

## MODEL ANSWERS

B.Sc. (Hon's) Biotechnology (First Semester)

Examination, 2014

LBZS-103: Lower Non-Chordates and Parasitology

---

Ans. [1]

(i)-b, (ii)-c, (iii)-d, (iv)-c, (v)-b, (vi)-d, (vii)-a, (viii)-c, (ix)-c, (x)-a.

Ans. [2] Body Cavity or Coelom: (Should be explained under the following heads)

[I] Definition of body cavity or Coelom

[II] Types of coelom: Primary and Secondary coelom.

[III] Coelomic division of Metazoa: (Should be explained with diagram)

1- Acoelomata

2- Pseudocoelomata

3- Coelomata or eucoelomata: (a) *Schizocoelomata* (b) *Mesenchymal coelomata* (c) *Enterocoelomata*.

Ans. [3] General Characters of Protozoa (atleast 12 complete characters)

Classification of phylum protozoa up to classes (atleast 1-2 characters of each with examples).

Ans. [4] Hydroid colony of *Obelia*:

[I] Morphology of colony: (should be explained under the following heads along with diagram of Hydroid colony):

1. External Features. 2. Coenosarc 3. Perisarc 4. Zooids

[II] Histology of Colony: (should be explained under the following heads along with diagram of V.S. of a hydranth of *Obelia*):

1. Epidermis. 2. Gastrodermis.

Ans. [5] Coral Reef: (meaning of corals and coral reefs)

Kinds of Coral Reefs: (following kinds must be described with diagram):

1. Fringing reefs. 2. Barrier reef. 3. Atoll

Ans. [6] Diagram of life cycle of *Plasmodium vivax*- in the diagram the following stages in man and mosquito should be clearly mentioned:

[I] Life cycle in human: 1-*Infection*, 2- *Liver schizogony*: a. pre-erythrocytic schizogony (Sporozoite- cryptozoite- cryptomerozoites) b. exo- erythrocytic schizogony (crypomerozoites- metacryptozoites- metacryptomerozoite- micrometacryptomerozoites and macrometacryptomerozoites) 3- *Erythrocytic schizogony* ( trophozoites- signet ring stage- amoeboid stage- schizont- merozoites) 4- *formation of gametocytes* (microgametocytes and mega- gametocyte) .

[II] Life cycle in Mosquito: 1- *Gametogony* (megagamete and microgamete), 2- *Fertilization* (zygote or ookinite), 3- *Oocyst*, 4- *Sporogony* (formation of sporozoites)- again infection to man.

Ans. [7] Diagram of Life cycle of *Fasciola hepatica*: (complete life cycle mentioning both primary host and secondary host along with different larval stages – miracidium larva- sporocyst larva- redia larva- cercaria larva- metacercaria larva).

Parasitic adaptations of *Fasciola*: (atleast 4 parasitic adaptations).

Ans. [8] External Morphology of Tapeworm- (should be explained under the following heads with diagram of external feature of tapeworm):

1. Shape, size and colouration 2. Segmentation, 3. Scolex, 4. Neck, 5. Strobila (Immature, Mature and Ripe or gravid proglottids).

14