

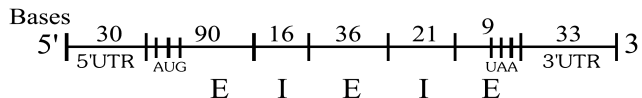
91. In which of the following plant primary root is short lived and new roots originate from the base of stem ?
(1) Wheat (2) Mango
 (3) Rhizophora (4) Banyan tree
92. Which of the following is incorrect match ?
 (1) *Albugo* – Parasitic fungi on mustard
 (2) *Neurospora* – Used in genetics work
 (3) *Penicillium* – Source of antibiotics
(4) *Ustilago* – Rust on wheat
93. Match the following

Column I (Name of organism)	Column II (Chromosome number in meiocyte)
(A) Garden pea	(i) 24
(B) Maize	(ii) 48
(C) Rice	(iii) 14
(D) Potato	(iv) 20

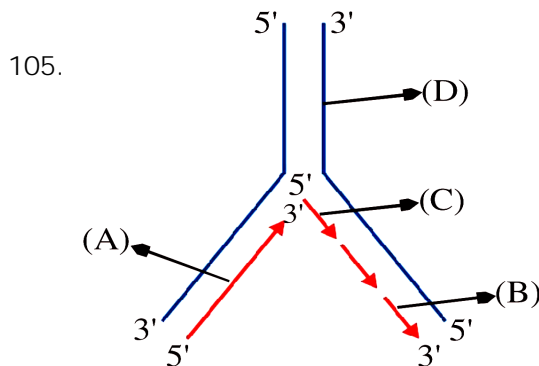
- (1)** A – (iii), B – (iv), C – (i), D – (ii).
(2) B – (iii), A – (iv), D – (i), C – (ii).
(3) A – (iii), B – (iv), D – (i), C – (ii).
(4) C – (iii), D – (iv), A – (i), B – (ii).
94. Activation of alcohol dehydrogenase and nitrogenase are respectively –
 (1) Zn, Mn **(2)** Zn, Mo (3) Mo, Zn (4) Mn, Zn
95. How many of the following purpose carried transpiration ?
 (A) Creates transpiration for absorption of water.
 (B) Supplies water for photosynthesis.
 (C) Transport minerals in every direction with a plant.
 (D) Cools leaf surface
 (E) Maintains the shape and structure of the plant
(1) Four (2) Five (3) Three (4) Two
96. A good producer of butyric acid:–
 (1) *Aspergillus* (2) *Pseudomonas*
(3) *Clostridium* (4) *Sacchromyces*
97. Typical angiosperm anther is :–
 (1) Dithecous and Monosporangiate
 (2) Monotheous and Bisporangiate
(3) Tetrasporangiate and Dithecous
 (4) Bisporangiate and Dithecous
98. Which of the following is incorrect with respect to crop, their variety and resistance to diseases/ pests?

	Crop	Variety	Resistance to disease/pest
(1)	Brassica	Pusa Gaurav	White rust
(2)	Cowpea	Pusa Komal	Bacterial blight
(3)	Chilli	Pusa Sadabahar	TMV
(4)	Okra	Pusa Sawani	Fruit borer

99. Organisms having the potential for interbreeding and producing fertile offspring is called:–
 (1) Class (2) Order (3) Genus **(4)** Species
100. Which of the following is not an invasive alien species in the Indian context?
 (1) *Lantana* **(2)** *Cynodon*
 (3) *Parthenium* (4) *Eichhornia*
- 101.

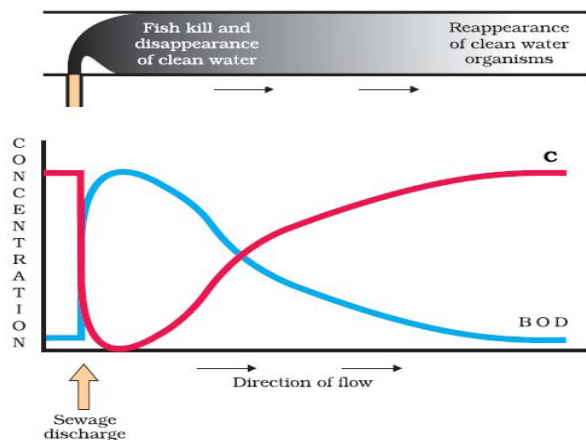


- How many amino acids long polypeptide chain will be formed ?
 (1) 45 **(2)** 44 (3) 135 (4) 20
102. What is the percentage of parental phenotypes in F₂ – generation for inheritance of skin colour in human ?
 (1) 5.25% (2) 2.25% **(3)** 3.125% (4) 6.125%
103. What is the true of Forest ecosystem ?
 (1) Primary consumers are least dependent on producers.
 (2) Primary consumers are more in number than producers.
(3) Producers are more than primary consumers.
 (4) Secondary consumers are the largest and most powerful.
104. Select the mismatch:–
 (1) Hydrarch Succession – Water rich Condition
 (2) Xerarch Succession – Xeric Condition
 (3) Pioneer Community – Comes first
(4) Climax Community – Occur succesively



105. Which one is correct for diagram?
 (1) A – strand is a leading strand.
 (2) D – strand is a template strand.
 (3) B – Okazaki fragments is synthesized first
(4) C – Okazaki fragments is synthesized first

120. What is true for value 'C' in the given diagram?



- (1) There is a sharp decline in its value downstream from the point of sewage discharge.
- (2) It leads to rapid fish mortality.
- (3) It is highest in polluted water.
- (4) The value of DO increases.

121. Kyoto protocol was aimed to:-

- (1) To reduce the emission greenhouse gases
- (2) Limit the production of ODS
- (3) Protect ozone layer
- (4) Conserve biodiversity

122. Relationship between species richness and area was determined by:-

- (1) Alexander Von Humboldt
- (2) David Tilman
- (3) Paul Ehrlich
- (4) Edward Wilson

123. Which of the following is not present in Gymnosperms and Monocot respectively?

- (1) Xylem fibres and phloem fibres
- (2) Tracheids and Sieve tubes
- (3) Xylem fibres and Phloem parenchyma
- (4) Phloem fibres and xylem parenchyma

124. In Hb^A (Normal haemoglobin) peptide (β chain) the first and sixth amino acids are respectively.

- (1) Valine and Glutamic acid
- (2) Glutamic acid and Valine
- (3) Valine at both places
- (4) Proline and glutamic acid

125. The coconut water from tender coconut is:-

- (1) Made up of thousands of cells
- (2) Free nuclear endosperm
- (3) Completely consumed by embryo
- (4) Cellular endosperm

126. Sporotic meiosis occurs in :-

- (1) *Sequoia*
- (2) *Pinus*
- (3) *Rose*
- (4) *Adiantum*

127. Branched stems possessing gymnosperm is:-

- (1) *Cycas*
- (2) *Rose*
- (3) *Okra*
- (4) *Cedrus*

128. Pyrenoids present in :-

- (1) Peroxisome
- (2) Leucoplast
- (3) Chloroplast
- (4) Chromoplast

129. Red tides are formed by:-

- (1) Red algae
- (2) *Giardia*
- (3) *Gonyaulax*
- (4) Desmids

130. Potato spindle tuber disease is related with:-

- (1) Infectious Protein
- (2) Infectious DNA
- (3) Infectious Nucleoprotein
- (4) Infectious RNA

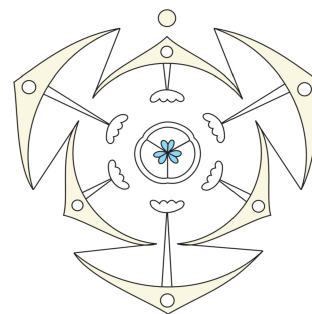
131. Fat soluble substance is:-

- (1) Sugar
- (2) Anthocyanins
- (3) Proteins
- (4) Xanthophylls

132. Centrioles form:-

- (1) The basal body of cilia or flagella in bacterial cells.
- (2) The basal body of cilia or flagella in animal cells.
- (3) The basal body of trichomes in plant cells.
- (4) All are incorrect.

133. Choose the correct option for given diagram



- (1) Androecium - Polyandrous
- (2) Gynoecium - Syncarpous, Superior ovary
- (3) Example - *Petunia*, *Ashwagandha*
- (4) Raceme Inflorescence

134. Choose the correct match

- (1) Muscidae - Mango
- (2) Anacardiaceae - Tomato
- (3) Poales - Wheat
- (4) Primata - Snake

135. World summit on Sustainable Development (2002) was held in:-

- (1) Argentina
- (2) Brazil
- (3) Sweden
- (4) South Africa


136. Apoenzyme is :

- (1) Always a Protein
- (2) Often a metal
- (3) Always an inorganic compound
- (4) often a vitamin

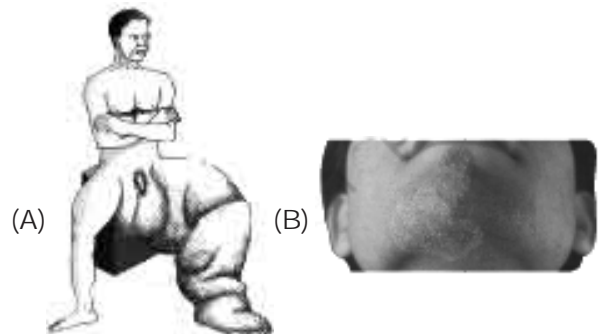
137. Which of the following factor(s) does not affect enzyme activity ?

- (A) Temperature
- (B) pH
- (C) Enzyme concentration
- (D) Product concentration
- (E) Substrate concentration
- (F) Activation energy

- (1) Only C
- (2) both C and D
- (3) only D
- (4) Only F

138. Which of the following groups consists of polysaccharides only?
 (1) Sucrose, glucose and Fructose
 (2) Maltose, lactose and Fructose
 (3) Glycogen, sucrose and maltose
 (4) Glycogen, cellulose and starch
139. Restriction endonuclease cut the DNA molecule at which site?
 (1) Sugar – phosphate back bone
 (2) Between two base pairs
 (3) Between sugar and Base
 (4) Between phosphate and base
140. Match the following columns :
Column - I **Column - II**
 (a) Golden rice (i) Eli lily
 (b) PCR (ii) Herbert boyer
 (c) Insulin (iii) kary mullis
 (d) Recombin (iv) Peter Bayer
 (1) a – iv, b – iii, c – i, d – ii
 (2) a – iv, b – iii, c – ii, d – i
 (3) a – iii, b – iv, c – i, d – ii
 (4) a – iii, b – iv, c – ii, d – i
141. Which of the following junctions help to stop substances from leaking across a tissue?
 (1) Adhering junction (2) Gap junction
 (3) Tight Junction (4) Both (1) and (2)
142. The given figure is actin filaments. Identify A, B and C
- 
- (1) A – Tropomyosin, B – Troponin, C – F – actin
 (2) A – Troponin, B – Myosin, C – F – Tropomyosin
 (3) A – Troponin, B – Tropomyosin, C – F – Myosin
 (4) A – Troponin, B – Tropomyosin, C – F – actin
143. Which of the following is not a direct method of gene transfer in Plants :
 (1) Agrobacterium tumefaciens
 (2) Gene gun method
 (3) Biolistic method
 (4) Electroporation
144. Which of the two parts in cockroach are fundamentally similar in function?
 (1) Anal style and labrum
 (2) Maxillae and anal cerci
 (3) Maxillae and legs
 (4) Mandibles and gizzard
145. Function of long bones in adult mammals is to provide :
 (1) Support only
 (2) Support and produce RBCs only
 (3) Support and produce WBCs only
 (4) Support and produce RBCs and WBCs
146. Long term use of alcohol by any person leads to following abnormalities in order :

- (1) Liver fibrosis, liver cirrhosis, fatty liver, hypoglycemia
 (2) Hypoglycemia, fatty liver, liver cirrhosis, liver fibrosis
 (3) Fatty liver, hypoglycemia, liver fibrosis, liver cirrhosis
 (4) Fatty liver, liver cirrhosis, liver fibrosis, hypoglycemia
147. Which of the following pairs, is correctly matched?
 (1) Hinge joint – Between vertebrae
 (2) Gliding joint – Between zygapophyses of the successive vertebrae
 (3) Cartilaginous joint – Skull bones
 (4) Fibrous joint – Between phalanges
148. Read the following statements :
 (I) Heroin, is obtained by acetyl ion of Morphine
 (II) Cocaine is obtained from the latex of Papaver somniferum
 (III) Dopamine is excitatory neurotransmitter
 (IV) Morphine is an effective sedative and Pain killer.
 Choose the not incorrect statements :
 (1) I and II (2) II and III
 (3) III and IV (4) I and IV
149. People shown in the pictures are affected by certain diseases. Identify the correct options about these diseases



- (1) A – caused by Wuchereria bancrofti and w. malayi, B – caused by Epidermophyton and Microsporium
 (2) A – Elephantiasis, B – Ringworm
 (3) B – Caused by fungi, A – caused by Nematode
 (4) All of the above
150. Side – effect of use of anabolic steroids in female include –
 (i) Masculinisation (ii) Premature baldness
 (iii) Breast enlargement (iv) Deepening of voice
 (v) Abnormal menstrual cycle
 (vi) Depression
 (1) i, ii, iv, v and vi (2) i, ii, v and vi
 (3) i, iv, v and vi (4) i, iii, iv, v and vi
151. Jaundice is a disorder of
 (1) Skin and eyes
 (2) Digestive system
 (3) Excretory system
 (4) Respiratory system

161. Which of the following statements are correct ?

- (i) MTP was legalised in 1972
- (ii) Inability to conceive or produce children even after two years of unprotected sexual cohabitation is called infertility
- (iii) Surgical method of contraception prevents gamete fusion
- (iv) MTPs are relatively safe up to 12 weeks of pregnancy

- (1) (i), (ii) and (iv) (2) (ii), (iii) and (iv)
(3) (iii) and (iv) (4) (i) and (iii)

162. Consider the following statements and select the option stating which ones are true (T) and which ones are false (F).

- (i) There are many side effects of tubectomy and vasectomy
- (ii) Purpose of tubectomy is to prevent egg formation
- (iii) Contraceptive oral pills help in birth control by preventing ovulation
- (iv) Genital warts is sexually transmitted disease caused by herpes virus.
- (v) In India, there is rapid decline in infant mortality rate and MMR.

- (i) (ii) (iii) (iv) (v)
(1) T F T F F
(2) F F F T T
(3) T T T F F
(4) F F T F T

163. Oral contraceptive are prescribed in females to check

- (1) Ovulation (2) Fertilization
(3) Implantation
(4) Entry of sperms in vagina

164. Select the mismatched pair :

- (1) Lamarck - Species are not immutable
- (2) Allopatric - Separate by space
- (3) Darwin finches - Like Galapagos
- (4) Hugo de Vries - Evolution is discontinuous

165. Which of the following statements is incorrect ?

- (1) Jawless fish probably evolved around 480 mya
- (2) Tyrannosaurus rex was the biggest dinosaur, about 20 feet in height and had huge fearsome dagger - like teeth
- (3) About 15 mya, primates called Dryopithecus and Ramapithecus existed
- (4) Australopithecus with a brain size of 1400 cc lived in East and Central Asia between 1,00,000 and 40, 000 years back.

166. Select the incorrect statement :

- (i) Outer ear consists of pinna and external auditory meatus
- (ii) Auditory meatus extends inwards to tympanic membrane
- (iii) Meatus posses sweat glands and fine hairs
- (iv) Tympanic membrane composed of connective tissue covered with skin from inside and mucus membrane outside

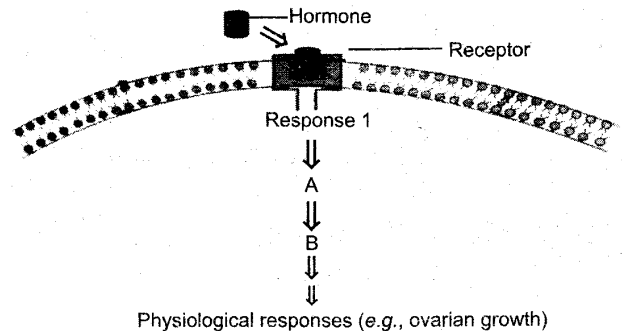
(1) (ii) and (iii) both (2) (ii), (iii) and (iv) both
(3) (iii) and (iv) both (4) only (iv)

167. How many statements are correct ?

- (i) Dendrites contains Nissl's granules
- (ii) Dendrites transmit impulse towards the cell body
- (iii) The proximal end of axon is branched
- (iv) Synaptic knob possess synaptic vesicles containing neurotransmitters.

- (1) One (2) Two
(3) Three (4) All of these

168. 25. Given mechanism of hormonal action for which types of hormones A and B represents :



- (1) Proteineous hormone - A - Generation of second messenger, B - Biochemical responses
- (2) Proteineous hormone - A - Cyclic AMP or calcium, B - Biochemical responses
- (3) Steroid hormone - A - Generation of second messenger, B - Biochemical responses
- (4) (1) and (2) both are correct

169. Match the columns :

Column I	Column - II
(Hormones)	(Target glands)
(A) Hypothalamic hormones	(i) Adrenal
(B) Thyrotropin (TSH)	(ii) Gonads
(C) Corticotropin (ACTH)	(iii) Pituitary gland
(D) Gonadotropins (LH, FSH)	(iv) Pineal
(E) Melanotropin (MSH)	(v) Thyroid

(1) (A) - (i), (B) - (ii), (C) - (iii), (D) - (iv), (E) - (v)
(2) (A) - (iii), (B) - (v), (C) - (i), (D) - (iv), (E) - (ii)
(3) (A) - (iii), (B) - (v), (C) - (i), (D) - (ii), (E) - (iv)
(4) (A) - (ii), (B) - (iii), (C) - (i), (D) - (v), (E) - (iv)

170. Adrenal cortex can be divided into 3 layers, called ____ (i) ____ (inner layer), ____ (ii) ____ (middle layer) and (iii) ____ (outer layer) ____.
- (1) (i) - Zona glomerulosa, (ii) - Zona fasciculata, (iii) - Zona reticularis
 - (2) (i) -Zona reticularis, (ii) - Zona fasciculata, (iii) - Zona glomerulosa
 - (3) (i) - Zona fasciculata, (ii) - Zona reticularis, (iii) - Zona glomerulosa
 - (4) (i) - Zona fasciculata, (ii) - Zona glomerulosa, (iii) - Zona reticularis

