
 (A) Spermatogonia, spermatocytes, spermatids, spermatozoa
 (B) Spermatogonia, spermatozoa, spermatocytes, spermatids
 (C) Spermatids, spermatocytes, spermatogonia, spermatozoa
 (D) Spermatogonia, spermatocytes, spermatozoa, spermatids
53. Which of the following statements about cortical reaction is correct?
 (A) It attracts multiple sperms for fertilization
 (B) It converts zona pellucida into fertilization membrane preventing polyspermy
 (C) It helps release prostaglandins from sperm
 (D) It accelerates germinal vesicle formation
54. Capacitation occurs in
 (A) Female Reproductive tract
 (B) Rete testis
 (C) Epididymis
 (D) Vas deferens
55. Choose the correct statement.
 (A) hPL plays a major role in parturition.
 (B) Foetus shows slow movements for the first time in the 7th month of pregnancy.
 (C) Signal for parturition comes from fully developed foetus and placenta.
 (D) Embryo's heart is formed by the 2nd month of pregnancy.
56. Foetal ejection reflex in human female is induced by
 (A) Release of oxytocin from fetal pituitary
 (B) Signals from fully developed foetus and placenta
 (C) Release of oxytocin from adenohypophysis
 (D) Pressure exerted by water bag on uterine wall

57. Match List-I with List-II.

List-I		List-II	
(A)	Implants	(I)	Progesterone alone or in combination with estrogen under the skin
(B)	Tubectomy	(II)	Sterilisation procedure in males
(C)	LNG-20	(III)	Sterilisation procedure in females
(D)	Vasectomy	(IV)	Hormone releasing IUD

Choose the correct answer from the options given below:

- (A) A-III, B-II, C-IV, D-I
 (B) A-I, B-III, C-IV, D-II
 (C) A-III, B-I, C-IV, D-II
 (D) A-II, B-III, C-I, D-IV
58. Which of the following methods of contraception is effective only upto a maximum period of six months following parturition?
 (A) LNG-20
 (B) Coitus interruptus
 (C) Lactational amenorrhoea
 (D) CuT
59. Which of the following contraceptive methods is most prone to failure due to incorrect user compliance and natural variability in the menstrual cycle?
 (A) Use of diaphragm in combination with spermicides
 (B) Condom usage during coitus
 (C) Insertion of intrauterine devices (IUDs)
 (D) Periodic abstinence based on the rhythm method
60. Following statements are given regarding MTP. Choose the correct options given below:
 i. MTPs are generally advised during first trimester
 ii. MTPs are used as a contraceptive method
 iii. MTPs are always surgical
 iv. MTPs require the assistance of qualified medical personnel
 (A) i and iii (B) ii and iii
 (C) i and iv (D) i and ii
61. In case of a couple where the male is having a very low sperm count, which technique will be suitable for fertilisation?
 (A) Gamete intracytoplasmic fallopian transfer
 (B) Artificial Insemination
 (C) Intracytoplasmic sperm injection
 (D) Intrauterine transfer

62. Choose the incorrect statement w.r.t ART
 (A) In IVF, the zygote is transferred into fallopian tube
 (B) In AI technique, fertilisation occurs outside of female body
 (C) In ICSI, sperm is injected directly into the ovum
 (D) Both (A) and (C)
63. ZIFT involves transfer of:
 (A) Embryo (8-cell stage) into uterus
 (B) Zygote into fallopian tube
 (C) Sperm into fallopian tube
 (D) Ovum into uterus
64. Single step large mutation leading to speciation is also called
 (A) Founder effect
 (B) Saltation
 (C) Branching descent
 (D) Natural selection
65. In the Hardy-Weinberg's equation the homozygous dominant individuals in a population are represented by -
 (A) q^2
 (B) q
 (C) $2pq$
 (D) p^2

66. Match List-I with List-II.

List-I		List-II	
A.	Ernst Haeckel	I.	Theory of use and disuse of organs
B.	Karl Ernst von Baer	II.	Proposed embryological support for evolution
C.	Lamarck	III.	Disproved the embryological support theory
D.	Thomas Malthus	IV.	Essay on population

Choose the correct answer from the options given below:

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

67. Given below are two statements:
 Statement I: Branching descent and natural selection are the two key concepts of Darwinian Theory of Evolution.
 Statement II: Hugo deVries worked on evening primrose.
 In the light of the above statements, choose the most appropriate answer from the options given below:
 (A) Statement I is correct but Statement II is incorrect.
 (B) Statement I is incorrect but Statement II is correct.
 (C) Both Statement I and Statement II are correct.
 (D) Both Statement I and Statement II are incorrect.
68. Which of the following is not included in Cenozoic era?
 (A) Devonian (B) Pliocene
 (C) Pleistocene (D) Miocene
69. The Finches of Galapagos islands provide an evidence in favour of-
 (A) Special Creation
 (B) Evolution due to Mutation
 (C) Retrogressive Evolution
 (D) Biogeographical Evolution
70. In a population of 1000 individuals 360 belong to genotype AA, 480 to Aa and the remaining 160 to aa. Based on this data, the frequency of allele A in the population is;
 (A) 0.4
 (B) 0.5
 (C) 0.6
 (D) 0.7
71. Find the incorrect statement.
 (A) By the time of 400 mya, invertebrates were formed and active.
 (B) Conventional religious literature tells us about the theory of special creation.
 (C) The amphibians evolved into reptiles.
 (D) First mammals were like shrews.
72. Which of the following statements are correct about Homo erectus?
 I. Had a large brain around 900cc.
 II. Appeared about 1.5 million years ago.
 III. Ate meat.
 IV. Evolved from Homo habilis.
 Choose the correct option.
 (A) I and II only
 (B) II and III only
 (C) III and IV only
 (D) I, II, III and IV
73. Identify the site where Wuchereria bancrofti is normally found in human body.
 (A) Muscles of the legs
 (B) Blood vessels of the thigh region
 (C) Skin between the fingers
 (D) Lymphatic vessels of the lower limbs
74. Sustained high fever (39° to 40°C) and intestinal perforation in severe cases is a symptom of which disease?
 (A) Malaria (B) Typhoid
 (C) Cholera (D) Common cold
75. Given below are two statements:
 Statement I: Many fungi belonging to genera Microsporum, Trichophyton and Epidermophyton are responsible for the disease ringworm.
 Statement II: Most of the cancers are treated by combination of surgery, radiotherapy and chemotherapy.
 In the light of the above statements, choose the most appropriate answer from the options given below:
 (A) Statement I and Statement II both are correct.
 (B) Statement I is correct but Statement II is incorrect.
 (C) Statement I is incorrect but Statement II is correct.
 (D) Statement I and Statement II both are incorrect.
76. Which of the following statements are correct?
 A) Common cold - Droplet Infection.
 B) Typhoid - Contaminated food & water.
 C) AIDS - Shaking hands.
 D) Ringworm - Using infected towels.
 (A) A and B only (B) C and D only
 (C) A and C only (D) A, B and D
77. Match List-I with List-II.
- | List-I | | List-II | |
|--------|-----------------------|---------|-----------------------------------|
| (A) | Cellular barrier | (I) | Tears from eyes |
| (B) | Cytokine barrier | (II) | Interferons |
| (C) | Physical barrier | (III) | Monocytes and NK cells |
| (D) | Physiological barrier | (IV) | Mucus lining of respiratory tract |
- Choose the correct answer from the options given below:
 (A) A-IV, B-I, C-II, D-III
 (B) A-II, B-IV, C-III, D-I
 (C) A-III, B-I, C-IV, D-II
 (D) A-III, B-II, C-IV, D-I

78. Mammalian thymus is mainly concerned with
 (A) regulation of body temperature
 (B) regulation of body growth
 (C) immunological functions
 (D) secretion of thyrotrophin
79. Which of the following sets of organs are examples of secondary lymphoid organs?
 (A) Bone marrow, Lymph nodes, Peyer's patches
 (B) Lymph nodes, Peyer's patches, tonsils, spleen
 (C) Spleen, thymus, tonsils and appendix
 (D) Peyer's patches, tonsils, spleen, bone marrow
80. Radiotherapy is used for
 (A) detecting bone fracture.
 (B) detecting cardiac trouble.
 (C) getting whole body's photograph.
 (D) treating cancer by controlled exposure of X-rays.
81. Which of the following is correct for cancer?
 (A) Cancer cells compete for vital nutrients with normal cells.
 (B) Cancer cells compete with normal cells for only space.
 (C) Cancer cells show a property called contact inhibition.
 (D) Cancer cells do not show property of metastasis.
82. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.
 Assertion (A): Malignant tumors remain confined to their original location.
 Reason (R): Cancer cell lost the property of contact inhibition.
 In the light of the above statements, choose the correct answer from the options given below:
 (A) A is true but R is false.
 (B) A is false but R is true.
 (C) Both A and R true and R is the correct explanation of A.
 (D) Both A and R true and R is not the correct explanation of A.
83. HIV is classified as a retrovirus because its genetic information is carried in
 (A) DNA instead of RNA
 (B) DNA
 (C) RNA instead of DNA
 (D) Protein coat
84. What effect does nicotine have on blood pressure and heart rate?
 (A) Lowers blood pressure and heart rate
 (B) Increases blood pressure and heart rate
 (C) Has no effect on blood pressure and heart rate
 (D) Stabilizes blood pressure but increases heart rate
85. Morphine is extracted from which part of the poppy plant?
 (A) Flowers
 (B) Latex
 (C) Roots
 (D) Leaves
86. Sportspersons misuse narcotic analgesics, anabolic steroids and certain hormones. What is the correct reason for it?
 (A) Increase in muscle strength
 (B) Promote aggressiveness
 (C) Increase athletic performance
 (D) All of the above
87. Match List-I with List-II:
- | List-I | | List-II | |
|--------|---------------------------|---------|---------|
| (A) | <i>Papaver somniferum</i> | (I) | Charas |
| (B) | <i>Cannabis sativa</i> | (II) | Smack |
| (C) | <i>Erythroxylum coca</i> | (III) | Tobacco |
| (D) | Nicotine | (IV) | Cocaine |
- Choose the correct answer from the options given below:
 (A) A-II, B-I, C-IV, D-III
 (B) A-III, B-IV, C-II, D-I
 (C) A-IV, B-II, C-I, D-III
 (D) A-II, B-IV, C-III, D-I
88. Statement-I: The construction of the first recombinant DNA emerged from the native plasmid of *Escherichia coli*.
 Statement-II: It was accomplished by Stanley Cohen and Herbert Boyer in 1972.
 (A) Statement I and Statement II both are correct.
 (B) Statement I is correct, but Statement II is incorrect.
 (C) Statement I is incorrect, but Statement II is correct.
 (D) Statement I and Statement II both are incorrect.
89. amp^R in vector pBR322 indicates-
 (A) Gene responsible for synthesis of ampicillin
 (B) Gene conferring resistance against ampicillin
 (C) Palindromic DNA sequence for EcoRI
 (D) Amplified DNA
90. The correct order of steps in Polymerase Chain Reaction (PCR) is:
 (A) Extension, Denaturation, Annealing
 (B) Annealing, Extension, Denaturation
 (C) Denaturation, Extension, Annealing
 (D) Denaturation, Annealing, Extension

91. What is the role of the Taq DNA polymerase in the Polymerase Chain Reaction (PCR) process?
 (A) Separating DNA strands
 (B) Extending DNA strands by adding nucleotides
 (C) Binding to primers
 (D) Initiating DNA denaturation
92. Recombinant colonies in insertional inactivation are differentiated on the basis of
 (A) production of blue colour
 (B) production of no colour
 (C) production of red colour
 (D) production of green colour
93. After running gel electrophoresis, the DNA fragments are invisible. Which step is required to visualize the DNA bands?
 (A) Loading more DNA
 (B) Staining with ethidium bromide and UV exposure
 (C) Heating the gel
 (D) Adding restriction enzyme
94. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R:
 Assertion A: *Bacillus thuringiensis* produces protein that kills lepidopteran insect only.
 Reason R: It forms protein crystals during a particular phase of their growth.
 In the light of the above statements, choose the correct answer from the options given below:
 (A) A is true but R is false.
 (B) A is false but R is true.
 (C) Both A and R are true and R is the correct explanation of A.
 (D) Both A and R are true but R is not the correct explanation of A.
95. What is true about Bt toxin?
 (A) Bt protein exists as active toxin in the *Bacillus*.
 (B) The activated toxin enters the ovaries of the pest to sterilise it and thus prevent its multiplication.
 (C) The concerned *Bacillus* has antitoxins.
 (D) The inactive protoxin gets converted into active form in the insect gut.
96. Which of the following can be detected in ELISA?
 (A) Protein antigen
 (B) Glycoprotein antigen
 (C) Antibodies synthesized against pathogen
 (D) Any of these


97. Transgenic animals: choose the correct application.
 (A) Mouse models to study oncogenes (*myc/ras*) in cancer
 (B) Only fish can produce human proteins in milk
 (C) Transgenic cow cannot increase casein fractions
 (D) No therapeutic protein production in milk
98. Golden rice is an effective source of:
 (A) vitamin A. (B) vitamin B.
 (C) vitamin C. (D) vitamin D.

99. Match List-I with List-II.

List-I		List-II	
A.	Biopiracy	I.	Vitamin-A enriched
B.	Golden rice	II.	Used to develop virus-free plant
C.	Meristem	III.	Mobile genetic element
D.	Transposon	IV.	Bioresources

Choose the correct answer from the options given below:

- (A) A-II, B-I, C-IV, D-III
 (B) A-II, B-I, C-III, D-IV
 (C) A-II, B-III, C-I, D-IV
 (D) A-IV, B-I, C-II, D-III
100. Read the following statements.
 A. The Green Revolution succeeded in tripling the food supply.
 B. Totipotency is the ability to regenerate a whole plant from any cell or explant.
 C. Micropropagation is the technique of producing thousands of genetically different plants in a short time.
 D. Somaclones produced by micropropagation are genetically diverse from the parent plant.
 Choose the correct statements.
 (A) A, B and C only
 (B) C and D only
 (C) A and B only
 (D) A, B, C and D
101. Select the incorrect statement with respect to the category, 'genus'.
 (A) It is a group or assemblage of related species
 (B) A genus essentially possesses more than one number of species
 (C) Lion, tiger, leopard, jaguar are closely related species which have been placed in the genus *Panthera* and are respectively named as *Panthera leo*, *P. tigris*, *P. pardus* and *P. onca*
 (D) *Solanum*, *Penicillium*, *Withania* and *Canis* are the examples of genera

- 102.** What is the correct sequence of taxonomic hierarchy ?
 (A) Kingdom → Class → Phylum → Order
 (B) Kingdom → Phylum → Class → Order
 (C) Phylum → Kingdom → Class → Genus
 (D) Class → Kingdom → Order → Species
- 103.** Which of the following statements is incorrect ?
 (A) The scientific name for humans is *Homo sapiens*
 (B) Organisms placed in the same genus are least closely related
 (C) Moving from species to kingdom, more different species are included in each higher category
 (D) Species that are in the same genus share very specific characteristics
- 104.** Binomial nomenclature provides every species with a unique name. This system comprises:
 (A) Family and species names
 (B) Order and genus names
 (C) Genus and species epithets
 (D) Class and species names
- 105.** Viruses have
 (A) DNA enclosed in a protein coat
 (B) prokaryotic nucleus
 (C) single chromosome
 (D) both DNA and RNA.
- 106.** Archaeobacteria that live in hot springs are known as:
 (A) Halophiles
 (B) Methanogens
 (C) Thermoacidophiles
 (D) Cyanobacteria
- 107.** Select the option that describes the characteristics of mycoplasma.
 (A) Smallest living cell without a cell wall survives with oxygen
 (B) Smallest living cell with a cell wall survives with oxygen
 (C) Smallest living cell without a cell wall survives without oxygen
 (D) Smallest living cell with a cell wall survives without oxygen
- 108.** Who discovered viroids?
 (A) T.O. Diener
 (B) Ivanowsky
 (C) Beijerinck
 (D) W.M. Stanley
- 109.** Pteridophytes differ from mosses/bryophytes in possessing
 (A) independent gametophyte
 (B) well developed vascular system
 (C) archegonia
 (D) flagellate spermatozoids.
- 110.** Filamentous forms of algae are
 (A) *Ulothrix*
 (B) *Spirogyra*
 (C) *Chlamydomonas*
 (D) Both (A) and (B)
- 111.** Protonema stage is found in:
 (A) Mosses (B) Ferns
 (C) Liverworts (D) Fungi
- 112.** Coralloid roots of *Cycas* are useful in:
 (A) N₂-fixation
 (B) Absorption of water
 (C) Transpiration
 (D) Fixation
- 113.** Give the symbol of bicarpellary syncarpous, inferior ovary
 (A) G₂
 (B) G₂
 (C) G₂
 (D) G₂
- 114.** Given diagram represent –

 (A) Twisted aestivation
 (B) Imbricate aestivation
 (C) Vexillary aestivation
 (D) Valvate aestivation
- 115.** In the seed of X plant, the endosperm formed as a result of double fertilisation whereas the seeds of Y plant are non-endospermous. Identify X and Y and select the correct option.
 (A) X- Pea, Y- Bean
 (B) X- Bean, Y- Castor
 (C) X- Castor, Y-Gram
 (D) X-Gram, Y-Pea

116. Which kind of placentation is represented by the given figure ?



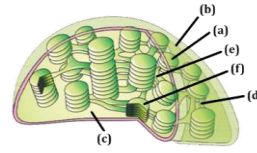
- (A) Marginal (B) Axile
(C) Parietal (D) Basal
117. Guard cells
(I) Are always bean-shaped and enclose stomatal pore.
(II) Have differential thickening in their walls and possess chloroplast.
(A) Both I and II are incorrect
(B) I is correct but II is incorrect
(C) II is correct but I is incorrect
(D) Both I and II are correct
118. The sugarcane plant is characterized by:
(A) Dumb-bell shaped guard cells
(B) Pentamerous flowers
(C) Reticulate venation
(D) Capsular fruits

119. The following vascular bundle is present in



- (A) Mango leaf
(B) Maize root
(C) Mustard root
(D) Maize leaf
120. In open vascular bundles of young dicot stem, cambium is present between
(A) Epidermis and hypodermis
(B) Pericycle and endodermis
(C) Phloem and pericycle
(D) Xylem and phloem
121. Which of the following is not a constituent of the endomembrane system ?
(A) Peroxisomes
(B) Endoplasmic reticulum
(C) Vacuoles
(D) Lysosomes

122. Select the correct statement for the sectional view of chloroplast which is given below.



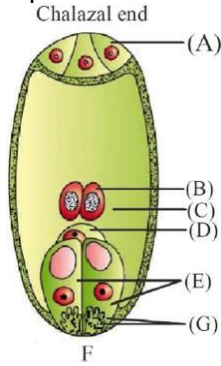
- (A) Part (d) Stroma lamellae lack NADP reductase enzyme
(B) Part (b) Outer membrane - less permeable
(C) Part (a) Inner membrane - contains porins
(D) Part (c) Stroma - contains small double stranded linear DNA always
123. A major site for synthesis of lipids is
(A) Symplast
(B) nucleoplasm
(C) RER
(D) SER.
124. Match the columns I and II, and choose the correct combination from the options given:

Column I (Cell)		Column II (Size)	
(i)	Mycoplasma	K	3 to 5 μ m
(ii)	RBCs	L	10 to 20 μ m
(iii)	Bacteria	M	7 μ m
(iv)	Typical eukaryotic cell	N	0.3 μ m

- (A) i-N, ii-L, iii-K, iv-M
(B) i-K, ii-M, iii-N, iv-L
(C) i-N, ii-M, iii-K, iv-L
(D) i-K, ii-L, iii-N, iv-M
125. Select the correct sequence of events taking place during mitotic anaphase.
A-Chromatids separate
B-Centromeres split
C-Chromatids move to opposite poles
(A) B \rightarrow A \rightarrow C
(B) A \rightarrow B \rightarrow C
(C) C \rightarrow B \rightarrow A
(D) A \rightarrow C \rightarrow B
126. Which event in meiosis is mediated by the enzyme recombinase?
(A) Interkinesis
(B) Synaptic pairing
(C) Terminalization
(D) Crossing over

127. Read the following statements carefully and choose the incorrect option
 (A) The complex formed by a pair of synapsed homologous chromosomes is called a chromonemata
 (B) DNA synthesis occurs only during one specific stage in the cell cycle
 (C) Cell division does not stop with the formation of the mature organism
 (D) Bivalent chromosomes align on the double equatorial plate
128. Centromere is required for
 (A) movement of chromosomes towards poles
 (B) cytoplasmic cleavage
 (C) crossing over
 (D) transcription
129. In the Z-scheme of electron transport, PSII and PSI are linked through:
 (A) ATP synthase
 (B) Cytochrome b6-f complex
 (C) Ferredoxin
 (D) NADPH reductase
130. For formation of 1 glucose, how many molecules of ATP are required by C3 cycle?
 (A) 12 (B) 16
 (C) 18 (D) 10
131. A distinctive anatomical feature of C4 plants is:
 (A) Uniform mesophyll cells in the entire leaf
 (B) The presence of "Kranz" anatomy, where bundle sheath cells form a wreath-like arrangement around vascular bundles
 (C) The absence of chloroplasts in leaves
 (D) A single-layered epidermis without stomata
132. Photorespiration in plants is considered wasteful because:
 (A) It produces excess glucose.
 (B) It consumes oxygen and releases CO₂ without ATP production.
 (C) It increases water loss.
 (D) It inhibits chlorophyll production.
133. TCA cycle is named so because
 (A) It has various acids in its pathway
 (B) The first product is citric acid containing 3 carboxylic groups
 (C) It begins with condensation of oxaloacetic acid a tricarboxylic acid
 (D) None of these
134. R.Q. of protein rich pulses is
 (A) unity
 (B) infinity
 (C) more than unity
 (D) less than one
135. Select the incorrect statement.
 (A) Glycolysis occurs in cytoplasm of all the organisms
 (B) Enzymes of Krebs cycle are present in the mitochondrial matrix
 (C) Oxidative phosphorylation takes place in outer mitochondrial membrane
 (D) Through link reaction, pyruvate enters into aerobic respiratory pathway
136. F1 part of complex V
 (A) Is integral transmembrane protein
 (B) Is peripheral component made of complex lipids
 (C) Have specific proton tunnels for pumping protons across inner membrane of mitochondria
 (D) Is peripheral membrane protein complex with ATP synthase activity
137. Which of the following statements is incorrect regarding plant growth regulators?
 (A) Auxins promote root formation and can be used to initiate rooting in cuttings.
 (B) Gibberellins stimulate internode elongation and can delay senescence in fruits.
 (C) Cytokinins inhibit cell division and retard the formation of adventitious shoots.
 (D) Abscisic acid induces stomatal closure and promotes seed dormancy under stress conditions.
138. One of the synthetic auxin is
 (A) NAA (B) IAA
 (C) GA (D) IBA
139. Plant cells can regain the capacity to divide after differentiation under certain conditions, a process called
 (A) Dedifferentiation
 (B) Redifferentiation
 (C) Maturation
 (D) Senescence
140. Which of the following is an example of heterophyllous development due to the environment?
 (A) Buttercup (B) Cotton
 (C) Coriander (D) Larkspur

141. Identify the correct labelling with its proper representation of embryo sac.



- (A) A – Antipodals, C – Polar nuclei, E – Synergids
 (B) A – Antipodals, C – Central cell, D – Egg
 (C) C – Central cell, E – Antipodals, G – Synergids
 (D) More than one option is correct
142. Cross-pollination is generally preferred over self-pollination because:
 (A) It results in better offspring
 (B) New varieties are formed
 (C) It is easier
 (D) Parthenogenesis can be induced
143. Tapetum is:
 (A) Parietal in origin and usually the innermost layer of the anther wall
 (B) Modified endothecium of the anther wall
 (C) Modified outermost layer of the sporogenous tissue
 (D) Parietal in origin and the innermost layer of the ovule wall
144. The microscope undergoes _____ to form two celled stage, out of these, _____ undergoes mitosis to form two male gametes.
 (A) Mitosis, vegetative cell
 (B) Meiosis, generative cell
 (C) Mitosis, generative cell
 (D) Meiosis, vegetative cell
145. If a tetraploid plant contains 48 chromosomes in its nucellus, then number of chromosomes in the egg cell and in a synergid respectively
 (A) 48 and 48 (B) 24 and 24
 (C) 24 and 48 (D) 48 and 24
146. Persistent nucellus is called _____ and is found in _____.
 (A) perisperm, black pepper
 (B) perisperm, groundnut
 (C) endosperm, black pepper
 (D) endosperm, groundnut

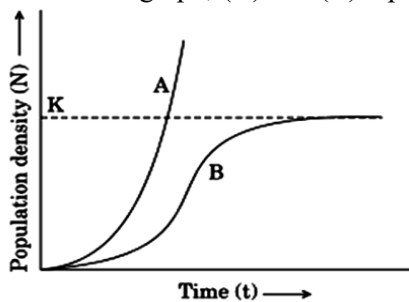
147. The oldest viable seeds discovered during archeological excavation of King Herod's Palace near Dead sea is of _____ species.
 (A) Lupinus (B) Phoenix
 (C) Mangifera (D) Orobanche
148. Which of the following statements is incorrect regarding pollen and its structure?
 (A) Pollen grains are typically shed as 2-celled structures in over 60% of angiosperms.
 (B) The exine of pollen grains is composed of sporopollenin, which is resistant to degradation
 (C) The intine is a thick, lignified layer that provides rigidity to the pollen grain
 (D) Germ pores in the exine are regions lacking sporopollenin that facilitate pollen tube emergence.
149. Which one of the following statements is correct?
 (A) Cleistogamous flowers are always autogamous.
 (B) Xenogamy occurs only by wind pollination.
 (C) Chasmogamous flowers do not open at all.
 (D) Geitonogamy involves the pollen and stigma of flowers of different plants.
150. An organic substance that can withstand environmental extremes and cannot be degraded by any enzyme is
 (A) Cuticle (B) Sporopollenin
 (C) Lignin (D) Cellulose
151. Identify the correct order of events in pollen-pistil interaction from the options given below.
 I. Release of male gametes into the embryo sac
 II. Deposition of pollen grains on stigma
 III. Entry of pollen tube into embryo sac
 IV. Development of pollen tube
 V. Entry of pollen tube into the ovule
 (A) V → IV → III → II → I
 (B) IV → III → II → I → V
 (C) II → IV → V → III → I
 (D) II → IV → III → V → I
152. During successive type of microsporogenesis, total number of meiotic divisions required to produce 2400 pollens, is
 (A) 400 (B) 600
 (C) 200 (D) 300
153. When a true breeding pea plant that has yellow seeds is pollinated by a plant that has green seeds, then all the F₁ plants have yellow seeds. This means that the allele for yellow is;
 (A) Heterozygous (B) Dominant
 (C) Recessive (D) Both (A) and (C)

- 154.** The three different alleles of human ABO blood types will produce how many genotypes and phenotypes respectively.
 (A) 4 and 6 (B) 6 and 4
 (C) 6 and 6 (D) 4 and 4
- 155.** Pleiotropy is the phenomenon where:
 (A) Multiple genes affect a single trait
 (B) A single gene influences multiple, seemingly unrelated traits
 (C) Genes segregate independently during gamete formation
 (D) Traits blend together in the offspring
- 156.** Down's syndrome is caused by an extra copy of chromosome 21. What percentage of offspring from an affected mother and a normal father would be affected by this disorder?
 (A) 25% (B) 100%
 (C) 75% (D) 50%
- 157.** Sickle cell anemia is a classical example of a:
 (A) Chromosomal deletion
 (B) Point mutation
 (C) Frame-shift mutation due to nucleotide insertion
 (D) Duplication mutation
- 158.** In Mendelian genetics, alternative forms of a gene are called:
 (A) Chromosomes
 (B) Alleles
 (C) Genotypes
 (D) Phenotype
- 159.** Assertion: The law of dominance is used to explain the expression of only one of the parental characters in a monohybrid cross in the F₁ generation.
 Reason: The law of dominance explains the proportion of 3 : 1 obtained at the F₂ generation.
 (A) Both Assertion (A) and Reason (R) are true and Reason (R) is a correct explanation of Assertion (A).
 (B) Both Assertion (A) and Reason (R) are true but Reason (R) is not a correct explanation of Assertion (A).
 (C) Assertion (A) is true and Reason (R) is false.
 (D) Assertion (A) is false and Reason (R) is true.
- 160.** How many genetically different gametes will be produced by a heterozygous plant having the genotype Aa Bb Cc ?
 (A) 4 (B) 12
 (C) 16 (D) 8
- 161.** Failure of segregation of chromatids during cell division cycles results in the gain or loss of a chromosome(s) called;
 (A) Aneuploidy (B) Polyploidy
 (C) Trisomy (D) None of these
- 162.** Phenylketonuria results from a mutation that leads to the deficiency of the enzyme:
 (A) Beta-globin
 (B) Phenylalanine hydroxylase
 (C) Tyrosine kinase
 (D) Lactase
- 163.** Genes which are present on the same chromosome
 (A) Do not form any linkage group
 (B) Affect the phenotype by forming interactive groups
 (C) Form a linkage group
 (D) Form different groups depending upon their relative distance.
- 164.** In Morgan's experiment, recombination frequency between white and yellow genes was 1.3%, while between white and miniature genes was 37.2%. This indicates that
 (A) White and yellow genes are farther apart
 (B) White and miniature are tightly linked
 (C) White and yellow are closely linked
 (D) Miniature and yellow are allelic
- 165.** Match column I and column II with respect to the findings of the Human genome project.
- | Column I | | Column II | |
|----------|-------------------------------|-----------|------------------------|
| 1. | Maximum genes on a chromosome | A. | Y chromosome |
| 2. | Largest gene | B. | 3164.7 million bp |
| 3. | Total base pairs | C. | 2.4 million base pairs |
| 4. | Least genes on a chromosome | D. | 2968 |
- (A) 1-A, 2-C, 3-D, 4-B
 (B) 1-D, 2-C, 3-B, 4-A
 (C) 1-D, 2-B, 3-C, 4-A
 (D) 1-C, 2-D, 3-B, 4-A
- 166.** Which of the following features of genetic code does allow bacteria to produce human insulin by recombinant DNA technology ?
 (A) Genetic code is specific.
 (B) Genetic code is not ambiguous.
 (C) Genetic code is redundant.
 (D) Genetic code is nearly universal.

167. 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 6.6×10^9 bp, then the length of the DNA is approximately
 (A) 2.0 meters (B) 2.5 meters
 (C) 2.2 meters (D) 2.7 meters
168. In operon concept, regulator gene functions as
 (A) inhibitor (B) repressor
 (C) regulator (D) all of these.
169. At the replication fork, the leading strand is synthesized continuously, whereas the lagging strand is synthesized:
 (A) Continuously as well
 (B) In short fragments (Okazaki fragments)
 (C) In reverse order
 (D) Only after the entire leading strand is complete
170. Watson and Crick proposed double helix model for the structure of DNA which was based on X-ray diffraction data produced by
 (A) Erwin Chargaff
 (B) Temin and Baltimore
 (C) Wilkins and Franklin
 (D) Oswald Avery
171. Arrange the following steps of DNA fingerprinting in their correct sequence.
 I. Autoradiography
 II. Isolation of DNA
 III. Southern blotting
 IV. Cleavage by restriction endonucleases
 V. Gel electrophoresis
 (A) I, II, IV, V, III
 (B) II, V, III, IV, I
 (C) II, IV, V, III, I
 (D) V, II, III, IV, I
172. Which of the following statements about RNA splicing is correct?
 (A) Splicing occurs in prokaryotic cells.
 (B) Introns are removed during splicing.
 (C) Exons are removed during splicing.
 (D) RNA splicing takes place in the ribosome.
173. The long DNA molecules in eukaryotic cells are efficiently packaged into the nucleus by:
 (A) Binding to ribosomes
 (B) Wrapping around histone proteins to form nucleosomes, which further fold into chromatin fibers
 (C) Being dissolved in the cytosol
 (D) Forming loose aggregates in the nucleoplasm
174. How many codons are involved in coding for the 20 amino acids ?
 (A) 64 (B) 61
 (C) 20 (D) 32
175. DNA-dependent DNA polymerase synthesizes new DNA strands in which direction?
 (A) 5' to 3'
 (B) 3' to 5'
 (C) Both 5' to 3' and 3' to 5'
 (D) Direction is random
176. The enzyme responsible for attaching amino acids to tRNA is:
 (A) RNA polymerase
 (B) Peptidyl transferase
 (C) Aminoacyl tRNA synthetase
 (D) Helicase
177. Choose the incorrectly matched pair
 (A) Azotobacter - free-living nitrogen fixing bacterium
 (B) Rhizobium - symbiotic nitrogen fixing bacterium
 (C) Azospirillum - symbiotic nitrogen fixing bacterium
 (D) Glomus - Mycorrhizal association
178. In sewage treatment, the sedimented bacterial flocs are known as:
 (A) Primary sludge
 (B) Secondary sludge (activated sludge)
 (C) Effluent
 (D) Biomass
179. Which of the following statements regarding baculoviruses are correct ?
 (A) Baculoviruses are pathogens that attack insects and other arthropods
 (B) Most of baculoviruses are biocontrol agents belonging to the genus Nucleopolyhedrovirus
 (C) Baculoviruses do not harm non-target insects.
 (D) All of the above
180. Roquefort cheese derives its distinctive flavor from the growth of:
 (A) Lactobacillus
 (B) Penicillium roqueforti
 (C) Saccharomyces cerevisiae
 (D) Bacillus subtilis
181. A cardiologist injects 'streptokinase' into a patient with myocardial infarction because:
 (A) It reduces hypertension
 (B) It lowers blood cholesterol levels
 (C) It stimulates the heartbeat
 (D) It acts as a clot-buster

182. Which enzyme is commonly used to remove oily stains in laundry detergents?
 (A) Amylase (B) Rennin
 (C) Lipase (D) Protease
183. Which of the following pairs is an example of commensalism?
 (A) Cattle or sheep and grass
 (B) Wasps and fig trees
 (C) Orchids and mango trees
 (D) Cuckoo and crow
184. Gause's principle of competitive exclusion states that
 (A) no two species can occupy the same niche indefinitely for the same limiting resources
 (B) larger organisms exclude smaller ones through competition
 (C) more abundant species will exclude the less abundant species through competition
 (D) competition for the same resources exclude species having different food preferences.
185. Which differential equation best represents exponential growth?
 (A) $dN/dt = rN$
 (B) $dN/dt = r - N$
 (C) $dN/dt = rN(1 - N/K)$
 (D) $dN/dt = K - rN$
186. When certain exotic species are introduced into geographical area, they become invasive and start spreading fast because
 (A) They have high reproductive rate.
 (B) They produce chemicals to inhibit the growth of other organisms.
 (C) There is no competition.
 (D) The invaded land does not have its natural predators.

187. In the below graph, (A) and (B) represent



- (A) A - Carrying capacity, B - Exponential growth
 (B) A - Exponential growth, B - Logistic growth
 (C) A - Logistic growth, B - Exponential growth
 (D) A - Exponential growth, B - Carrying capacity

188. contribute to an increase in population density.
 (A) Natality and emigration
 (B) Mortality and emigration
 (C) Mortality and Immigration
 (D) Natality and Immigration
189. The rate at which light energy is converted into chemical energy of organic molecules is the ecosystem's
 (A) net secondary productivity
 (B) gross primary productivity
 (C) net primary productivity
 (D) gross secondary productivity.
190. In an aquatic ecosystem, the organism present at the trophic level equivalent to cows in grasslands is:
 (A) Phytoplanktons
 (B) Large fishes
 (C) Sea gulls
 (D) Zooplanktons
191. Which inverted pyramid is observed in a sea or pond ecosystem ?
 (A) Pyramid of biomass
 (B) Pyramid of number
 (C) Age structure
 (D) Ecological succession
192. Energy transfer from one trophic level to other, in a food chain, is
 (A) 10% (B) 20%
 (C) 1% (D) 2%.
193. If 30 Joules of energy are trapped at the producer level, how much energy will be available to the peacock in the following food chain: Plant → Mice → Snake → Peacock?
 (A) 0.3 J
 (B) 0.03 J
 (C) 0.0003 J
 (D) 0.003 J
194. Two main structural features of an ecosystem:
 (A) Species composition and stratification
 (B) Species composition and productivity
 (C) Productivity and energy flow
 (D) Nutrient cycling and stratification
195. Which of the following is an in situ conservation strategy?
 (A) Botanical gardens
 (B) Seed banks
 (C) Zoological parks
 (D) National parks

- 196.** How many of the following statements regarding biodiversity in India are incorrect?
- I. It contributes around 8.1 % to the world's species diversity
 - II. It is one of the 12 mega diversity countries of the world
 - III. India is known to be the home to 45000 different species of animals
- (A) 1 (B) 2
(C) 3 (D) None
- 197.** In the equation $S = CAZ$ what is represented by S and Z respectively.
- (A) S = Species richness; Z = Slope of line (regression coefficient)
(B) S = Area covered; Z = Intercept
(C) S = Slope of line; Z = Species richness
(D) S = Intercept; Z = Area covered
- 198.** What is the rivet popper hypothesis, as given by Paul Ehrlich?
- (A) Biodiversity loss has no impact on ecosystems
(B) The loss of species weakens ecosystem stability
(C) More species lead to lower productivity
(D) Removing large predators strengthens the food web
- 199.** The Nile perch introduced into Lake Victoria in East Africa led eventually to the extinction of:
- (A) Passenger pigeon
(B) Lantana
(C) *Clarias gariepinus*
(D) Cichlid fish
- 200.** Which level of biodiversity includes variation in reserpine concentration among populations of a medicinal plant ?
- (A) Species diversity
(B) Genetic diversity
(C) Ecological diversity
(D) Population diversity



Answer Key

1. (D)	27. (C)	53. (B)	79. (B)	105. (A)
2. (C)	28. (D)	54. (A)	80. (D)	106. (C)
3. (A)	29. (C)	55. (C)	81. (A)	107. (C)
4. (D)	30. (B)	56. (B)	82. (B)	108. (A)
5. (B)	31. (C)	57. (B)	83. (C)	109. (B)
6. (A)	32. (B)	58. (C)	84. (B)	110. (D)
7. (C)	33. (A)	59. (D)	85. (B)	111. (A)
8. (D)	34. (C)	60. (C)	86. (D)	112. (A)
9. (C)	35. (A)	61. (B)	87. (A)	113. (D)
10. (B)	36. (A)	62. (B)	88. (C)	114. (D)
11. (C)	37. (D)	63. (B)	89. (B)	115. (C)
12. (C)	38. (D)	64. (B)	90. (D)	116. (B)
13. (C)	39. (A)	65. (D)	91. (B)	117. (C)
14. (C)	40. (A)	66. (D)	92. (B)	118. (A)
15. (A)	41. (A)	67. (C)	93. (B)	119. (C)
16. (D)	42. (C)	68. (A)	94. (B)	120. (D)
17. (D)	43. (A)	69. (D)	95. (D)	121. (A)
18. (D)	44. (C)	70. (C)	96. (D)	122. (A)
19. (C)	45. (A)	71. (A)	97. (A)	123. (D)
20. (D)	46. (A)	72. (D)	98. (A)	124. (C)
21. (B)	47. (A)	73. (D)	99. (D)	125. (A)
22. (A)	48. (C)	74. (B)	100. (C)	126. (D)
23. (B)	49. (C)	75. (A)	101. (B)	127. (A)
24. (A)	50. (A)	76. (D)	102. (B)	128. (A)
25. (B)	51. (D)	77. (D)	103. (B)	129. (B)
26. (A)	52. (A)	78. (C)	104. (C)	130. (C)



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|----------|----------|----------|----------|----------|
| 131. (B) | 145. (B) | 159. (A) | 173. (B) | 187. (B) |
| 132. (B) | 146. (A) | 160. (D) | 174. (B) | 188. (D) |
| 133. (B) | 147. (B) | 161. (A) | 175. (A) | 189. (B) |
| 134. (D) | 148. (C) | 162. (B) | 176. (C) | 190. (D) |
| 135. (C) | 149. (A) | 163. (C) | 177. (C) | 191. (A) |
| 136. (D) | 150. (B) | 164. (C) | 178. (B) | 192. (A) |
| 137. (C) | 151. (C) | 165. (B) | 179. (D) | 193. (B) |
| 138. (A) | 152. (B) | 166. (D) | 180. (B) | 194. (A) |
| 139. (A) | 153. (B) | 167. (C) | 181. (D) | 195. (D) |
| 140. (A) | 154. (B) | 168. (B) | 182. (C) | 196. (A) |
| 141. (B) | 155. (B) | 169. (B) | 183. (C) | 197. (A) |
| 142. (A) | 156. (D) | 170. (C) | 184. (A) | 198. (B) |
| 143. (A) | 157. (B) | 171. (C) | 185. (A) | 199. (D) |
| 144. (C) | 158. (B) | 172. (B) | 186. (D) | 200. (B) |



PW Web/App - <https://smart.link/7wwosivoicgd4>

Library- <https://smart.link/sdfez8ejd80if>