

## ZOOLOGY

### 1. Find the incorrect 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**

- Anamously placed group in Bentham\_Hooke's system:**
  - dicot
  - gymnosperms
  - monocots
  - monochlamydae
- The ratio of locules present in the mature ovaries of Capsicum, Solanum, Allium and Dolichos respectively is:**
  - 1:2:3:1
  - 1:2:3:2
  - 1:2:2:1
  - 2:2:3:1
- Select the correct statements concerned with Asclepiadaceae**
  - Fruit is a pair of follicle
  - Presence of gynostegium
  - Translators present in androecium
  - Staminal corona present
  - i,ii,iii,iv
  - ii,iii,iv only
  - i,iii,iv only
  - i,ii,iii only
- (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**

  - Both (A) and (R) are true and (R) is correct explanation of (A)
  - Both (A) and (R) are true and (R) is not correct explanation of (A)
  - is true but (R) is false
  - Both (A) and (R) are false
- Choose the incorrect statement from the following:**
  - Life cycle is haplodiplontic in Bryophytes
  - Life cycle is diplo-haplontic in Mangifera
  - Life cycle is haplodiplontic in Rhizopus
  - Life cycle is haolontic in Sprogyra
- Vascular tissues**
  - Constitute xylem and phloem
  - Absent in thallophytes and Bryophytes
  - 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. somatic embryogenesis

- |    | 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 proteins 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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