

B.Sc. CHEMISTRY
First Semester
ANIMAL DIVERSITY ECOLOGY & BIOTECHNOLOGY
(BSC – 102 B)

Duration: 3Hrs.

Full Marks: 70

Part-A (Objective) =20
Part-B (Descriptive) =50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins.

Marks: 50

Answer any four from Question no. 2 to 8
Question no. 1 is compulsory.

1. Write a note on aim and scope of Biotechnology. (10)
2. Describe the life cycle and pathogenicity of *Taenia solium*. (10)
3. Discuss about the polymorphism found in *Obelia*. (10)
4. Explain the respiratory mechanism of *Pila* with diagram. (10)
5. Describe the detail account of the structure of *Euglena*. Give the reasons for including it in protozoa. (8+2=10)
6. What is principle of Paper Chromatography? Explain the different types of paper Chromatography. (10)
7. Write a note on the history of ecology. Write about the different components of a grazing food chain with diagram? (5+5=10)
8. Write a note on biogeochemical cycles. Discuss the Phosphorus cycle with diagram. (5+5=10)

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Duration: 20 minutes

Marks – 20

(PART A - Objective Type)

I. Choose the correct answer:

1×20=20

1. The type of coelom found in man is-
a) Eucoelomate b) Pseudocoelom
c) Acoelom d) None of the above
2. Paramecium belongs to the sub-phylum-
a) Sporozoa b) Sarcomastigophora
c) Ciliophora d) Cnidospora
3. The characteristic features of sponges is-
a) gastrovascular cavity b) tentacles
c) hypostoma d) canal system
4. The larva of tapeworm found in pork is-
a) Cercaria b) Redia
c) Cysticercus d) Miracidium
5. Flame cells are associated with which system?
a) Digestive b) Respirative
c) Excretory d) Reproductive
6. Which class of individuals are also known as wheel animals?
a) Rotifera b) Nematoda
c) Nematophora d) Gastrotricha
7. Study of Molluscan shell is known as-
a) Conchology b) Malacology
c) Herpetology d) Entomology
8. Octopus belongs to the class-
a) Cephalopoda b) Gastropoda
c) Scaphopoda d) Pelecypoda
9. Development in Echinoderms is-
a) Direct b) Indirect
c) Completed in an intermediated host d) Retrogressive

10. Skeleton in Echinoderms is-

- a) Calcareous
- b) Chitinous
- c) Siliceous
- d) Tunicious

11. The most common type of gel used for DNA separation

- a) Agar
- b) Polyacrylamide
- c) Agarose
- d) All the above

12. The basis of the technique of chromatography for separating components of a mixture is-

- a) the deflection of charged particles in a magnetic field.
- b) the absorption of infrared radiation by the components.
- c) the interaction of components with both mobile and stationary phases.
- d) the differing movement of particles of different mass in an electric field.

13. Which of the following is used for the production of ethyl alcohol?

- a) *Saccharomyces*
- b) *Lactobacillus*
- c) *Candida*
- d) *Penicillium*

14. Biogeochemical cycles happen in-

- a) Hydrosphere
- b) Lithosphere
- c) Atmosphere
- d) All of the above

15. In a grazing food chain, the primary consumer is-

- a) Phytoplankton
- b) Grasshopper
- c) Lion
- d) Tiger

16. The ecological pyramid based on total biomass of organisms at each trophic level of the ecosystem is-

- a) Pyramid of Energy
- b) Pyramid of numbers
- c) Pyramid of Biomass
- d) All of the above

17. Mosquitoes are classified in class Insecta of Phylum-

- a) Protozoa
- b) Arthropoda
- c) Annelida
- d) Echinodermata

18. In Detritus food chain, bacteria act as-

- a) Decomposers
- b) Secondary Consumers
- c) Tertiary consumers
- d) None of the above

19. Food chains are-

- a) Unidirectional
- b) Multidirectional
- c) Network-like
- d) None of the above

20. Photoperiodism is the reaction to light and dark periods by-

- a) Plants
- b) Animals
- c) Both plants and animals
- d) Bats and Rodents
