

DPP - Daily Practice Problems

Date :

Start Time :

End Time :

BIOLOGY

CB04

SYLLABUS : Animal Kingdom

Max. Marks : 180

Marking Scheme : + 4 for correct & (–1) for incorrect

Time : 60 min.

INSTRUCTIONS : This Daily Practice Problem Sheet contains 45 MCQs. For each question only one option is correct. Darken the correct circle/ bubble in the Response Grid provided on each page.

1. Classification of Porifera is based on
 - (a) branching
 - (b) spicules
 - (c) reproduction
 - (d) symmetry
2. A chordate character is
 - (a) gills
 - (b) spiracles
 - (c) postanal tail
 - (d) chitinous exoskeleton
3. Which one of the following pairs of animals comprises 'jawless fishes'?
 - (a) Mackerals and Rohu
 - (b) Lampreys and hag fishes
 - (c) Guppies and hag fishes
 - (d) Lampreys and eels
4. Leech is
 - (a) carnivorous
 - (b) sanguivorous
 - (c) ectoparasite
 - (d) Both (b) and (c)
5. Which one of the following groups of animals is bilaterally symmetrical and triploblastic?
 - (a) Aschelminthes (round worms)
 - (b) Ctenophores
 - (c) Sponges
 - (d) Coelenterates (Cnidarians)
6. Which of the following animal is cold blooded and has 4 - chambered heart?
 - (a) Salamander
 - (b) *Ornithorhynchus*
 - (c) Crocodile
 - (d) *Calotes*
7. Which one of the following is NOT a characteristic of phylum Annelida?
 - (a) Closed circulatory system
 - (b) Segmentation
 - (c) Pseudocoelom
 - (d) Ventral nerve cord

RESPONSE
GRID

- | | | | | |
|-----------------|-----------------|-----------------|-----------------|-----------------|
| 1. (a)(b)(c)(d) | 2. (a)(b)(c)(d) | 3. (a)(b)(c)(d) | 4. (a)(b)(c)(d) | 5. (a)(b)(c)(d) |
| 6. (a)(b)(c)(d) | 7. (a)(b)(c)(d) | | | |

8. Which one of the following characters is not typical of the class mammalia?
 (a) Thecodont dentition
 (b) Alveolar lungs
 (c) Ten pairs of cranial nerves
 (d) Seven cervical vertebrae
9. Which one of following feature is possessed by Crustaceans and not by insects?
 (a) Paired limbs
 (b) Two pairs of antenna
 (c) Chitinous exoskeleton
 (d) Bilateral symmetry
10. Poison glands of snake are modified
 (a) Linguals (b) Sublinguals
 (c) Maxillaries (d) Parotids
11. The adults are radially symmetrical but larvae exhibit bilateral symmetry in
 (a) Mollusca (b) Hemichordata
 (c) Echinodermata (d) Cephalochordata
12. Which one of the following categories of animals, is correctly described with no single exception in it?
 (a) All sponges are marine and have collared cells.
 (b) All mammals are viviparous and possess diaphragm for breathing.
 (c) All bony fishes have four pairs of gills and an operculum on each side.
 (d) All reptiles possess scales, have a three chambered heart and are cold blooded (poikilothermal).
13. Solenocytes and metanephridia are excretory organs of
 (a) Annelida and Arthropoda
 (b) Platyhelminthes and Annelida
 (c) Coelenterata and Mollusca
 (d) Aschelminthes and Annelida
14. Radial symmetry occurs in
 (a) Porifera and Coelenterata
 (b) Coelenterata and Echinodermata
 (c) Coelenterata and Platyhelminthes
 (d) Arthropoda and Mollusca
15. Which of the following statements is/are not true?
 (i) In Urochordata, notochord is present in larval tail.
 (ii) In Cephalochordata, notochord extends from head to tail region.
 (iii) *Branchiostoma* belongs to hemichordata.
 (iv) Only one class of living members, class Cyclostomata represents the super class agnatha
 (a) (ii) and (iv) (b) (i), (iii) and (iv)
 (c) (iii) only (d) (i) and (iv)
16. In *Amoeba* and *Paramecium* osmoregulation occurs through
 (a) pseudopodia (b) nucleus
 (c) contractile vacuole (d) general surface
17. Animals with metameric segmentation, bilateral symmetry and closed circulatory system belong to phylum
 (a) Annelida (b) Echinodermata
 (c) Arthropoda (d) Mollusca
18. Which one of the following characters is **not** typical of the class Mammalia?
 (a) Thecodont dentition
 (b) Alveolar lungs
 (c) Ten pairs of cranial nerves
 (d) Seven cervical vertebrae
19. The segments of earthworms are
 (a) Apparent in the embryo but not in the adult
 (b) Specialised for different functions and are present in endoderm only
 (c) Present in mesoderm but not in the ectoderm
 (d) Repetitive, with serial repetition of at least some organs
20. The evolution of an internal body cavity/coelom offered an advantage in animal body design in all areas, except
 (a) Evolution of efficient organ systems
 (b) Provides space within which the gonads can expand and large number of gametes stored
 (c) Circulation
 (d) Greater freedom of movement

**RESPONSE
GRID**

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|------------------|------------------|------------------|------------------|------------------|
| 8. (a)(b)(c)(d) | 9. (a)(b)(c)(d) | 10. (a)(b)(c)(d) | 11. (a)(b)(c)(d) | 12. (a)(b)(c)(d) |
| 13. (a)(b)(c)(d) | 14. (a)(b)(c)(d) | 15. (a)(b)(c)(d) | 16. (a)(b)(c)(d) | 17. (a)(b)(c)(d) |
| 18. (a)(b)(c)(d) | 19. (a)(b)(c)(d) | 20. (a)(b)(c)(d) | | |

21. Animals like bats have/are
 (a) Hollow skeleton
 (b) Feathers which are modified reptilian scales
 (c) Endothermic
 (d) Efficient respiration. Non-vascular air sacs are connected to lungs to supplement respiration
22. Which of the following is incorrect match of animal group/life style/structure/function?
- | Animal | Lifestyle | Structure/functions group |
|----------------|--|---|
| (a) Sponges | Sessile filter feeders | Amoebocytes/carry food and wastes
Spicules/support and protection
spongin / support |
| (b) Cnidarians | Free floating or attached | Gastrovascular cavity/digestion
Cnidocytes/ protection and food getting |
| (c) Flatworms | Free living or parasite | Flame cells/excretion
Tegument/ protection |
| (d) Molluscs | Terrestrial, marine, fresh water inhabitants | Radula/feeding mantle/motility |
23. Complete the following analogy : Pigeon's milk : Crop :: Song :
 (a) Syrinx (b) Trachea
 (c) Proventriculus (d) Anterior air sacs
24. Which of the following is not correct matching of phylum and its three examples?
 (a) Annelida : *Aphrodite*, *Chaetopterus*, *Bonnellia*
 (b) Mollusca : *Teredo*, *Aplysia*, *Chaetopleura*
 (c) Aschelminthes : *Ancylostoma*, *Enterobius*, *Tubifex*
 (d) Arthropoda : *Buthus*, *Lepisma*, *Leptocoris*
25. Hemichordates differ from chordates, in that hemichordates
 (a) Are gill breathers
 (b) Fertilisation is external and development is indirect
 (c) Do not possess notochord
 (d) Are bilaterally symmetrical, triploblastic and coelomate animals
26. All birds have
 (a) Oil gland at the base of tail
 (b) Feather on their body and can fly
 (c) Nests to care their babies
 (d) Internal fertilization, are oviparous and eggs are covered with calcareous shell
27. Which one of the following is a coelenterate?
 (a) Sea mouse (b) Sea anemone
 (c) Sea urchin (d) Sea cucumber
28. Presence of external ear pinna, body hairs, four chambered heart are the characters of
 (a) *Macropus* (b) *Balaenoptera*
 (c) *Psittacula* (d) *Aptenodytes*
29. Which one of the following statements about certain given animals is correct?
 (a) Round worms are pseudo-coelomates
 (b) Molluscs are acoelomates
 (c) Insects are pseudo-coelomates
 (d) Flatworms are coelomates
30. Which one of the following phyla is correctly matched with its two general characteristics?
 (a) Echinodermata – pentamerous radial symmetry and mostly internal fertilization
 (b) Mollusca – normally oviparous and development through a trochophore or veliger larva
 (c) Arthropoda – body divided into head, thorax and abdomen and respiration by mouth
 (d) Chordata – notochord persists throughout and separate anal and urinary openings to the outside
31. Amphibians share with reptiles all of the following characters expect
 (a) ventral heart
 (b) external fertilization and indirect development
 (c) dioecious, oviparous
 (d) cold blooded or poikilotherms.

**RESPONSE
GRID**

- | | | | | |
|------------------|------------------|------------------|------------------|------------------|
| 21. (a)(b)(c)(d) | 22. (a)(b)(c)(d) | 23. (a)(b)(c)(d) | 24. (a)(b)(c)(d) | 25. (a)(b)(c)(d) |
| 26. (a)(b)(c)(d) | 27. (a)(b)(c)(d) | 28. (a)(b)(c)(d) | 29. (a)(b)(c)(d) | 30. (a)(b)(c)(d) |
| 31. (a)(b)(c)(d) | | | | |

32. Which of the following statements about the body cavity of animals is true ?
 (a) The body cavity of coelomates develops from the embryonic ectoderm.
 (b) The acoelomates' body cavity is filled with liquid.
 (c) The pseudocoel of the pseudocoelomates have a peritoneum.
 (d) The acoelomates do not have an enclosed body cavity.
33. Sponges have a very simple body plan. Which of the following statements about sponge structure or function is false ?
 (a) Choanocytes are flagellated cells that play a role in feeding.
 (b) Large species are found in areas of heavy wave action, where food is most abundant.
 (c) Individual sponges are both male and female.
 (d) Water enters a sponge through pores and exits via one or more oscula.
34. Which of the following traits is not shared by the Ctenophora and the Cnidaria ?
 (a) Both are diploblastic
 (b) Both have radial symmetry
 (c) Both have complete guts.
 (d) Both have feeding tentacles.
35. Earthworm has
 (a) Two eyes (b) Many eyes
 (c) No eyes (d) One eye.
36. Which of the following statements is not true of the Rotifera ?
 (a) They have a complete gut with an anterior mouth and posterior anus.
 (b) They are coelomates
 (c) The corona is a ciliated organ used in acquiring food.
 (d) They use a hydrostatic skeleton.
37. The combination of a true coelom and repeating body segmentation allows the annelids (unlike the anatomically "simpler" worms) to do which of the following ?
 (a) Attain complex body shapes and thus locomote more precisely
 (b) Move through loose marine sediments
 (c) Be hermaphroditic
 (d) Inject paralytic poisons into their prey
38. An animal is divided along its main body axis to produce similar halves. Which of the following types of symmetry could apply ?
 (a) Spherical (b) Radial
 (c) Radial or biradial (d) Bilateral
39. Cephalization is a characteristic mainly associated with which of the following types of body symmetry in animals ?
 (a) Asymmetric (b) Radial
 (c) Biradial (d) Bilateral
40. Amphids present on ventrolateral lips of *Ascaris* are
 (a) Chemoreceptors (b) Olfactoreceptors
 (c) Tactoreceptors (d) Gustatoreceptors
41. Corals are common representatives of the cnidarian class _____.
 (a) Scyphozoa (b) Anthozoa
 (c) Porifera (d) Placozoa
42. Which of the following characteristics is unique to the phylum Cnidaria ?
 (a) Sexual reproduction
 (b) Symbiotic associations with other organisms
 (c) Sedentary body forms
 (d) Nematocysts
43. Which of the following statements is true of all flatworms ?
 (a) Flatworms are biradially symmetric
 (b) Flatworms have a complete digestive system
 (c) Flatworms tend to have large, thickened bodies
 (d) Flatworms are triploblastic
44. Which of the following structures is absent from a typical gastropod mollusk (e.g., a garden snail) ?
 (a) Protective shell (b) Head
 (c) Radula (d) None of these
45. Which two of the following are found in the mesophyll or protein matrix and serve as structural support for a sponge ?
 (a) spicule, spongin (b) osculum, spicule
 (c) medusa, polyp (d) polyp, osculum

**RESPONSE
GRID**

32. (a)(b)(c)(d) 33. (a)(b)(c)(d) 34. (a)(b)(c)(d) 35. (a)(b)(c)(d) 36. (a)(b)(c)(d)
 37. (a)(b)(c)(d) 38. (a)(b)(c)(d) 39. (a)(b)(c)(d) 40. (a)(b)(c)(d) 41. (a)(b)(c)(d)
 42. (a)(b)(c)(d) 43. (a)(b)(c)(d) 44. (a)(b)(c)(d) 45. (a)(b)(c)(d)

DAILY PRACTICE PROBLEM DPP CHAPTERWISE 4 - BIOLOGY

Total Questions	45	Total Marks	180
Attempted		Correct	
Incorrect		Net Score	
Cut-off Score	40	Qualifying Score	65
Success Gap = Net Score – Qualifying Score			
Net Score = (Correct × 4) – (Incorrect × 1)			

HINTS & SOLUTIONS

DPP/CB04

1. (b) The terms Porifera was given by Grant, the phylum includes animals with pores in their body. Its classification based on skeleton or spicules.
2. (c) Chordates are featured by the presence of the following characters : Notochord (cephalic or head region), Pharyngeal gill slits, Postanal tail.
3. (b) Lampreys and hagfishes are unusual, jawless fish that comprise the order Cyclostomata, so named because of the circular shape of the mouth.
4. (d)
5. (a) Aschelminthes is bilaterally symmetrical and triploblastic. These are mostly aquatic, free living or parasitic. Their body is three layered which is ectoderm, mesoderm and endoderm.
6. (c)
7. (c) Characteristic of phylum-Annelida is pseudocoelomate. Pseudocoelomate is any invertebrate animal whose body cavity is a pseudocoel, a cavity between the gut and the outer body wall derived from a persistent blastocoel, rather than a true coelom. Pseudocoelomate animals include the Rotifera and Nematoda.
8. (c) Mammals have 12 pairs of cranial nerves.
9. (b)
10. (d) Poison glands of snake are modified parotid salivary gland.
11. (c)
12. (a) All sponges are marine and have collared cells without any exception. Sponges are animals of the phylum Porifera. They are multicellular organisms which have bodies full of pores and channels allowing water to circulate through them, consisting of jelly-like substance sandwiched between two thin layers of cells.
13. (b)
14. (b) 15. (c) 16. (c) 17. (a)
18. (c)
19. (d) Annelids are first to evolve true metameric segmentation. They are present in embryo as well as in adults. They are present both in ectoderm as well as in mesoderm and are repetitive.
20. (c) Presence of coelom poses a problem for circulation of oxygen and nutrients.
21. (c) Birds belong to class Aves. Bats belong to class Mammalia. Both are warm blooded, endothermic and maintain a constant body temperature. Non-vascular air sacs connected to lungs to supplement respiration are present only in birds not bats.
22. (d) In the molluscs mantle is a loose fold of skin, not concerned with locomotion.
23. (a) In birds syrinx is the sound box.
24. (c) *Tubifex* is blood worm, it is an annelid.
25. (c) In all chordates notochord is present at some stage of embryonic development. Hemichordates do not possess notochord; instead of this they possess stomochord, ectodermal in origin.
26. (d) Birds have internal fertilization.
27. (b) *Adamsia* – Sea anemone (coelenterate)
28. (a) In whales, *Balaenoptera* external ear pinna is absent.
29. (a) A body cavity can mean any internal space, or a series of spaces present inside body, whereas coelom or true body cavity generally refers to a large fluid-filled space (cavity) lying between the outer body wall and the inner digestive tube. In acoelomates, no body cavity or coelom is present. Embryonic mesoderm remains as a solid layer, space between endoderm (gut wall) and ectoderm (body wall) is filled with mesenchyme and muscle fibres. In pseudocoelomates, body space is a pseudocoelom or false coelom. In coelomates or eucoelomates, body space is a true coelom, enclosed by mesoderm on both sides. Aschelminthes are pseudocoelomates. Molluscs and insects are coelomates while flatworms are acoelomates.
30. (b) Mollusca is normally oviparous and its development may be direct or indirect. If development is indirect then it occurs through trochophore or veliger larva. Echinoderms show bilateral symmetry in larvae but pentamerous radial symmetry adult. Fertilization is external. In arthropods, body is divided into head, thorax and abdomen. Respiratory organs consists of book gills, book lungs and tracheae. Notochord is present in chordates at some stage of their lives. Urinary and anal openings, may or may not be separate.
31. (b) In reptiles, fertilization is internal and development is direct.

- 32. (d) The body cavity of coelomates develops from the mesoderm and contains a peritoneum. The acoelomates lack a body cavity.
- 33. (b) Because they are not structurally robust, heavy wave action would destroy large, upright sponges.
- 34. (c) The Ctenophora have evolved a complete gut with a mouth and two anal pores.
- 35. (c) There are no eyes but photoreceptors do occur on prostomium and dorsal epidermis. They have been, of course, called "ocelli of earthworm".
- 36. (b) The phylum Rotifera are pseudocoelomates and have a pseudocoel.
- 37. (a) The segmentation of the annelids allows for more complex coordinated movement.
- 38. (c) Similar body halves could be obtained with either radial or biradial symmetry. Spherical symmetry has no main body axis along which to cut, and bilateral symmetry produces mirror-image halves.
- 39. (d) Bilateral animals tend to move through the environment. cephalization is important in the control and coordination of this locomotion.
- 40. (b) Olfactory chemoreceptors means olfactoreceptors.
- 41. (d) Corals and sea anemones are members of the cnidarian class Anthozoa.
- 42. (d) Nematocysts, the stinging cells found in cnidocytes, are the only item in this list that the cnidarians possess exclusively.
- 43. (d) Flatworms are bilaterally symmetrical and triploblastic animals.
- 44. (d) A garden snail possesses all of these structures.
- 45. (a) Medusa and polyp are two types of body shapes of Cnidaria, which includes jellyfish, sea anemones, corals and hydrozoans. Medusa has an umbrella shape. Polyp is umbrella in shape also but inverted. Both medusae and polyps have gastrovascular cavities, tentacles and a mouth. Spongin is a protein found in the inside layer of a sponge. it helps in its structural support.