



ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE-27
B.Sc. - I SEMESTER
SEMESTER EXAMINATION: OCTOBER 2019
ZO 118 – ANIMAL DIVERSITY OF NON CHORDATES

Time- 2 ½ hrs

Max Marks-70

PART A

I.

1. Platyhelminthes
2. Annelida
3. Holozoic
4. Sacculina
5. Nauplius
6. Pelecypoda
7. Echinodermata

PART B

II.

8. Gemmule- asexual reproductive bodies found in poriferans (one mark)
This is a capsule containing archeocytes which will come out during favourable conditions (one mark)
9. Euplectella, hyalonema (each example one mark)
10. Polyp is asexual and sessile (one mark) Medusa is free living and sexual (one mark)
11. Connecting link connects two adjacent taxonomic groups (one mark) ,
Peripatus , Neopilina (any one example one mark)

PART C

III.

12. A symmetry Example- Amoeba (one mark), Radial Symmetry –Aurelia (One mark), Spherical Symmetry- Sea Urchin (One mark), Bi-Radial Symmetry- Tapeworm (One mark), Bi-Lateral Symmetry-any vertebrate (one Mark)

13. Syconoid Canal System- It is formed by the out-pushing of the wall of an asconoid sponge at regular intervals into finger-like projections, called radial canals. The interior of the syconoid sponge is hollow and forms a large spongocoel which is lined by the flat epithelium derived from epidermis. The openings of the radial canals into the spongocoel are termed internal ostia. The syconoid sponges retain the radial vase form of the asconoids and the spongocoel opens to the exterior by the single terminal osculum. In sycon type of canal system, spongocoel is a narrow, non-flagellated cavity lined by pinacocytes. It opens to the exterior though an excurrent opening called osculum which is similar to that of the ascon type of canal system. (Diagram one mark, description four marks)

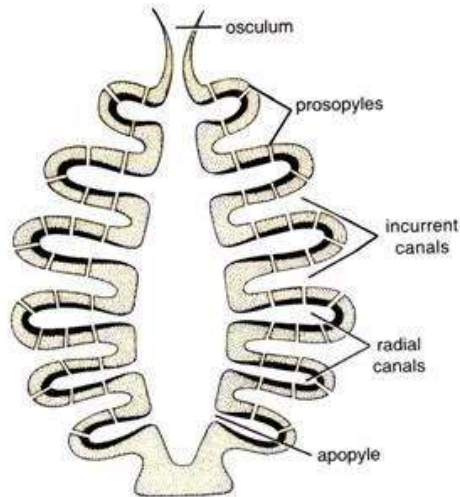


Fig. 28.2. Syconoid type of canal system. (Early stage without cortex).

14.

TURBELLARIA	TREMATODA
Mostly free living	Ecto or endoparasitic
Ciliated Epidermis	Body covered with cuticle
Eyes present	Eyes absent
Mouth is located in the middle part of the body	Mouth anterior
Ventral Sucker absent	Ventral Sucker present

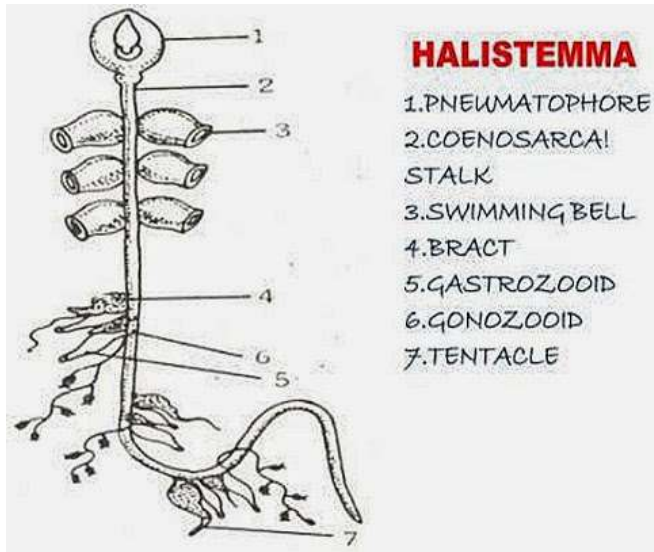
(each point one mark)

15.

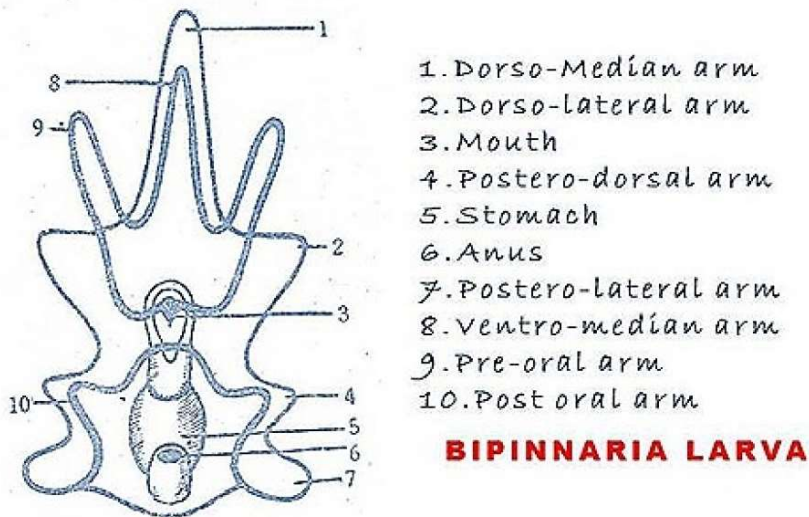
	MODE OF INFECTION	PREVENTIVE MEASURES
ASCARIS LUMBRICOIDES	Infection is direct i.e by swallowing juvenile containing eggs with food and water	Disposal of human faeces by underground sewage system, thoroughly washing of fruits and vegetables
ENTEROBIS VERMICULARIS	A juvenile hatched from the swallowed eggs inhabit small intestine ,	General sanitation and proper disposal human faeces provide

	then the worms migrate to their normal habitat.	protection from pinworm infection. Junction violet tablets taken orally is an effective remedy.
Each Example with its mode of infection and preventive measures-2 and half marks each.		

16. Members of the same species appear in more than two morphological shapes .
(Description 2 marks, diagram two marks, labelling two marks)



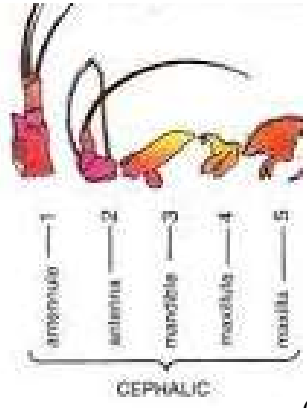
17. Larvae of star fish , resembles Trochophor larva, Tornaria larva of Hemi- chordates, it acts like a connecting link, Annelida, Mollusca, Minor Phyla.(Description two marks,Diagram two marks, labelling one mark)



18. The rotifers are a microscopic (about 100 μm to 30 μm) group of mostly aquatic organisms that get their name from the corona, a rotating, wheel-like structure that is covered with cilia at their anterior end. Although their taxonomy is currently in flux, one treatment places the rotifers in three classes: Bdelloidea, Monogononta, and Seisonidea. They are multicellular, pseudocoelmates showing close affinity with Aschelminthes, Platyhelminthes, Arthropoda, etc (Each point carries one mark)

PART D

19. Binary fission- Transverse and longitudinal – Nucleus divides first then cytoplasm. (Two marks)
Multiple fission- Nucleus gets fragmented, followed by a portion of the cytoplasm (two marks)
Plasmotomy- This happens in multinucleated protozoans, Nucleus with a portion of the cytoplasm will become a new organism (Two marks)
Regeneration- Fragmented portion of the animal becomes a new organism. (Two marks)
Budding – A small bud may become a new organism. (two marks)
20. Chaetoderma- foot groove present (One mark), Chitone- Ventral foot groove is present (one mark), In neopilina – Ventral circular foot is present (one mark), in Aplysia- parapodia present (one mark), in Pearl oyster byssus thread is present (One mark), In octopus- head is modified as foot (one mark), burrowing and boat shaped foot is present in Dentalium (one Mark), In Pila- foot is enclosed in the Operculum (one mark), In cephalopoda- 8 similar arms with suckers and two elongated arms (one mark), In Unio- hatchet foot is present (one mark).
21. A. Basal layer of pebbles, rocks with 5 cms
B. 10 cms of soil
C. 5 cms of hay
D. 4 cms of Cowdung
E. Sprinkling of water
F. Introducing earthworms
G. Covering with dry leaves
H. Keep the entire set up for two weeks
I. Mix the contents with a pole
J. Fertilizer and earth worms are collected back for the next composting. (Each point one mark)
22. Cephalic appendages of Penaeus



(Each appendage two marks)