

89. Number of HIO_4 molecules required for complete oxidation of one mole of glucose is

- 1) 4 2) 5 3) 6 4) 1

90. List – I

- 1) Urea formaldehyde resin
2) Neoprene
3) PVC
4) Nylon-6

List – II

- a) $(-NH-(CH_2)_5-CO-)_n$
b) $(-NH-(CH_2)_6-NH-)_n$
c) $(-CH_2-\underset{\underset{Cl}{|}}{C}=CH-CH_2-)_n$
d) $(CH_2-\underset{\underset{Cl}{|}}{CH}-)_n$
e) $(NH-CO-NH-CH_2-)_n$

The correct match is

- | | | | | | | | | | |
|----|---|---|---|---|----|---|---|---|---|
| | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 |
| 1) | e | d | c | b | 2) | e | c | b | d |
| 3) | a | c | d | b | 4) | e | c | d | a |

BIOLOGY

91. Study the following table which shows different organisms with their taxonomic categories.

Common name

S.No	Common name	Family	Order	Class	Division
i.	Man	Hominidae	Primata	Mammalia	A
ii.	Housefly	Muscidae	Diptera	B	Arthropoda
iii.	Mango	C	Sapindales	Dicotyledonae	Angiospermae
iv.	Wheat	Poaceae	Poales	D	Angiospermae

Select the correct option for A, B, C and D.

A

- 1) Chordata
2) Animalia
3) Chordata
4) Non – Chordata

B

- Insecta
Arachnida
Arachnida
Insecta

C

- Anacardiaceae
Anacardiaceae
Polygonaceae
Anacardiaceae

D

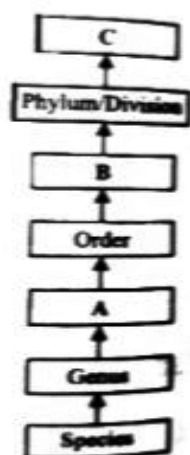
- Monocotyledonae
Monocotyledonae
Monocotyledonae
Dicotyledonae

92. A normal woman, whose father had haemophilia, married a normal man. What is the chance of occurrence of hemophilia in their children?

- 1) 25 % children will be hemophilic
2) 50% children will be hemophilic
3) 75 % children will be hemophilic
4) None hemophilic but 75 % will be carriers

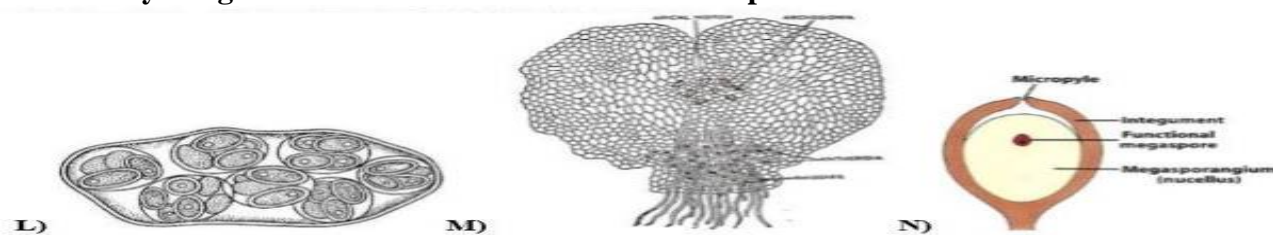
93. The given flow chart represents the hierarchy of various taxonomic categories.

Identify the missing categories (A, B and C) and select the correct statements regarding :



- i) A is the taxonomic category which contains a number of related genera.
 ii) Examples of category B are Monocotyledoneae
 iii) C represents the basic unit of taxonomic hierarchy.
 iv) Examples of category C are Fungi, Monera, Protista etc.
 1) (i) and (ii) 2) (iii) and (iv) 3) (i), (ii) and (iv) 4) (i), (ii), (iii) and (iv)
94. Read the following and arrange in an ascending order with respect to the 'number' of chromosomes to which trisomy condition is developed.
 A) Patau syndrome
 B) Edward syndrome
 C) Down syndrome
 D) Klinefelter syndrome
 1) A-B-C-D 2) A-C-B-D 3) A-D-C-B 4) A-C-D-B
95. Which of the following statements is not correct regarding the class Ascomycetes ?
 1) Conidia are the asexual spores produced endogenously on conidiophores
 2) Ascospores are the sexual spores produced endogenously in asci.
 3) Aspergillus, Neurospora and Claviceps are Ascomycetes fungi.
 4) Mycelium is generally branched and septate in Ascomycetes.
96. Erythroblastosis foetalis is caused when fertilization takes place between gametes of.
 1) Rh⁻ female and Rh⁺ male 2) Rh⁺ female and Rh⁻ male
 3) Rh⁺ female and Rh⁺ male 4) Rh⁻ female and Rh⁻ male
97. Which of the following characters represent the affinities of Gnetum with angiosperms and difference with Cycas and Pinus ?
 1) Presence of xylem vessels and absence of archegonia
 2) Perianth and two integuments
 3) Embryo development and apical meristem
 4) Absence of resin ducts and leaf venation.
98. Arrange the following structures of mammary gland in sequence, based on the passage of milk.
 a) mammary duct b) alveoli c) lactiferous duct d) mammary tubules e) mammary ampulla
 1) b, d, a, e, c 2) b, d, e, a, c
 3) b, a, e, d, c 4) b, e, d, a, c
99. Read the given statements and select the incorrect ones.
 i) Sporophyte in mosses is more elaborate than that in liverworts.
 ii) Salvinia is homosporous
 iii) Life-cycle in Cycas is diplontic
 iv) In Cycas, male cones and megasporophylls are borne on the same trees.
 1) (i) and (ii) 2) (i) and (iii)
 3) (ii) and (iv) 4) (iii) and (iv)
100. **Statement I:** Heart in fishes is described as Branchial and Venous heart
Statement II: In fishes, heart receives blood only from the gills and supplies only deoxygenated blood to the body parts.
 1) Statement I and Statement II are true and Statement II is the correct explanation of Statement I
 2) Statement I and Statement II are true and Statement II is not the correct explanation of Statement I
 3) Statement I is true, Statement II is false
 4) Statement I is false, Statement II is true

101. Identify the given structure and select the correct option.



No	L	M	N
1)	Aplanospore of Ulothrix	Prothallus (2n) of pteridophyte	Ovule of Angiosperm
2)	Palmella stage of Ulothrix	Prothallus (n) of bryophyte	Ovule of Gymnosperm
3)	Akinetes of Chlamydomonas	Sporophyte (2n) of bryophyte	Endosperm of Gymnosperm
4)	Palmella stage of Chlamydomonas	Prothallus (n) of pteridophyte	Ovule of Gymnosperm

102. Match the following.

List-I

A) Antennary glands

B) Pedipalps

C) Parapodia

D) Phasmids

E) Radula

List-II

1) *Arenicola*

2) *Astacus*

3) Acorn worm

4) *Aranea*

5) *Ancylostoma*

6) *Aplysia*

	A	B	C	D	E		A	B	C	D	E
1)	3	4	1	5	6	2)	2	4	1	3	6
3)	2	4	1	5	6	4)	2	3	6	5	1

103. Match the Column I Column II and select the correct option from the given codes.

Column I

A) Thorns

B) Phylloclades

C) Runners

D) Stilt roots

E) Haustoria

Column II

i) Vegetative propagation

ii) Defensive mechanism

iii) Mechanical support

iv) Absorption of nutrition

v) Photosynthesis

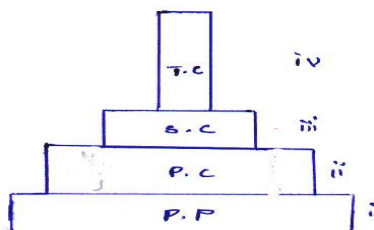
1) A-(v), B-(iv), C-(iii), D-(ii), E-(i)

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

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

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

104. Given diagram based on pyramid of energy arranged in proper sequence



1) (i) PP-809, (ii) PC-37, (iii) SC-11, (iv) TC-1.5

2) (i) PP-37, (ii) PC-809, (iii) SC-11, (iv) TC-1.5

3) (i) PP-37, (ii) PC-11, (iii) SC-809, (iv) TC-1.5

4) (i) PP-37, (ii) PC-1.5, (iii) SC-809, (iv) TC-11

105. Which of the following is an incorrect pair ?

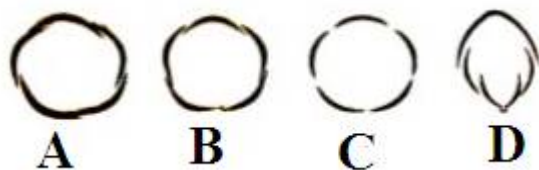
- | | |
|--------------------------|------------------------------|
| 1) Phylloclade – Opuntia | 2) Cladode - Asparagus |
| 3) Phyllode – Asparagus | 4) Stem tendrils – Grapevine |

106. Which of the following conditions tend to disturb the Hardy-Weinberg equilibrium in a population.

- a) Natural selection
b) Large size of the population
c) Differential reproductive success
d) Panmictic mating
e) Large scale migrations

- | | | | |
|--------------|---------------|--------------|-----------------|
| 1) b, d only | 2) a, c, d, e | 3) a, e only | 4) a, c, e only |
|--------------|---------------|--------------|-----------------|

107. Identify the different types of aestivation (A, B, C and D) and select the correct option.



- | A | B | C | D |
|--------------|-----------|-----------|-----------|
| 1) Valvate | Twisted | Imbricate | Vexillary |
| 2) Imbricate | Twisted | Valvate | Vexillary |
| 3) Twisted | Imbricate | Vexillary | Valvate |
| 4) Twisted | Imbricate | Valvate | Vexillary |

108. Select correct sequence of Blood Coagulation

- 1) Fibrin – Thrombokinas – Thrombin – Fibrinogen – Prothrombin – Blood clot
- 2) Prothrombin – Thrombokinas – Blood clot – Fibrinogen – Fibrin – Thrombin
- 3) Thrombin – Fibrinogen – Fibrin – Blood clot – Prothrombin - Thrombokinas
- 4) Prothrombin – Thrombokinas – Thrombin – Fibrinogen – Fibrin – Blood clot

109. Identify the missing words (A, B, C and D)

Family	Inflorescence	Flower	Stamens /tepals	Gynoecium
Fabaceae	A	B	10	Monocarpellary
Solanaceae	Solitary axillary or cymose	Actino-morphic	5	D
Lillaceae	Solitary cymose or racemose	Actino – morphic	C	Tricarpellary

- | A | B | C | D |
|-------------|---------------|-----|-----------------|
| 1) Racemose | Zygomorphic | 3+3 | Bicarpellary |
| 2) Racemose | Actinomorphic | 5 | Bicarpellary |
| 3) Cymose | Zygomorphic | 3+3 | Tricarpellary |
| 4) Cymose | Actinomorphic | 5 | Multicarpellary |

110. Match the following and select the correct set.

Column – I

- A. Mitral valve
B. Tricuspid valve
C. Semilunar valves
D. Atrioventricular node
E. Sino-atrial node

Column – II

- i. Pulmonary aorta
ii. Right upper corner of right atrium
iii. Left lower corner of right atrium
iv. Right atrioventricular opening
v. Left atrioventricular opening

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

111. Study carefully the given floral diagram and select the option which correctly represents the related floral formula.



- 1) $\oplus, \hat{\sigma}, P_{(3+3)}, A_{3+3}, \underline{G}_{(3)}$
- 2) $\oplus, \hat{\sigma}, P_6, A_6, \underline{G}_{(3)}$
- 3) $\oplus, \hat{\sigma}, P_{5+5}, A_{(5)}, \underline{G}_{(2)}$
- 4) $\oplus, \hat{\sigma}, K_{(5)}, \underline{C}_{(5)}, A_{(5)}, \underline{G}_{(2)}$

112. Pisiform bone of the wrist of a mammal is formed by the ossification in the.

- 1) Soft tissues 2) Embryonic mesoderm 3) Cartilage 4) Tendon

113. Which of the following statements are incorrect ?

- i) secondary growth usually occurs in monocotyledons
 ii) Bark refer to all tissues interior to vascular cambium
 iii) Lenticels permit the exchange of gases between the outer atmosphere and the internal tissue of the stem.
 iv) Annual rings give an estimate of the age of the tree.

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

114. Statement-I: In frog, bucco-pharyngeal cavity acts as a 'force pump' during pulmonary respiration. Statement-II: During pulmonary respiration in frog, Air is forced through the glottis into the lungs when the floor of bucco-pharyngeal cavity is lowered.

- 1) Statement-I is false, Statement-II is true
 2) Statement-I is true, Statement-II is false
 3) Statement-I and Statement-II are true and Statement-II is not the correct explanation of Statement-I
 4) Statement-I and Statement-II are true and Statement-II is the correct explanation of Statement-I

115. Which of the following statements are correct about heartwood ?

- i) It does not help in water conduction
 ii) It is also called alburnum
 iii) It is light in colour and is very soft
 iv) It has tracheary elements which are filled with tannins, resins, etc

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

116. Which of the following statement is correct?

- 1) Maximum number of nephrons in kidney are juxta-medullary type
 2) DCT of many nephrons open into Henle's loop
 3) Vasa recta may or may not present for cortical nephrons
 4) All of the above

117. Organelles with self duplicating ability are

- I) Mitochondria
 II) Ribosomes
 III) Golgi complex
 IV) Chloroplast

- 1) I, II, III and IV 2) I, II and III only
 3) I, II and IV only 4) I & IV only

118. The idea of evolution of species, which is the foundation for the biological concept of evolution was proposed by.

- | | |
|--|---|
| 1) Charles Darwin in 'Origin of species' | 2) John Ray in 'Historia Generalis Plantarum' |
| 3) Linnaeus in 'Systema Naturae' | 4) Buffon in 'Natural History' |

119. Events of Anaphase-I is/ are.

I) Centromere splits

II) Separation of Homologous chromosomes

III) Chromatids move to opposite poles

IV) Chromosomes move to opposite poles

- | | | | |
|----------|------------|-----------|-----------|
| 1) I, II | 2) II, III | 3) I, III | 4) II, IV |
|----------|------------|-----------|-----------|

120. Equation of exponential growth

- | | | | |
|--|-------------------------|-------------------------|--|
| 1) $\frac{dN}{dt} = rN \left[\frac{K - N}{K} \right]$ | 2) $\frac{dN}{dt} = rN$ | 3) $\frac{dt}{dN} = rN$ | 4) $\frac{dN}{dt} = rN \left[\frac{N - K}{N} \right]$ |
|--|-------------------------|-------------------------|--|

121. Study the following statements.

A) Occurs as free living organisms to the root ecosystem

B) Effective biocontrol agent of several plant pathogens

C) Has heterotrophic mode of nutrition

D) Plant body is undifferentiated.

The taxon with above features is developed as biocontrol agent to use in the treatment of plant diseases. Among the following identify the taxon

- | | | | |
|-----------|------------------|-------------|----------------|
| 1) Glomus | 2) Trichodesmium | 3) Bacillus | 4) Trichoderma |
|-----------|------------------|-------------|----------------|

122. Match the disorders given in column I with their feature given in column II and choose the correct option

Column – I (Disorders)

A) Uremia

B) Hematuria

C) Ketonuria

D) Glycosuria

E) Proteinuria

- | | | | | | |
|----|----------|----------|----------|----------|----------|
| | A | B | C | D | E |
| 1) | V | III | II | IV | I |
| 3) | V | III | IV | II | I |

Column – II (Feature)

I. Excess of proteins in urine

II. Presence of high ketone bodies in urine

III. Presence of blood cells in urine

IV. Presence of glucose in urine

V. Excess of urea in blood

- | | | | | | |
|----|----------|----------|----------|----------|----------|
| | A | B | C | D | E |
| 2) | IV | V | III | II | I |
| 4) | III | V | II | I | IV |

123. Study the following.

Taxon

I) Bhindi

II) Cauliflower

III) Brassica

IV) Mung bean

Crop variety

Parabhani kranthi

Pusa shubhra

Pusa Gaurav

Pusa sawani

Character developed

Powdery mildew resistance

Black rot resistance

Aphid resistance

Yellow mosaic virus resistance

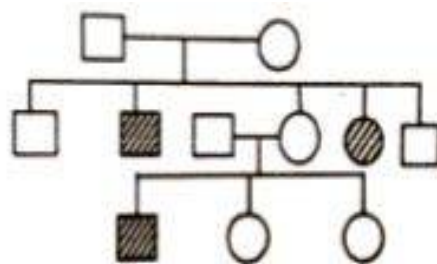
Identify the correct combinations

- | | | | |
|-------------|---------------|-------------|---------------|
| 1) I and II | 2) II and III | 3) I and IV | 4) III and IV |
|-------------|---------------|-------------|---------------|

124. Find the odd one out.

- | | |
|--|----------------------------------|
| 1) Parathyroid – Tetany | 2) Pancreas – Diabetes insipidus |
| 3) Adrenal cortex – Cushing's syndrome | 4) Thyroid - Goitre |

- 125. Following is the sequence of amino acids coded by an m-RNA. Predict the nucleotide sequence in the template of DNA that directs its synthesis. Met-Leu-Thr-Ser-Phe-Ile**
- 1) 3¹-T ACGAATGGAGGAAATAG- 5¹ 2) 5¹-TACGAATGGAGGAAATAG-3¹
 3) 3¹-AUGCUUACCUCCUUUAUC-5¹ 4) 5¹ -AUGCUUACCUCCUUUAUC-3¹
- 126. Arrange the following lungs capacities of human in the ascending order**
- A) Vital capacity of lungs B) Tidal volume
 C) Inspiratory reserve volume D) Expiratory reserve volume
 E) Total lung capacity
- 1) BACDE 2) BDACE 3) BDCAE 4) EABCD
- 127. A pure pea plant with round and yellow seeds was crossed with a pure pea plant having wrinkled and green seeds.F2 generation produced 1012plants.How many of the plants show yellow seeds approximately.**
- 1) 569 2) 189 3) 759 4) 63
- 128. Study the pedigree chart given below. What does it show?**

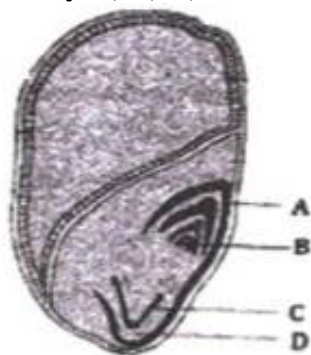


- 1) Inheritance of a condition like Phenylketonuria
 2) The pedigree chart is wrong as this is not possible
 3) Inheritance of a recessive sex- linked disease like Haemophilia
 4) Inheritance of a sex linked inborn error of metabolism like phenylketonuria
- 129. Study the following table. Hormone Nature Significance**
- I) 2, 4-Dichlorophenoxy Natural auxin Dicot-weedicide acetic acid
 II) Absciscic acid Carotenoid derivative Induction of seed dormancy
 III) Gibberellic acid Adenine derivative Delay of senescence
 IV) Ethylene Gaseous Hormone Induction of female flowers in cucumber
- Identify the CORRECT combination**
- 1) I, II 2) II, III 3) II, IV 4) I, III
- 130. Statement-I:** Nicotine present in tobacco smoke cause raise in blood pressure and increases heart beat.
Statement-II: Nicotine stimulate adrenal medulla to release Aldosterone and Cortisol
- 1) Both Statement-I and Statement-II are true and Statement-II is the correct explanation of Statement-I
 2) Both Statement-I and Statement-II are true but Statement-II is not the correct explanation of Statement-I
 3) Statement-I is true but Statement-II is false
 4) Statement-I is false but Statement-II is true
- 131. Study the following statements and identify the WRONG statement?**
- 1) Transcription is initiated when 'σ' factor binds RNA polymerase
 2) A small stretch of RNA primer is required for initiation of DNA replication
 3) Translation is terminated when release factor binds of stop codon of m-RNA
 4) Transcription of lac operon is initiated when inducer binds to operator region

132. Saheli oral contraceptive pill once in a week prevent inplation of the fertilized egg by

- | | |
|-------------------------------------|------------------------------------|
| 1) Prevents progesterone production | 2) Pramote progesterone production |
| 3) Prevent oestrogen production | 4) Pramote oestrogen production |

133. Study the following figure and identify A, B, C, D.



- | |
|---|
| 1) A-Coleoptile B-Radicle C- Plumule D- Coleorhiza |
| 2) A-Plumule B-Plumule C- Coleorhiza D- Radicle |
| 3) A-Coleoptile B- Plumule C- Radicle D- Coleorhiza |
| 4) A-Plumule B-Coleoptile C- Coleoptile D- Radicle |

134. Skeletal muscles are closely associated with the ...A.... components of the body. They have ...B.... appearance under the microscope and hence are called ... C... muscles. Choose the correct options to fill A, B and C.

- | | |
|--------------------------------------|--|
| 1) A-muscular, B-striped, C-striated | 2) A-visceral, B-striped, C-striated |
| 3) A-skeletal, B-striped, C-striated | 4) A-microfibrillar, B-striped, C-striated |

135. Identify the correct pair of combinations.

I) Chloroplast-----ATP-----oxidative phosphorylation

II) Glyoxysomes-----Glyoxylate cycle-----Convert stored lipids to carbohydrates

III) Mitochondria-----ATP-----photophosphorylation

IV) Golgi complex-----Cis and trans faces-----cell plate formation

- | | | | |
|-----------|-----------|------------|------------|
| 1) II, IV | 2) I, III | 3) II, III | 4) III, IV |
|-----------|-----------|------------|------------|

136. Choose correct combination.

- | | |
|------------------------------------|--|
| 1) Macula-Otolith organ | 2) Macula densa-afferent renal arteriole |
| 3) Macula lutea-semicircular canal | 4) Crista-Cochlea |

137. Arrange the following in descending order based on their numbers.

I) no. of chromosomes in gamete of rice

II) no. of chromosomes in a meiocyte of potato

III) Total types of Histone proteins associated with eukaryotic DNA

IV) Number of chromosomes in a meiocyte of Apple

- | | | | |
|-------------------|-------------------|-------------------|-------------------|
| 1) IV, II, I, III | 2) II, I, IV, III | 3) III, I, IV, II | 4) II, IV, I, III |
|-------------------|-------------------|-------------------|-------------------|

138. Match the following.

Scientist

- A) Alexander von Humboldt
B) Edward wilson
C) Paul Ehrlich
D) Tilman's outdoor plots

Contribution

- I) Popularised Biodiversity
II) Biodiversity & productivity
III) Species-area relationship curve
IV) Rivet proper hypothesis
V) Resource partitioning

- | | | | |
|-----------------------|------------------------|----------------------|----------------------|
| 1) A-III,B-I,C-V,D-II | 2) A-III,B-I,C-IV,D-II | 3) A-II,B-I,C-IV,D-V | 4) A-V,B-I,C-IV,D-II |
|-----------------------|------------------------|----------------------|----------------------|

139. In which of the following plant/animal highest number of chromosomes seen.

- | | | | |
|-----------------|----------|--------------|--------------|
| 1) Ophioglossum | 2) Onion | 3) Fruit fly | 4) House fly |
|-----------------|----------|--------------|--------------|

140. Find incorrect statement related to human reproductive system.

- 1) LH surge causes rupture of graafian follicle resulting in ovulation
- 2) Chorion is derived from somatopleure
- 3) Mesoderm is formed by ingression
- 4) Chorio allantoic placenta is formed in humans

- 141. Identify the correct pair of combinations.**
I) Zostera-----Long ribbon like pollen grains-----hypohydrophily
II) Opuntia-----stem succulent-----phyllode
III) Vallisneria -----Submerged rooted hydrophyte-----hypohydrophily
IV) Asparagus-----Root succulent-----Vegetable
 1) II, III 2) I, II 3) I, IV 4) III, IV
- 142. Find the mis match.**
 1) Red muscles-more myoglobin, aerobic muscles
 2) Osteoporosis-inflammation in joints due to accumulation of uric acid
 3) Muscular dystrophy-progressive wasting of muscles
 4) A-band has both thick and thin filaments
- 143. Identify the mis -match.**
 1) Both gamosepalous and gamopetalous condition___ Solanaceae
 2) Gamosepalous and poly petalous condition___Fabaceae
 3) Pentamerous, tricyclic flowers___ Liliaceae
 4) Both polysepalous and polypetalous condition___Brassicaceae
- 144. Which one of the following animals is correctly matched with its named taxonomic category ?**
 1) Whales – Cetacea , an order 2) Bears- Carnivora, the family
 3) Bats- Chiroptera, a species 4) Cats – Canis, the genus
- 145. Which of the following bacterium has both useful and harmful activities with respect to human society.**
 1) Agrobacterium tumefaciens 2) Xanthomonas oryzae
 3) Lactobacillus 4) Streptococcus pneumonia
- 146. The singing of the Bulbul bird is to**
 1) Attract the prey
 2) Communicate with its mate during breeding season
 3) To escape from the predator 4) It is a type of respiration
- 147. Pick out the incorrect expressions regarding the last reaction of EMP pathway and first reaction of Alcoholic fermentation.**
I) Both reactions occur in cytosol
II) Both reactions are catalysed by same enzyme
III) End products of both reactions contain three carbon atoms
IV) ATP is synthesised in the last reaction of EMP pathway where as CO₂ is released in the first reaction of alcoholic fermentation
 1) I, IV 2) II, III 3) Except-II 4) II, III, IV
- 148. Which of the following feature is noticeable among the living organisms of various categories when we proceed from species to kingdom ?**
 1) Increase in both similarities and differences
 2) Decrease in similarities but no changes in differences
 3) Decrease in difference but increase in similarities
 4) Decrease in similarities but increase in differences
- 149. Mismatch of the following**
 1) GAA, GAG-Glutamate 2) UGG-Tryptophan
 3) GUU, GUC, GUA, GUG-Valine 4) GCU, GCC, GCA, GCG-Proline
- 150. Match the following columns.**
- | Column – I | | | | | | Column – II | | | | | |
|--------------------|----------|----------|----------|----------|----------|--------------------|----------|----------|----------|----------|----------|
| A. Cervical | | | | | | 1. 1 | | | | | |
| B. Thoracic | | | | | | 2. 1 | | | | | |
| C. Lumbar | | | | | | 3. 5 | | | | | |
| D. Sacral | | | | | | 4. 12 | | | | | |
| E. Caudal | | | | | | 5. 7 | | | | | |
| | A | B | C | D | E | | A | B | C | D | E |
| 1) | 1 | 2 | 3 | 4 | 5 | 2) | 5 | 4 | 3 | 2 | 1 |
| 3) | 5 | 3 | 4 | 2 | 1 | 4) | 1 | 3 | 2 | 5 | 4 |

151. In incomplete dominance F₂ phenotypic ratio of pink, Red, white colour flowers.

- 1) 1: 2 : 1 2) 2: 1 : 1 3) 1: 1 : 2 4) 1: 1: 1 : 1

152. Select the correct

Interaction	Species A	Species B
-------------	-----------	-----------

- | | | |
|-----------------|---|---|
| 1) Parasitism | + | + |
| 2) Commensalism | - | - |
| 3) Amensalism | - | 0 |
| 4) Predation | + | + |

153. The correct sequence of following steps of gel electrophoresis for the separation of DNA fragments is.

I) Elution

II) Incubation of DNA on agarose gel surface

III) Exposure of DNA fragments to U.V. light

IV) Staining of DNA fragments with ethidium bromide

- 1) IV, III, II, I 2) II, IV, III, I 3) II, III, IV, I 4) I, IV, III, II

154. Path taken in the eye ball by light rays is

- 1) cornea → conjunctiva → aqueous humor → lens (through pupil) → vitreous humor → retina
 2) conjunctiva → cornea → aqueous humor → lens (through pupil) → vitreous humor → retina.
 3) conjunctiva → cornea → lens (through pupil) → aqueous humor → vitreous humor → retina
 4) conjunctiva → cornea → vitreous humor → lens (through pupil) → aqueous humor → retina

155. Identify the correct combination.

- 1) Indole compounds___ 2, 4, D___ Removal of apical dominance
 2) Tomato___ seeds contain some chemicals___ stratification
 3) Cousins___ A gaseous PGR___ Respiratory climactic
 4) Cabbage___ Annual___ Monocarpic plant

156. Many diseases can be diagnosed by observing the symptoms in the patient. Which group of symptoms are indicative of pneumonia ?

- 1) Fever chills, cough, headache
 2) Constipation, abdominal pain, cramps, blood clots
 3) Sever problems in respiration, lips finger nails many turn to grey to bluish
 4) High fever, weakness, stomach pain loss of appetite and constipation

157. Study the following lists.

List -I

A) Anaphase-I

B) Anaphase-II

C) Pachytene associated at their

D) Diakinesis

List- II

I) Splitting of the centromere

II) Recombination nodules

III) Homologous chromosomes separate, while sister chromatids centromere

IV) Chromosomes aligned on the equatorial plate

V) Nuclear envelope becomes thin and breaks down

The correct match is

- | A | B | C | D | A | B | C | D |
|--------|-----|----|----|----|-----|-----|----|
| 1) III | I | II | V | 2) | I | III | IV |
| 3) II | III | V | IV | 4) | III | V | II |

158. In a population of 1000 individuals, 360 belong to genotype AA, 480 to Aa and remaining 160 to aa. Based on this data, the frequency of allele A in the population is

- 1) 0.5 2) 0.6 3) 0.7 4) 0.4

159. How many chromosomes are present in each of the following with respect to onion plant respectively.

- a) leaf epidermal cell b) antipodal cell c) endosperm cell d) generative cell e) egg cell
 f) megaspore g) microspore mother cell

- 1) 8,16,8,8,8,16,24 2) 24,8,16,8,16,8,8 3) 16,8,8,8,16,24,8 4) 16,8,24,8,8,8,16

- 160. One of the following is the set of infective stages to erythrocytes of man in the life cycle of malarial parasite**
 1) Cryptozoite, Micrometacryptozoite, Erythrocytic merozoites
 2) Cryptozoite, Macrometacryptozoite, Sporozoites
 3) Cryptozoite, Macrometacryptozoite, Erythrocytic merozoites
 4) Macrometacryptozoites, Micro metaceryptozoite, Erythrocytic merozoites
- 161. Identify the physiological functions of two microelements of them, the former is required for the synthesis of auxin the latter for of IAA oxidase respectively.**
I) Constituent of chlorophyll molecule II) Maintenance of cell turgidity
III) Splitting of water in photosynthesis IV) Co-factor for carboxypeptidase
V) Component of methionine
The correct answer is
 1) II, V 2) IV, III 3) V, I 4) IV, II
- 162. Which of the following statements is correct ?**
 1) Homo erectus is the ancestor of man
 2) Cromagnon man's fossil has been found in Ethiopia
 3) Australopithecus is the real ancestor of modern man
 4) Closest relative of Homo sapiens is cromagnon man
- 163. Find out the incorrect pair of statements.**
I) In completely plasmolysed cell, pressure potential does not contribute to water potential
II) If a cell is placed in hypotonic solution for longer time, the cell membrane shrinks away . from its cell wall
III) Apoplastic system comprises of interconnected protoplasts
IV) Polypeptides have more imbibing capacity than polysaccharides
 1) I, IV 2) III, IV 3) II, III 4) I, II
- 164. How many of the following statement are true if the parietal cells of the mucosa of the stomach are damaged.**
I. The absorption of vitamin B₁₂ is normal
II. The proenzymes pepsinogen and prorennin are not activated
III. Acidic medium is provided to the food of the stomach
IV. The digestion of proteins is affected
 1) Only one 2) Only three 3) Only two 4) All the four
- 165. The correct sequence of the involvement of the following components in non-cyclic electron transport**
I) PC II) PQ III) Pheo IV) NADP⁺
The correct sequence is
 1) II, I, III, IV 2) III, II, I, IV 3) IV, I, II, III 4) III, II, IV, I
- 166. The function of pineal body is to**
 1) Lighten the skin colour 2) Control sexual behavior
 3) Regulate the period of puberty 4) All of these
- 167. Identify the correct pair of combination**
I) Vallisneria - Long stalked female flowers - Hypohydrophily
II) Tribulus - Ephemerals
III) Hydrilla - Submerged suspended hydrophyte - Aerenchyma
IV) Casuarina - Perennial-Succulent phylloclades
 1) III, IV 2) I, III 3) I, IV 4) II, III
- 168. The type of movement exhibited by macrophages and leucocytes**
 1) Ciliar movement 2) Amoeboid movement 3) Flagellor movement 4) Muscular movement
- 169. Which is not true for monocot stem?**
 1) Presence of conjoint, collateral and closed vascular bundles
 2) Presence of bundles sheath
 3) Presence of collenchymatous hypodermis 4) Vascular bundles scattered (Atactostele)

170. The structures associated with excretory function in cockroach are

- 1) Malpighian tubules, Fat bodies, Nephrocytes, Cuticle only
- 2) Malpighian tubules, Fat bodies, Nephrocytes, uricose glands & cuticle
- 3) Malpighian tubules, Fat bodies Nephrocytes, only
- 4) Malpighian tubules & Cuticle only

171. Tyloses are

- 1) Totipotent cells in vascular bundle
- 2) Structure that block the lumen of xylem vessels
- 3) Epidermal outgrowths that help in water loss due to transpiration
- 4) Wound healing secretions in phloem tissue

172. The best milch breed in the world is.

- 1) Chittagong
- 2) Deoni
- 3) *Holstein –Friesian*
- 4) Red sindhi

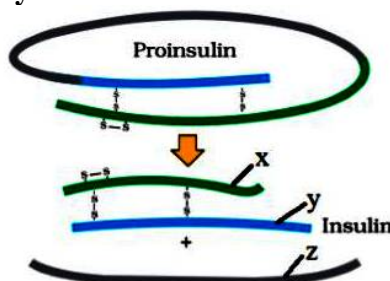
173. The use of bio resource by different organizations without proper authorizations from concerned people and without the compensatory payment is called

- 1) Bioremediation
- 2) Bio –war
- 3) Biofortification
- 4) Biopiracy

174. Mac Arthur showed that five closely related species of warblers. Living on the same tree was able to avoid competition and co – exist due to

- 1) Structural differences in their foraging activities
- 2) Physiological differences in their foraging activities
- 3) Anatomical differences in their foraging activities
- 4) Behavioral differences in their foraging activities

175. Identify the X, Y, Z respectively



- 1) A-Peptide, C-peptide, B-Peptide
- 2) B-peptide, C-peptide, A-peptide
- 3) A-peptide, B-peptide, C-peptide
- 4) B-peptide, A-peptide, C-peptide

176. Sound produced by jet planes during takeoff is around and above

- 1) Above 150 db
- 2) 30 db
- 3) 60 db
- 4) 90 db

177. Bio patents are

- a) Right to use the invention
- b) Right to use the biological entities
- c) Right to use the products
- d) Right to use the process
- 1) a, d-only
- 2) b, c only
- 3) c, d only
- 4) a, b, c and d

178. Match the following cyclical changes on the head of daphnia & corresponding seasons

Set I

- a) Appearance of projection
- b) Round head without projection
- c) Projection begins to decrease
- d) Helmet like projection of maximum size

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

Set II

- 1) Autumn
- 2) Spring
- 3) Summer
- 4) Winter

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

179. A genetically engineered micro organism used successfully in bioremediation of oil spills is a species of

- 1) Bacillus
- 2) Trichoderma
- 3) Xanthomonas
- 4) Pseudomonas

180. Match the following

List –I

- A) Bamboo
- B) Oysters
- C) Mammal
- D) Hilsa

List –II

- I) Anadromous migration
- II) Produce a large number of small sized organisms
- III) Breeds only once in its life time
- IV) Produce a small number of large sized organisms.

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