

S.No. of Question Paper

2278

Unique Paper Code

: 2231201

Name of the Paper

: Diversity and Evolution of Non-Chordata-II

F-4.

Name of the Course

: B.Sc. (Hons) Zoology

Semester

: II

Duration: 3Hours

Max. Marks: 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt Five questions in all including

Question No.1 which is compulsory.

Attempt various parts of a question at one place only.

Draw well-labelled diagrams wherever required.

Q.No. 1. (a) Classify the following upto classes

(i) *Sacculina*

(ii) *Octopus*

(iii) *Echinus*

(iv) *Heteronereis*

(v) *Balanus*

5

(b) Differentiate between the following pairs:

(i) Larva and nymph Male cockroach and female cockroach

(ii) Moth and butterfly Book gills and book lungs

(iii) Monopectinate and bipectinate gills

(iv) *Corpora cardiaca* and *corpora allata*

Protostomia and

Deuterostomia

8

(c) Match the following:

A

(i) Glochidium

(ii) *Neopilina*

(iii) Ink gland

(iv) Parapodium

(v) *Doliolaria* larva

(vi) Grub

(vii) ~~Nacreous layer~~ Kala ojar

(viii) ~~Cocoon~~ Tiedmann's bodies

(ix) Chelicerae

(x) Green ~~Conal~~ gland

B

a) *Nereis*

b) Excretory organ

c) Scorpion

d) *Sepia*

e) Monoplacophora

f) Holothuroidea

g) ~~Clitellum~~ *Asterias*

(In italic)

h) Beetle

i) *Unio*

j) *Pinctada* Sand fly

10

(d) Give one function of ^{each of} the following

- (i) Chloragogen Cells
- (ii) Pedicellaria
- (iii) Spiracles
- (iv) Madreporite

4

Q.No.2 (a) Describe the structure of compound eye in an ~~insect~~ ^{arthropoda}.
(b) Explain the mechanism of image formation in arthropods.

6+6

Q.No. 3. Give the general characteristics and evolutionary significance of Phylum ~~Onychophora~~ ^{Onychophora}. 12

Q.No. 4. (a) Describe the ~~three~~ different types of nephridia in earthworm.

(b) ~~Draw a neat and labelled diagram of blood vascular system in earthworm.~~ 7+5

Discuss the process of reproduction in earthworm.

Q.No. 5. Give a detailed account of larval forms of Echinodermata. 12

Q.No. 6 (a) Describe the different types of metamorphosis in insects.

(b) How does the pearl formation occur in bivalves? 8+4

Q.No.7 Write short notes on any three of the following:-

- (a) Polymorphism in Termites.
- (b) Torsion in Gastropoda
- (c.) Evolutionary significance of Trochophore larva
- (d) Control of mosquitoes.

4+4+4