

ZOOLOGY

Animal Kingdom

DPP- 01

Structural Organization In Animals (Frog)

Biomolecules

- Q1** Read the given characters.
- I. Extracellular and intracellular digestion
 - II. Exclusively marine, radially symmetrical, diploblastic, tissue level of organisation
 - III. Bisexual, fertilisation external and indirect development
 - IV. No asexual reproduction
 - V. Presence of comb plates
- The characters given above are shown by which phyla?
- (A) Cnidaria
(B) Porifera
(C) Ctenophora
(D) Platyhelminthes
- Q2** Commercial pearl is formed by;
- (A) Oyster (B) Octopus
(C) Chiton (D) Squid
- Q3** Choanocytes perform
- (A) nutrition
(B) excretion
(C) reproduction
(D) secretion of spicules
- Q4** Identify the vertebrate group of animals characterized by crop and gizzard in its digestive system:
- (A) Amphibia (B) Reptilia
(C) Aves (D) Osteichthyes
- Q5** Refer the following animals and identify those with true coelom.
- A. Sycon
B. Butterfly
C. Nereis
D. Seafan
E. Scorpion
F. Pila
- (A) A and C only
(B) B and D only
(C) B, C, E and F only
(D) D, E and F only
- Q6** ___A___ and ___B___ type of circulatory system is present in fishes.
- (A) A- open, B- single
(B) A- open, B- double
(C) A- closed, B- single
(D) A- closed, B- double
- Q7** Choose the correct combination
- (A) Annelida and Porifera - Phyla
(B) Oligochaeta and Arthropoda - Phyla
(C) Mollusca and Hydrozoa - Classes
(D) Aves and Chordata - Classes



Q8 Given below are two statements.

Statement I: Echinodermata are pseudocoelomates.

Statement II: Aves has constant body temperature.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (A) Statement I is correct, but Statement II is incorrect
- (B) Statement I is incorrect, but Statement II is correct
- (C) Both Statement I and Statement II are correct
- (D) Both Statement I and Statement II are incorrect

Q9 Which one of the following kinds of animals are triploblastic ?

- (A) Flatworms
- (B) Sponges
- (C) Ctenophores
- (D) Corals

Q10 The figure given below is the characteristic structure of the phylum in which animals are aquatic, free swimming or sessile, mostly marine, radially symmetrical. Identify the phylum and correct function of the structure.



- (A) Ctenophora; Emission of light.
- (B) Porifera; Feeding, respiration and excretion.
- (C) Cnidarian; Anchorage, Defense and food capturing
- (D) Mollusca; Locomotion, transport of food and respiration.

Q11 Protochordates are considered a connecting link between

- (A) invertebrates and vertebrates
- (B) vertebrates and chordates
- (C) invertebrates and chordates
- (D) hemichordates and cephalochordates

Q12 Cyclostomata bears

- (A) 6-15 pairs of gill slits
- (B) 4 pairs of gill slits
- (C) 2 pairs of gill slits
- (D) 8-16 pairs of gill slits

Q13 Which of the following structures protects the eyes of the frog in water?

- (A) Nictitating membrane
- (B) Tympanum
- (C) Bidder's canal
- (D) Sensory papillae



- Q14** Which sense organ in frogs plays a role in both hearing and balancing (equilibrium), and how does it function?
- (A) The eyes are responsible for both hearing and equilibrium, detecting sound vibrations in the water.
 - (B) The nose is responsible for both hearing and equilibrium, with specialized receptors for detecting auditory signals.
 - (C) The tympanum serves as the organ of hearing and equilibrium, detecting sound waves and vibrations in the air.
 - (D) The skin plays a role in both hearing and equilibrium by detecting changes in temperature and air pressure.

- Q15** Given below are two statements:
- Statement I:** External ears are present in frogs
- Statement II:** The ear is an organ of hearing and balancing in frogs.
- In the light of the above statements, choose the *most appropriate* answer from the options given below:
- (A) Statement I and Statement II both are correct
 - (B) Statement I is correct but Statement II is incorrect
 - (C) Statement I is incorrect but Statement II is correct
 - (D) Statement I and Statement II both are incorrect

- Q16** Frogs differ from humans in possessing
- (A) Paired cerebral hemispheres
 - (B) Hepatic portal system
 - (C) Nucleated red blood cells
 - (D) Thyroid as well as parathyroid

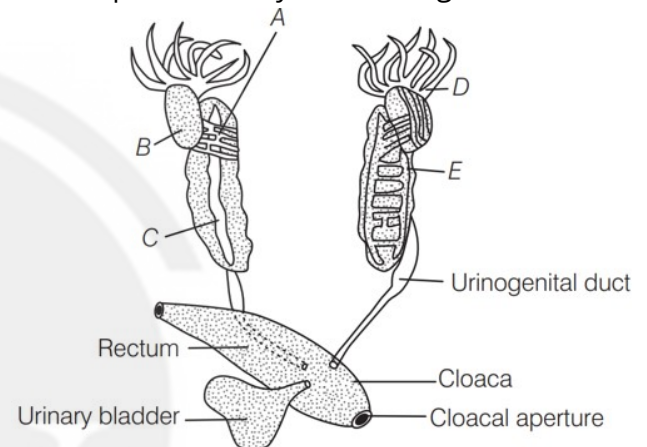
- Q17** In frog, excess of the bile juice secreted by the liver is stored in
- (A) intestine
 - (B) pancreas
 - (C) gall bladder
 - (D) rectum

- Q18** Consider the following parts:
- I. Pons
 - II. Cerebellum
 - III. Cerebral hemispheres
 - IV. Medulla oblongata

Hindbrain of frog includes:

- (A) I, II, III and IV
- (B) Only I, II and III
- (C) Only II and IV
- (D) Only II, III and IV

- Q19** Identify A, B, C and D in the given figure of male reproductive system of frog.



- (A) A-Fat bodies, B-Testis, C-Ureters, D-Vasa efferentia, E-Kidney
- (B) A-Nephrons, B-Testis, C-Ureters, D-Villi, E-Kidney
- (C) A-Vasa efferentia, B-Testis, C-Adrenal gland, D-Fat bodies, E-Kidney
- (D) A-Mesorchium, B-Testis, C-Adrenal gland, D-Fat bodies, E-Kidney

- Q20** The essential chemical components of many coenzymes are
- (A) carbohydrates
 - (B) vitamins
 - (C) proteins
 - (D) nucleic acids.

- Q21** GLUT- IV belongs to the similar category of biomolecules as
- (A) Inulin
 - (B) Glycogen
 - (C) Antibody
 - (D) Chitin



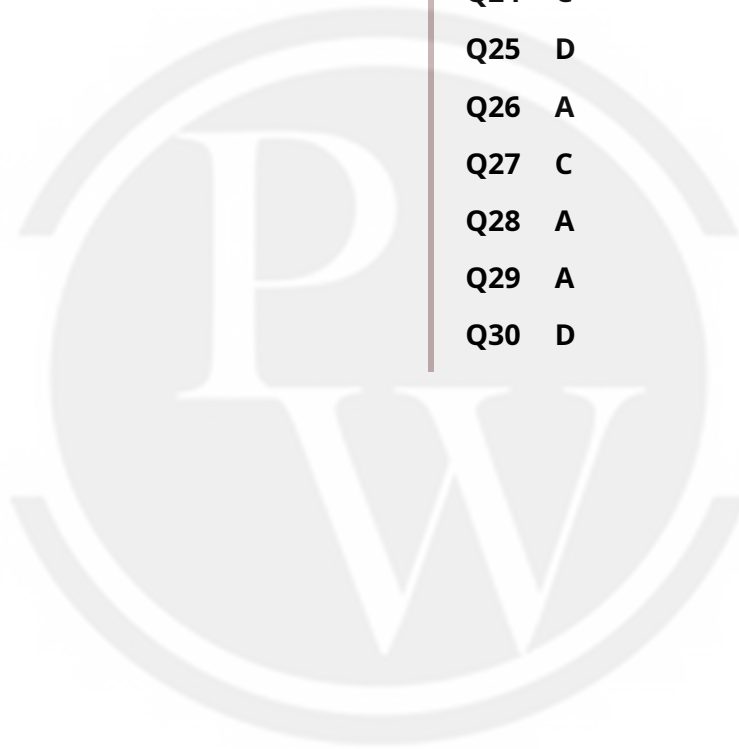
- Q22** Which of the following pairs is correctly matched?
 (A) RNA - Double-stranded
 (B) DNA - Contains uracil
 (C) Enzymes - Biocatalysts
 (D) Lipids - Polymers of amino acids
- Q23** In which of the following groups, all the three are examples of polysaccharides?
 (A) Starch, glycogen, cellulose
 (B) Sucrose, maltose, glucose
 (C) Glucose, fructose, lactose
 (D) Galactose, starch, sucrose
- Q24** Peptide bond is formed between $-NH_2$ and $-COOH$ group of adjacent amino acids with formation of Abond andB.....release of a water molecule.
 (A) Ester With
 (B) Ester Without
 (C) Amide With
 (D) Amide Without
- Q25** Which of the following is not a polymeric substance?
 (A) Nucleic acid
 (B) Proteins
 (C) Polysaccharides
 (D) Lipids
- Q26** Choose the **correct** option.
 (A) Pigments - Carotenoids, anthocyanins
 (B) Alkaloids - Monoterpenes
 (C) Toxins - Morphine
 (D) Polymeric substances - Ricin
- Q27** 98% of living organism is formed of six elements - carbon, hydrogen, oxygen, nitrogen and...
 (A) S and Mg (B) Mg and Ba
 (C) Ca and P (D) P and S
- Q28** What are the four types of organic compounds found in the acid-insoluble fraction?
 (A) Proteins, lipids, nucleic acids and polysaccharides
 (B) Proteins, vitamins, nucleic acids and monosaccharides
 (C) Proteins, carbohydrates, nucleotides and hormones
 (D) Lipids, amino acids, water and minerals
- Q29** A competitive inhibitor competes with the substrate for the substrate binding site of enzyme due to its
 (A) structural similarity with substrate
 (B) molecular weight similarity with substrate
 (C) larger size than that of substrate
 (D) All of the above
- Q30** The length of the alimentary canal in frog is;
 (A) long because frogs are herbivorous.
 (B) short because frogs are herbivorous.
 (C) long because frogs are carnivorous.
 (D) short because frogs are carnivorous



Answer Key

Q1 C
Q2 A
Q3 A
Q4 C
Q5 C
Q6 C
Q7 A
Q8 B
Q9 A
Q10 C
Q11 A
Q12 A
Q13 A
Q14 C
Q15 C

Q16 C
Q17 C
Q18 C
Q19 C
Q20 B
Q21 C
Q22 C
Q23 A
Q24 C
Q25 D
Q26 A
Q27 C
Q28 A
Q29 A
Q30 D



Hints & Solutions

Note: scan the QR code to watch video solution

Q1 Text Solution:

- Ctenophores are exclusively marine, radially symmetrical, diploblastic organisms with tissue level of organisation.
- Digestion is both extracellular and intracellular.
- Sexes are not separate.
- Reproduction takes place only by sexual means.
- Fertilisation is external with indirect development.

Video Solution:



Q2 Text Solution:

Commercial pearls are formed by **oysters**, especially species like *Pinctada* (pearl oyster), which belong to the phylum Mollusca.

Video Solution:



Q3 Text Solution:

Digestion in sponges is intracellular like protozoans. It takes place in choanocytes.

Video Solution:



Q4 Text Solution:

Aves

Video Solution:



Q5 Text Solution:

Butterfly, Nereis, Scorpion and Pila have a true coelom.

Video Solution:



Q6 Text Solution:

Closed and single type of circulatory system is present in fishes.

Video Solution:



Q7 Text Solution:

Annelida and Porifera are the two phyla of non-chordata (Invertebrates)

Video Solution:**Q8 Text Solution:**

Echinodermata are coelomates. Aves has constant body temperature, i.e, homothermic.

Video Solution:**Q9 Text Solution:**

Triploblastic is a condition which describes an animal having a body composed of three embryonic germ layers : the ectoderm, mesoderm and endoderm. Most multicellular animals belonging to phylum platyhelminthes to phylum chordata are triploblastic. Ctenophores, sponges and corals are diploblastic.

Video Solution:**Q10 Text Solution:**

Cnidarian; Anchorage, Defense and food capturing

Video Solution:**Q11 Text Solution:**

Protochordates (Urochordata and Cephalochordata) share characteristics of both **invertebrates and vertebrates**, making them a connecting link between the two.

Video Solution:**Q12 Text Solution:**

All living members of the class Cyclostomata are ectoparasites on some fishes. They have an elongated body bearing 6-15 pairs of gill slits for respiration.

Video Solution:

Q13 Text Solution:

- The nictitating membrane protects the eyes of the frog in water.
- The tympanum is the ear of the frog.
- Bidder's canal is a part of the male reproductive system of frogs.
- In frogs, sensory papillae are the organs of touch.

Video Solution:**Q14 Text Solution:**

The tympanum in frogs is responsible for both hearing and equilibrium. It functions by detecting sound waves and vibrations in the air, allowing frogs to perceive auditory cues and maintain balance.

Video Solution:**Q15 Text Solution:**

External ear is absent in frogs and only tympanum can be seen externally. The ear is an organ of hearing as well as balancing (equilibrium).

Video Solution:**Q16 Text Solution:**

Nucleated red blood cells

Video Solution:**Q17 Text Solution:**

A small spherical gall bladder lies between the two main lobes of the liver. It stores the bile juice secreted by the liver before releasing it into the duodenum.

Video Solution:**Q18 Text Solution:**

Hindbrain of frog includes Cerebellum and Medulla Oblongata

Video Solution:**Q19 Text Solution:**

A–Vasa efferentia, B–Testis, C–Adrenal gland, D–Fat bodies, E–Kidney

Video Solution:

Q20 Text Solution:

Coenzyme is the non protein organic group which gets attached to the apoenzyme to form holoenzyme or conjugate enzyme. It helps in removing a product of chemical reaction besides bringing contact between the substrate and the enzyme. Most of the coenzymes are made of water soluble vitamins B and C, e.g., thiamine, riboflavin, nicotinamide, pyridoxine.

Video Solution:



Q21 Text Solution:

- Inulin, glycogen and chitin are homopolysaccharides while GLUT-4 and antibody belong to the category of proteins.
- GLUT-4 enables glucose transport into the cells while antibody fights infectious agents.

Video Solution:



Q22 Text Solution:

Enzymes - Biocatalysts

Video Solution:



Q23 Text Solution:

Starch, glycogen, cellulose

Video Solution:



Q24 Text Solution:

Amide With

Video Solution:



Q25 Text Solution:

Lipids

Video Solution:



Q26 Text Solution:

Monoterpenes are Terpenoides, Morphine is an Alkaloid, and Ricin is a Toxin.

Video Solution:



Q27 Text Solution:

Ca and P

Video Solution:**Q28 Text Solution:**

The acid-insoluble fraction contains proteins, nucleic acids, polysaccharides, and lipids.

Video Solution:**Q29 Text Solution:**

structural similarity with substrate

Video Solution:**Q30 Text Solution:**

short because frogs are carnivorous

Video Solution:

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