

**SSR DEGREE COLLEGE (AUTONOMOUS) NIZAMABAD**  
**Zoology Internal -2**  
**Year – 1 semester-2**  
**question bank**

1. What is the main function of the lateral line system in fish?

- a) To detect light
- b) To detect sound waves
- c) To detect vibrations in water
- d) To detect chemical cues

Answer: c) To detect vibrations in water

2. Which part of the fish brain is responsible for processing sensory information from the lateral line system?

- a) Forebrain
- b) Midbrain
- c) Hindbrain
- d) Cerebellum

Answer: c) Hindbrain

3. What is the main function of the spinal cord in reptiles?

- a) To control voluntary movements
- b) To transmit sensory information to the brain
- c) To coordinate reflexes
- d) All of the above

Answer: d) All of the above

4. Which type of reflex is mediated by the spinal cord in reptiles?

- a) Voluntary movement
- b) Autonomic reflex
- c) Withdrawal reflex

d) Stretch reflex

Answer: c) Withdrawal reflex

5. What is the function of the lateral line organs in fish and some amphibians?

a) To detect light

b) To detect sound waves

c) To detect vibrations in water

d) To detect chemical cues

Answer: c) To detect vibrations in water

6. Which sensory organ is responsible for detecting sound waves ?

a) Eye

b) Ear

c) Nose

d) Tongue

Answer: b) Ear

7. What is the function of the olfactory receptors in the nose?

a) To detect light

b) To detect sound waves

c) To detect chemical cues

d) To detect pressure

Answer: c) To detect chemical cues

8. Which sensory organ is responsible for maintaining balance and equilibrium ?

a) Ear

b) Eye

c) Nose

d) Skin

Answer: a) Ear

9. What is the process called when a fertilized egg divides to form a hollow ball of cells?

- a) Gastrulation
- b) Cleavage
- c) Blastulation
- d) Organogenesis

Answer: c) Blastulation

10. Which embryonic layer gives rise to the nervous system and skin?

- a) Mesoderm
- b) Endoderm
- c) Ectoderm
- d) All of the above

Answer: c) Ectoderm

11. What is the process called when the three primary germ layers are formed?

- a) Gastrulation
- b) Cleavage
- c) Morphogenesis
- d) Differentiation

Answer: a) Gastrulation

12. Which structure provides nutrients to the developing embryo in mammals?

- a) Yolk sac
- b) Placenta
- c) Allantois
- d) Amnion

Answer: b) placenta

13. What type of cleavage is characterized by a complete division of the egg into blastomeres?

- a) Holoblastic
- b) Meroblastic

- c) Telolecithal
- d) Centrolecithal

Answer: a) Holoblastic

14. Which type of cleavage is seen in eggs with a large amount of yolk?

- a) Holoblastic
- b) Meroblastic
- c) Radial cleavage
- d) Spiral cleavage

Answer: b) Meroblastic

15. What type of cleavage is characteristic of mammalian eggs?

- a) Holoblastic
- b) Meroblastic
- c) Telolecithal
- d) Centrolecithal

Answer: a) Holoblastic

16. Which type of cleavage results in blastomeres of equal size?

- a) Holoblastic equal
- b) Holoblastic unequal
- c) Meroblastic
- d) Telolecithal

Answer: a) Holoblastic equal

17. What is the concept that describes the similarity in embryonic development among different species?

- a) Phylogenetic conservation
- b) Developmental homology
- c) Evolutionary convergence
- d) Genetic drift

Answer: b) Developmental homology

18. Which of the following is an example of a highly conserved developmental gene across different species?

- a) Hox gene
- b) P53 gene
- c) Insulin gene
- d) Hemoglobin gen

Answer:a) Hox gene

19.What is the process by which a single developmental gene can have different effects on different traits or species?

- a) Gene duplication
- b) Gene co-option
- c) Gene regulation
- d) Gene expression

Answer: b) Gene co-option

20. Which of the following is a key principle of evo-devo?

- a) Evolution occurs through changes in adult morphology
- b) Development is a fixed process that cannot evolve
- c) Changes in developmental processes
- d) Evolution is driven solely by genetic drift

Answer:c) Changes in developmental processes

Fill in the blanks

1. \_\_\_\_\_ number of air sacs present in birds

Answer: 9

2. The network of Autonomic nervous system called \_\_\_\_\_

Answer: myenteric plexus

3. Gills are made up of \_\_\_\_\_

Answer: gill filaments

4. swim bladder is absent in \_\_\_\_\_

Answer: elasmobranch

5. In mammals, the heart has \_\_\_\_\_ chambers.

Answer: four

6. The blood vessels that carry oxygenated blood from the lungs to the heart are called \_\_\_\_\_.

Answer: pulmonary veins

7. The blood vessels that carry deoxygenated blood from the body to the heart are called \_\_\_\_\_.

Answer: vena cava

8. Fish have a \_\_\_\_\_-chambered heart.

Answer: two

9. In fish, the gills are responsible for exchanging \_\_\_\_\_ and carbon dioxide.

Answer: oxygen

10. Fish have a \_\_\_\_\_ circulatory system

Answer: single

11. Spermatogenesis is the process by which \_\_\_\_\_ cells develop into sperm cells.

Answer: spermatogonia

12. Oogenesis is the process by which \_\_\_\_\_ cells develop into egg cells.

Answer: oögonia

13. During spermatogenesis, a spermatogonium undergoes \_\_\_\_\_

Answer: mitosis

14. In oogenesis, the primary oocyte undergoes \_\_\_\_\_ to produce

Answer: meiosis I

15. The process of gamete formation in males is called \_\_\_\_\_.

Answer: spermatogenesis

16. The process of gamete formation in females is called \_\_\_\_\_.

Answer: oogenesis

17. Holoblastic cleavage is characterized by a \_\_\_\_\_ division of the entire egg.

Answer: complete

18. Meroblastic cleavage is characterized by a \_\_\_\_\_ division

Answer: partial

19. In holoblastic cleavage, the entire egg undergoes \_\_\_\_\_ division.

Answer: complete

20. The type of cleavage that occurs in mammalian eggs is \_\_\_\_\_ cleavage.

Answer: holoblastic

21. The type of cleavage that occurs in bird eggs is \_\_\_\_\_ cleavage.

Answer: meroblastic

Answer the following questions

1. compare the olfactory organs of vertebrates
2. write an essay on the spinal nerves in vertebrates
3. Placenta in mammals
4. describe the oogenesis in mammals
5. Write an essay on fertilization