

Code - E6

Biology

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91. Dissolution of the synaptonemal complex occurs during :
- (1) Pachytene
  - (2) Zygotene
  - (3) Diplotene
  - (4) Leptotene

**Correct option is (3)**

92. Select the option including all sexually transmitted diseases.
- (1) Gonorrhoea, Syphilis, Genital herpes
  - (2) Gonorrhoea, Malaria, Genital herpes
  - (3) AIDS, Malaria, Filaria
  - (4) Cancer, AIDS, Syphilis

**Correct option is (1)**

93. Which of the following would help in prevention of diuresis ?
- (1) More water reabsorption due to undersecretion of ADH
  - (2) Reabsorption of  $\text{Na}^+$  and water from renal tubules due to aldosterone
  - (3) Atrial natriuretic factor causes vasoconstriction
  - (4) Decrease in secretion of renin by JG cells

**Correct option is (2)**

94. Cuboidal epithelium with brush border of microvilli is found in :

- ❖(1) lining of intestine
- (2) ducts of salivary glands
- (3) proximal convoluted tubule of nephron
- (4) eustachian tube

**Correct option is (3)**

95. Identify the substances having glycosidic bond and peptide bond, respectively in their structure :

- (1) Chitin, cholesterol
- ❖(2) Glycerol, trypsin
- (3) Cellulose, lecithin
- (4) Inulin, insulin

**Correct option is (4)**

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

- ❖(1) Insect pests
- (2) Fungal diseases
- (3) Plant nematodes
- (4) Insect predators

**Correct option is (1)**

97. The ovary is half inferior in :

- ❖(1) Brinjal
- (2) Mustard
- (3) Sunflower
- (4) Plum

**Correct option is (4)**

98. Identify the **incorrect** statement.
- (1) Heart wood does not conduct water but gives mechanical support.
  - (2) Sapwood is involved in conduction of water and minerals from root to leaf.
  - ✶(3) Sapwood is the innermost secondary xylem and is lighter in colour.
  - (4) Due to deposition of tannins, resins, oils etc., heart wood is dark in colour.

**Correct option is (3)**

99. Select the **correct** events that occur during inspiration.
- (a) Contraction of diaphragm
  - (b) Contraction of external inter-costal muscles
  - (c) Pulmonary volume decreases
  - (d) Intra pulmonary pressure increases
- (1) (a) and (b)
  - (2) (c) and (d)
  - (3) (a), (b) and (d)
  - ✶(4) only (d)

**Correct option is (1)**

100. The process responsible for facilitating loss of water in liquid form from the tip of grass blades at night and in early morning is :
- (1) Transpiration
  - (2) Root pressure
  - (3) Imbibition
  - (4) Plasmolysis

**Correct option is (2)**

101. Identify the **wrong** statement with reference to immunity.

- (1) When exposed to antigen (living or dead) antibodies are produced in the host's body. It is called "Active immunity".
- (2) When ready-made antibodies are directly given, it is called "Passive immunity".
- (3) Active immunity is quick and gives full response.
- (4) Foetus receives some antibodies from mother, it is an example for passive immunity.

**Correct option is (3)**

102. Match the following :

- |                                     |               |
|-------------------------------------|---------------|
| (a) Inhibitor of catalytic activity | (i) Ricin     |
| (b) Possess peptide bonds           | (ii) Malonate |
| (c) Cell wall material in fungi     | (iii) Chitin  |
| (d) Secondary metabolite            | (iv) Collagen |

Choose the **correct** option from the following :

- |     | (a)   | (b)   | (c)   | (d)  |
|-----|-------|-------|-------|------|
| (1) | (ii)  | (iv)  | (iii) | (i)  |
| (2) | (iii) | (i)   | (iv)  | (ii) |
| (3) | (iii) | (iv)  | (i)   | (ii) |
| (4) | (ii)  | (iii) | (i)   | (iv) |

**Correct option is (1)**

103. Identify the **correct** statement with regard to  $G_1$  phase (Gap 1) of interphase.

- (1) DNA synthesis or replication takes place.
- (2) Reorganisation of all cell components takes place.
- (3) Cell is metabolically active, grows but does not replicate its DNA.
- (4) Nuclear Division takes place.

**Correct option is (3)**

104. Experimental verification of the chromosomal theory of inheritance was done by :

- (1) Mendel
- (2) Sutton
- (3) Boveri
- (4) Morgan

**Correct option is (4)**

105. Which of the following hormone levels will cause release of ovum (ovulation) from the graffian follicle ?

- (1) High concentration of Estrogen
- (2) High concentration of Progesterone
- (3) Low concentration of LH
- (4) Low concentration of FSH

**Correct option is (1)**

106. 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 :

- (1) 2.0 meters
- (2) 2.5 meters
- (3) 2.2 meters
- (4) 2.7 meters

**Correct option is (3)**

107. Which of the following statements are **true** for the phylum-Chordata ?

- (a) In Urochordata notochord extends from head to tail and it is present throughout their life.
- (b) In Vertebrata notochord is present during the embryonic period only.
- (c) Central nervous system is dorsal and hollow.
- (d) Chordata is divided into 3 subphyla : Hemichordata, Tunicata and Cephalochordata.

- (1) (d) and (c)
- (2) (c) and (a)
- (3) (a) and (b)
- (4) (b) and (c)

**Correct option is (4)**

108. The specific palindromic sequence which is recognized by EcoRI is :

- (1) 5' - GAATTC - 3'  
3' - CTTAAG - 5'
- (2) 5' - GGAACC - 3'  
3' - CCTTGG - 5'
- (3) 5' - CTTAAG - 3'  
3' - GAATTC - 5'
- (4) 5' - GGATCC - 3'  
3' - CCTAGG - 5'

**Correct option is (1)**

109. Ray florets have :

- (1) Inferior ovary
- (2) Superior ovary
- (3) Hypogynous ovary
- (4) Half inferior ovary

**Correct option is (1)**

110. Select the **correct** match.

- (1) Haemophilia - Y linked
- (2) Phenylketonuria - Autosomal dominant trait
- (3) Sickle cell anaemia - Autosomal recessive trait, chromosome-11
- (4) Thalassemia - X linked

**Correct option is (3)**

111. How many true breeding pea plant varieties did Mendel select as pairs, which were similar except in one character with contrasting traits ?

- (1) 4
- (2) 2
- (3) 14
- (4) 8

**Correct option is (3)**

112. In which of the following techniques, the embryos are transferred to assist those females who cannot conceive ?

- (1) ZIFT and IUT
- (2) GIFT and ZIFT
- (3) ICSI and ZIFT
- (4) GIFT and ICSI

**Correct option is (1)**

113. The enzyme enterokinase helps in conversion of :

- (1) protein into polypeptides
- (2) trypsinogen into trypsin
- (3) caseinogen into casein
- (4) pepsinogen into pepsin

**Correct option is (2)**

114. The sequence that controls the copy number of the linked DNA in the vector, is termed :

- (1) Selectable marker
- (2) Ori site
- (3) Palindromic sequence
- (4) Recognition site

**Correct option is (2)**

115. Goblet cells of alimentary canal are modified from :

- (1) Squamous epithelial cells
- (2) Columnar epithelial cells
- (3) Chondrocytes
- (4) Compound epithelial cells

**Correct option is (2)**

116. Which of the following statements about inclusion bodies is **incorrect** ?

- (1) They are not bound by any membrane.
- (2) These are involved in ingestion of food particles.
- (3) They lie free in the cytoplasm.
- (4) These represent reserve material in cytoplasm.

**Correct option is (2)**

117. Which of the following statements is **correct** ?

- (1) Adenine pairs with thymine through two H-bonds.
- (2) Adenine pairs with thymine through one H-bond.
- (3) Adenine pairs with thymine through three H-bonds.
- (4) Adenine does not pair with thymine.

**Correct option is (1)**

118. Identify the **wrong** statement with reference to the gene 'I' that controls ABO blood groups. 1

- (1) The gene (I) has three alleles.
- (2) A person will have only two of the three alleles.
- (3) When  $I^A$  and  $I^B$  are present together, they express same type of sugar.
- (4) Allele 'i' does not produce any sugar.

**Correct option is (3)**



119. Match the following columns and select the correct option.

Column - I		Column - II	
(a)	Bt cotton	(i)	Gene therapy
(b)	Adenosine deaminase deficiency	(ii)	Cellular defence
(c)	RNAi	(iii)	Detection of HIV infection
(d)	PCR	(iv)	<i>Bacillus thuringiensis</i>

	(a)	(b)	(c)	(d)
✓(1)	(iv)	(i)	(ii)	(iii)
(2)	(iii)	(ii)	(i)	(iv)
(3)	(ii)	(iii)	(iv)	(i)
(4)	(i)	(ii)	(iii)	(iv)

**Correct option is (1)**

120. Montreal protocol was signed in 1987 for control of :

- (1) Transport of Genetically modified organisms from one country to another
- (2) Emission of ozone depleting substances
- ✓(3) Release of Green House gases
- (4) Disposal of e-wastes

**Correct option is (2)**

121. Match the following diseases with the causative organism and select the correct option.

Column - I		Column - II	
(a)	Typhoid	(i)	<i>Wuchereria</i>
(b)	Pneumonia	(ii)	<i>Plasmodium</i>
(c)	Filariasis	(iii)	<i>Salmonella</i>
(d)	Malaria	(iv)	<i>Haemophilus</i>

	(a)	(b)	(c)	(d)
(1)	(i)	(iii)	(ii)	(iv)
✓(2)	(iii)	(iv)	(i)	(ii)
(3)	(ii)	(i)	(iii)	(iv)
(4)	(iv)	(i)	(ii)	(iii)

**Correct option is (2)**

122. Identify the **wrong** statement with regard to Restriction Enzymes.

- (1) Each restriction enzyme functions by inspecting the length of a DNA sequence.
- (2) They cut the strand of DNA at palindromic sites.
- (3) They are useful in genetic engineering.
- (4) Sticky ends can be joined by using DNA ligases.

**Correct option is (2)**

123. The QRS complex in a standard ECG represents :

- (1) Repolarisation of auricles
- (2) Depolarisation of auricles
- (3) Depolarisation of ventricles
- (4) Repolarisation of ventricles

**Correct option is (3)**

124. Which one of the following is the most abundant protein in the animals ?

- (1) Haemoglobin
- (2) Collagen
- (3) Lectin
- (4) Insulin

**Correct option is (2)**

125. In gel electrophoresis, separated DNA fragments can be visualized with the help of :

- (1) Acetocarmine in bright blue light
- (2) Ethidium bromide in UV radiation
- (3) Acetocarmine in UV radiation
- (4) Ethidium bromide in infrared radiation

**Correct option is (2)**

126. Which of the following is **not** an inhibitory substance governing seed dormancy ?

- (1) Gibberellic acid
- (2) Abscisic acid
- (3) Phenolic acid
- (4) Para-ascorbic acid

**Correct option is (1)**

127. In water hyacinth and water lily, pollination takes place by :

- (1) insects or wind
- (2) water currents only
- ✓ (3) wind and water
- (4) insects and water

**Correct option is (1)**

128. By which method was a new breed 'Hisardale' of sheep formed by using Bikaneri ewes and Marino rams ?

- (1) Out crossing
- (2) Mutational breeding
- (3) Cross breeding
- (4) Inbreeding

**Correct option is (3)**

129. Presence of which of the following conditions in urine are indicative of Diabetes Mellitus ?

- (1) Uremia and Ketonuria
- (2) Uremia and Renal Calculi
- (3) Ketonuria and Glycosuria
- (4) Renal calculi and Hyperglycaemia

**Correct option is (3)**

130. Which of the following refer to **correct** example(s) of organisms which have evolved due to changes in environment brought about by anthropogenic action ?

- (a) Darwin's Finches of Galapagos islands.
- (b) Herbicide resistant weeds.
- (c) Drug resistant eukaryotes.
- (d) Man-created breeds of domesticated animals like dogs.

- (1) only (a)
- (2) (a) and (c)
- ~~(3)~~ (b), (c) and (d)
- (4) only (d)

**Correct option is (3)**

131. Embryological support for evolution was disapproved by :

- (1) Karl Ernst von Baer
- (2) Alfred Wallace
- (3) Charles Darwin
- (4) Oparin

**Correct option is (1)**

132. Match the following columns and select the correct option.

Column - I		Column - II	
(a)	Floating Ribs	(i)	Located between second and seventh ribs
(b)	Acromion	(ii)	Head of the Humerus
(c)	Scapula	(iii)	Clavicle
(d)	Glenoid cavity	(iv)	Do not connect with the sternum

	(a)	(b)	(c)	(d)
(1)	(ii)	(iv)	(i)	(iii)
(2)	(i)	(iii)	(ii)	(iv)
(3)	(iii)	(ii)	(iv)	(i)
✓(4)	(iv)	(iii)	(i)	(ii)

**Correct option is (4)**

133. The body of the ovule is fused within the funicle at :

- (1) Hilum
- (2) Micropyle
- (3) Nucellus
- (4) Chalaza

**Correct option is (1)**

134. Which of the following is put into Anaerobic sludge digester for further sewage treatment ?

- (1) Primary sludge
- (2) Floating debris
- (3) Effluents of primary treatment
- (4) Activated sludge

**Correct option is (4)**

135. The product(s) of reaction catalyzed by nitrogenase in root nodules of leguminous plants is/are :

- (1) Ammonia alone
- (2) Nitrate alone
- (3) Ammonia and oxygen
- (4) Ammonia and hydrogen

**Correct option is (4)**