

Roll No.

Total Pages : 3

MDE/D-23

4404

BIOLOGY OF INVERTEBRATES

Paper–M–Z–104

Time Allowed : 3 Hours]

[Maximum Marks : 80

Note : Attempt **five** questions in all, selecting **one** question from each Unit. Question No. **1** is compulsory. All questions carry equal marks.

Compulsory Question

1. Give short answers to the following questions : $8 \times 2 = 16$

- (a) Colloblast cell.
- (b) Mosaic development.
- (c) Dissogeny.
- (d) Cephalization.
- (e) Bilateral symmetry.
- (f) Flame cells.
- (g) Branchial Respiration.
- (h) Deuterostomes.

UNIT–I

2. Write notes on the following :

- (a) Concept and organization of coelom. 8
- (b) Organization of phylum Ctenophore. 8

3. Write a brief note on the following :

- (a) Metamerism in Annelids. 8
- (b) Differentiate Endoptacts with Ectoprocts. 8

UNIT–II

4. Describe in detail about patterns of feeding and digestion in lower metazoa. 16

5. Describe the following :

- (a) Tracheal Respiration. 8
- (b) Hydrostatic movement in Echinodermata. 8

UNIT–III

6. Discuss in detail about different types of Organs of excretion present in invertebrates with suitable diagrams. 16

- 7. (a) Nervous system in annelids. 8
- (b) Social life in Hymenoptera. 8

UNIT-IV

- 8. Give an account on metamorphosis in insects and hormonal control of moulting. 16
- 8. Write notes on the following :
 - (a) Larval forms of free living invertebrates. 8
 - (b) Mechanism of insect flight and hovering. 8