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(NEP—2020)

(1st Semester)

ZOOLOGY (MAJOR/MINOR)

(Non-Chordate Biology)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(SECTION : A—OBJECTIVE)

(Marks : 10)

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. Asexual reproduction in amoeba takes place through

- (a) regeneration ()
- (b) budding ()
- (c) binary fission ()
- (d) fragmentation ()

2. The micronuclei of each *Paramecium* undergo

- (a) cell differentiation ()
- (b) meiosis ()
- (c) mitosis ()
- (d) All of the above ()

3. In invertebrates, incomplete digestive system, found in a

- (a) jellyfish ()
- (b) roundworm ()
- (c) horseshoe ()
- (d) hookworm ()

4. Metamerism is also known as
 - (a) metamere segmentation ()
 - (b) metamere fragmentation ()
 - (c) metameric segmentation ()
 - (d) metameric fragmentation ()
5. Rhagon type of canal system is found in
 - (a) *Oscarella* ()
 - (b) *Spongilla* ()
 - (c) *Geodia* ()
 - (d) *Demospongiae* ()
6. In earthworm, two pairs of testes present on
 - (a) 10th and 11th segment ()
 - (b) 11th and 12th segment ()
 - (c) 12th and 13th segment ()
 - (d) 13th and 14th segment ()
7. Most polyps reproduce
 - (a) sexually ()
 - (b) asexually ()
 - (c) budding ()
 - (d) binary fission ()
8. Which is the largest coral reef in the world?
 - (a) Kingman Reef ()
 - (b) The Great Barrier Reef ()
 - (c) Lansdowne Bank ()
 - (d) Lyra Reef ()
9. Entomologists refer to the following insects as 'ametabolous', from the Greek for
 - (a) having metamorphosis ()
 - (b) complete metamorphosis ()
 - (c) incomplete metamorphosis ()
 - (d) having no metamorphosis ()
10. In *Periplaneta*, the excretion of nitrogenous wastes, which are eliminated mainly through the
 - (a) colon and anus ()
 - (b) ileum and colon ()
 - (c) ileum and anus ()
 - (d) intestine and colon ()

(SECTION : B—SHORT ANSWERS)

(Marks : 15)

Write short notes on *five* of the following, taking at least *one* from each Unit :

3×5=15

UNIT—I

1. Kappa particles
2. Flagella

UNIT—II

3. Coelom
4. Bilateral symmetry

UNIT—III

5. Corals
6. Reproduction in earthworm

UNIT—IV

7. Stone canal in *Asterias*
8. Holometabolous metamorphosis

(SECTION : C—DESCRIPTIVE)**(Marks : 50)**Answer *five* of the following questions, taking at least *one* from each Unit :

10×5=50

UNIT—I

1. Describe the process of locomotion in Protozoa. 10
2. What is *Euglena*? Write the detailed structure of *Euglena*. 2+8=10

UNIT—II

3. Write the different phyla of invertebrate with their salient features. 10
4. Define metamerism. Explain different types of metamerism with examples. 2+8=10

UNIT—III

5. Write an account on torsion and detorsion in Gastropoda. 10
6. Explain the polymorphism in Hydrozoa. 10

UNIT—IV

7. Describe the circulatory system of *Periplaneta*. 10
8. Explain the social organization of insect with special reference to termites. 10

2024

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