

ZOOLOGY

1. Find the in correct statement

- a) Sensilla are the units of cuticular receptors and chemoreceptors
- b) scolopidia are the subcuticular units of mechanoreceptors of chordo-tonal organs
- c) simple eyes are photoreceptors
- d) tympanal organs are present on the proximal parts of tibiae

2. The following are the parts of alimentary canal. Arrange them in a sequence from anterior to posterior region:

- a. Cloaca
- b. Oesophagus
- c. Gizzard
- d. Crop
- e. Proventriculus
- f. Small Intestine

- 1. B-D-E-C-F-A
- 2. B-E-D-C-A-F

- 3. A-F-C-E-D-B
- 4. A-C-F-E-B-D

3. Match the following

- | | |
|--|-----------------------------------|
| a) Simple squamous epithelium | i. Mucosa of stomach |
| b) Simple cuboidal epithelium | ii. Lining of stomach |
| c) Non ciliated simple columnar epithelium | iii. Endothelium of blood vessels |
| d) Ciliated simple | iv. Trachea columnar epithelium |
| e) Pseudostratified epithelium | v. Germinal epithelium |

- a. a-ii, b-iv, c-i, d-iii, e-ii
- b. a-iii, b-v, c-i, d-ii, e-iv
- c. a-iv, b-i, c-iii, d-iv, e-ii
- d. a-v, b-i, c-ii, d-iv, e-iii

2. Inner surface of fallopian tubes, brochi and bronchioles are lined by

- a. squamous epithelium
- b. ciliated epithelium
- c. pseudo stratified epithelium
- d. cubical epithelium

3. The following are the various parts of alimentary canal in pheretima

- | | | |
|------------------|---------------|-------------------------------------|
| a) grinding mill | b) rectum | c) intestine with typhlosole |
| d) suction pump | e) oesophagus | f) intestine with intestinal caecae |

- a. d-e-a-f-c-b
- b. d-a-e-f-c-b
- c. d-e-a-c-f-b
- d. a-d-e-f-c-b

4. Embryonic resemblance between Annelida and Mollusca is suggested by

- a. metameric segmentation
- b. mouth parts
- c. meroblastic cleavage
- d. similar type of segmentation and arrangement of muscles and nervous system

5. Which one of the following is not a characteristic feature of a species
- Organisms share a common gene pool
 - Organisms occupy a specific ecological niche
 - Organisms interbreed among themselves
 - Organisms mate randomly
6. Read the statements about protostomes and choose the incorrect statement(s) :
- In the pseudocoelomate worms cleavage is 'determinate'
 - In the 8 celled stage of the embryo the upper 2 blastomeres lie just above the corresponding lower blastomeres
 - In the schizocoelomate worms mouth is formed before the appearance of anus in the embryo.
 - Some of the protostomes do not show a perivisceral space
- a) i and ii b) i and iv c) iii and iv d) ii
7. Read the statements about adipose tissue and select incorrect statements
- White adipose tissue is the predominant type in adults
 - WAT - cells have many small lipid droplets
 - BAT generates considerable heat
- 1) I only 2) I and II 3) II and III 4) II only
8. The Blubber is formed by
- Elastic tissue
 - Reticular tissue
 - Adipose tissue
 - Fibrous tissue
9. To permit movements of the body, many chordates have
- Exoskeleton made of bone or cartilage
 - Endoskeleton made of bone or cartilage
 - Exoskeleton made of chitin or keratin
 - Endoskeleton made of chitin or Keratin
10. Study the following statements regarding fishes.
- They evolved during silurian period from the members of Ostracodermi
 - Devonian period is the "Golden age of fishes".
 - Most of the bony fishes are ammonotelic
 - All cartilage fishes became extinct by the end of Cretaceous period ..
- Which of the above are correct?
- 1) I, II, III 2) II, III, IV 3) I, II, IV 4) All

KEY:

1.D	2.D	3.A	4.C	5.D	6.D	7.D	8.C	9.B	10.A
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BOTANY

1. **Anamalogously placed group in Bentham_Hooke's system:**
 - a. dicot
 - b. gymnosperms
 - c. monocots
 - d. monochlamydae

2. **The ratio of locules present in the mature ovaries of Capsicum, Solanum, Allium and Dolichos respectively is:**
a)1:2:3:1 b)1:2:3:2 c)1:2:2:1 d)2:2:3:1

3. **Select the correct statements concerned with Asclepiadaceae**
 - i. **Fruit is a pair of follicle**
 - ii. **Presence of gynostegium**
 - iii. **Translators present in androecium**
 - iv. **Staminal corona present**

A. i,ii,iii,iv B. i,iii,iv only
B. ii,iii,iv only D. i,ii,iii only

4. **(A): Collenchyma is a mechanical tissue which is present in young dicot stems and leaves**
(R): It gives flexibility and tensile strength to the plant
 - a) Both (A) and (R) are true and (R) is correct explanation of (A)
 - b) Both (A) and (R) are true and (R) is not correct explanation of (A)
 - c) is true but (R) is false
 - d) Both (A) and (R) are false

5. **Choose the incorrect statement from the following:**
 - a) Life cycle is haplodiplontic in Bryophytes
 - b) Life cycle is diplo-haplontic in Mangifera
 - c) Life cycle is haplodiplontic in Rhizopus
 - d) Life cycle is haolontic in Sprogyra

6. **Vascular tissues**
 - a. **Constitute xylem and phloem**
 - b. **Absent in thallophytes and Bryophytes**
 - c. **Helps in conduction**

d. Are meristematic

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

7. (A): Many fungi are eucarpic

(R) : Only a part of the plant body becomes a reproductive structure in many fungi

- a) Both (A) and (R) are true and (R) is correct explanation of (A)
- b) Both (A) and (R) are true and (R) is not correct explanation of (A)
- c) is true but (R) is false
- d) Both (A) and (R) are false

8. T-even bacteriophages show

- I. helical symmetry**
- II. cubic symmetry**
- III. tadpole shape**
- IV. binal symmetry**

- a) I alone is correct
- b) I & IV are correct
- c) II & iv only
- d) III or IV

9. Study the following lists:

LIST I

LIST II

- | | |
|----------------------------|---------------------------------------|
| a.synthetic seeds | i.anther culture |
| b.gene cloning | ii.interspecific hybridization |
| c.haploid plants | iii.polymerase chain reaction |
| d.transgenic plants | iv.somaticembryogenesis |

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

10. What is true

- 1. Total condons formed by doublet condon=64
- 2. Total condons formed by triplet condon=61
- 3. The red pigment leg-haemoglobin prevents oxygen reaching dinitrogenase
- 4. There are 14 types of protiens in cell

KEY :

1.B	2.A	3.D	4.A	5.C	6.D	7.C	8.D	9.A	10.C
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