

Short Answer Type Question - I

Q.1. Give the levels of organisation in animals.

Ans. The animals differ greatly in their shape and size. Their body shows different levels of organisation and body plan.

- (i) Protoplasmic Level – e.g. protozoans
- (ii) Cellular Level - e.g. sponges
- (iii) Tissue Level - e-g. coelenterates
- (iv) Organ system Level – e.g. all metazoans.

Q.2. What are the unique features of Cnidarians?

Ans. The Cnidarians have:

- (i) Tissue level of organization.
- (ii) Incomplete digestive tract surrounded by body wall.
- (iii) Cnidoblasts for defence and offence.
- (iv) Gonads without gonadoducts.
- (v) Epitheliomuscular cells.
- (vi) Network of nerve cells acting as nervous system.

(Any four)

Q.3. Write about sexual dimorphism in Aschelminthes.

Ans. Nematelminthes have distinct sexual dimorphism the female is larger than the male. The tail of male is coiled like tendril and has a pair of unequal copulatory spicules. Female has an anus while male bears cloacal aperture.

Q.4. Distinguish between the following by giving one main point: Coelenteron and spongocoel.

Ans.

S.No.	Coelenterons	Spongocoel
(i)	In Cnidarians, the body enclose coelenteron cavity, hence the name coelenterata is given to this phylum.	In sponges, the body wall encloses a large cavity called spongo-coel.
(ii)	Coelenterons has only one aperture mouth. Anus is absent. Coelenteron is lined by gastrodermis. E.g., Hydra, Aurelia, Physalia, Adamsia, Pennatula etc.	Spongocoel is lined by flagellated choanocytes. Water current enter through dermal ostia (pores) and after passing through spongocoel, water goes out by osculum. E.g., sponges like Scypha, Euplectella, Leucosolenia.

Q.5. What are the unique features of sponges? [Imp]

Ans. The sponges have pores all over the body, cellular level of organisation, a canal system for the passage of water current, choanocytes lining the main cavity (spongocoel) or certain

canal (radial canal), skeleton made up of spicules and spongin fibres and absence of mouth and digestive cavity.

Q.6. Differentiate between Annelida and Arthropoda.

Ans.

S.No.	Annelida	Arthropoda
(i)	Elongated and meta metamerically segmented body.	Body segmented. Differentiated into cephalic, thoracic and abdominal regions.
(ii)	Appendages borne on body segments.	Appendages may be segmented or jointed.
(iii)	Setae are present.	Setae are absent.
(iv)	The body wall is derm muscular.	The body wall is not derm muscular.
(v)	The body cavity is a coelom.	The body cavity is a haemocoel.
(vi)	Respiratory pigment is haemoglobin	Respiratory pigment is absent.

(Any four)

Q.7. How annelids have receptors to sense the environment?

Ans. (i) Annelids have several receptors to sense light. Light receptors occurs in clusters in polychaetes and leeches to sense light.

(ii) In earthworms, they are diffused, which can differentiate only between darkness and light.

(iii) Chemical and taste receptors are found in the fleshy lobe called prostomium.

(iv/) Touch receptors are found all over the body.

Q.8. How reproduction occurs in phylum Echinodermata?

Ans. (i) Sexes are separate with no sexual dimorphism.

(ii) Fertilization is generally external.

(iii) Development includes ciliated, bilaterally symmetrical larva, which is usually free swimming and undergoes conspicuous metamorphosis.

(iv) A few forms reproduce asexually by division.

(v) Autotomy and regeneration are very common.

Q.9. What do you understand by metameric segmentation?

Ans. Metameric segmentation is also known as true segmentation. It is a type of segmentation where external divisions corresponds to internal divisions.

(i) The body is often divided both externally and internally into a number of segments. e.g., annelids.

(ii) Segmentation is mostly external in arthropods and mainly internal in man (vertebrae, body muscles, blood vessels, nerves).

Q.10. What do you mean by metagenesis? Give one example of animal that shows metagenesis.

Ans. Certain cnidarians exhibit both body forms (polyp and medusa), exhibit alternation of generation, i.e., polyps produce medusae asexually and medusae form the polyps sexually. This phenomenon is called metagenesis. Example. *Obelia*.

Q.11. Draw a labelled diagram of hypothetical animal showing chordate characters. (KVS 2015)

Ans. Refer to Quick Review

Q.12. Point out the difference between dog fish and cat fish. [V. Imp]

Ans.

S. No.	Dog fish (Cartilaginous fish)	Cat fish (Bony fish)
(i)	It belongs to sub-class Chondrichthyes.	It belongs to sub-class Osteichthyes.
(ii)	Body is streamlined and divisible into head, trunk and tail. Mouth ventral. They are marine cartilaginous fishes. e.g., Scoliodon.	It is a bony fish and its endoskeleton is made up bones. Mouth is mostly terminal e.g., <i>Clarius</i> (magur).

Q.13. Write a short note on Kangaroo.

Ans. (i) Kangaroo is a herbivorous marsupial.

(ii) The females are smaller than the males. The former has the marsupial pouch in which the immature young ones are fed by the mother.

(iii) The young one at the time of birth is very small but can crawl to the pouch of the mother.

(iv) The long thick stout tails makes a tripod with hind limbs.