

March 2024
Exam

SU-278

Total No. of Pages : 02

Seat No.	
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B.Sc. (Part-III) Semester-VI (CBCS)

Examination, March 2024.

ZOOLOGY (Paper-XIII)

Developmental Biology of Vertebrates

Sub. Code : 81686

Day and Date: Tuesday, 26-03-2024

Total Marks: 40

Time: 02.30 p.m. to 04.30 p.m.

- Instructions:**
- 1) All questions are compulsory.
 - 2) Figures to the right indicate full marks.
 - 3) Draw neat and labelled diagrams wherever necessary.

Q.1 Select the correct alternative and rewrite the sentence. (8)

- 1) The remarkable process of differentiation of spermatid into a spermatozoon is called
(A) Gametogenesis (B) Spermatogenesis
(C) Oogenesis (D) Spermiogenesis
- 2) The chemical attraction between Male and Female gametes is called
(A) fertilization (B) chemotaxis
(C) amphimixis (D) Both (B) and (C)
- 3) The cleavage in which entire egg is completely divided into distinct blastomeres is called
(A) radial (B) meroblastic
(C) holoblastic (D) spiral
- 4) The hours chick embryo looks like mirror image of question mark.
(A) 21 (B) 22
(C) 42 (D) 72

- 5) The forms a sac that is filled with fluid in which the embryo floats and provides a shock absorbing environment.
 ✗ (A) amnion (B) allantois (C) chorion (D) yolk sac
- 6) In chick, skeleton develops from embryonic germ layer.
 ✗ (A) ectoderm (B) mesoderm (C) endoderm (D) None of these
- 7) is not an extraembryonic membrane.
 ✗ (A) Chorion (B) Amnion (C) Placenta (D) Yolk sac
- 8) ✓ The middle piece of the sperm contains
 (A) proteins (B) mitochondria (C) centriole (D) nucleus

Q.2 Attempt ANY TWO of the following.

(16)

- 1) Define fertilization. Explain the types and process of fertilization. 6
- 2) Define gastrulation. Describe the process of gastrulation in frog.
- 3) What is foetal membrane? Describe their formation and functions in chick.

Q.3 Attempt ANY FOUR of the following.

(16)

- 1) Significance of placenta 5
- 2) Types of cleavages 3
- 3) What is vitellogenesis? Explain its process in chick. 3
- 4) Metamorphosis in frog and its hormonal regulation
- 5) Structure of sperm
- 6) Development of primitive streak

Seat No.	
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B.Sc. (Part - III) (Semester - VI) (CBCS)

Examination, March - 2024

ZOOLOGY (Paper-XIV) (DSC E 32)

Immunology

Sub. Code : 81687

Day and Date : Wednesday, 27-03-2024

Total Marks : 40

Time : 02.30 p.m. to 04.30 p.m.

- Instruction :**
- 1) All questions are compulsory.
 - 2) Figures to the right indicate full marks.
 - 3) Draw neat diagrams wherever necessary.

Q.1) Choose the correct alternative and rewrite the sentence.

[8]

- i) The branch of biology involve in the study of immune systems in all organisms is called
 - a) Immunology
 - b) Oncology
 - c) Microbiology
 - d) Biotechnology
- ii) immunity is obtained during a lifetime.
 - a) Innate immunity
 - b) Active immunity
 - c) Natural immunity
 - d) Acquired immunity
- iii) Programmed cell death is collectively referred as
 - a) Apolysis
 - b) Apoptosis
 - c) Cell genesis
 - d) Neogenesis
- iv) Skin, body hair, cilia, eyelashes, the respiratory tract and the gastrointestinal tract are examples of
 - a) Physical barrier
 - b) Cellular barriers
 - c) Cytokine barriers
 - d) Physiological barriers

- v) is a primary lymphoid organ.
- | | |
|-----------|-----------|
| a) Spleen | b) Liver |
| c) Thymus | d) Tonsil |
- vi) immunoglobulin can cross the placenta.
- | | |
|--------|--------|
| a) IgA | b) IgM |
| c) IgG | d) IgD |
- vii) Antigens can be
- | | |
|-----------------|-----------------|
| a) Proteins | b) Carbohydrate |
| c) Nucleic acid | d) All of these |
- viii) The process during which the living cells ingest other cells or particles is called as
- | | |
|------------------|-----------------|
| a) Hematopoiesis | b) Pinocytosis |
| c) Phagocytosis | d) All of these |

Q.2) Attempt any two of the following :

[16]

- i) Define adaptive immunity. Differentiate between humoral and cell mediated immunity.
- ii) What is hematopoiesis? Explain organization of hematopoiesis.
- iii) Define hybridoma technology. Explain the process of monoclonal antibody production.

Q.3) Write short notes on : (Any four)

[16]

- i) B-Lymphocytes
- ii) Structure of Antibody
- iii) Primary lymphoid organs
- iv) Phagocytosis
- v) Properties of antigens
- vi) Difference between B and T Cell epitopes

- v) A pearl oyster secretes pearl to
- Regenerate injured parts
 - protect itself from hard and sharp particle
 - harden its mantle cavity
 - isolate damage tissues of the body
- vi) Which of the following breeds is popular for milk production in India?
- | | |
|-----------|--------------|
| a) Sirohi | b) Jamnapuri |
| c) Alpine | d) Boer |
- vii) Prawn belongs to class
- | | |
|-----------------|-----------------|
| a) Annelida | b) Coelenterata |
| c) Echiodermata | d) Crustacean |
- viii) Blue revolution in India is related to
- | | |
|------------------------|---------------------|
| a) Oil seed production | b) Pulse production |
| c) Fish production | d) Pearl production |

Q.2) Attempt any two of the following :

[16]

- Describe the bee keeping instruments.
- Explain artificial process of pearl formation.
- Describe any two indigenous breeds of goats.

Q.3) Write short notes on any four of the following :

[16]

- Economic importance of honey
- Importance of dairy farming
- Pearl oyster
- Feeding and development in fishes
- Housing structure of goat farming
- Gir indigenous breed

Seat	
No.	

B.Sc. (Part - III) (Semester - VI) (CBCS)
Examination, March 2024
ZOOLOGY (Paper - XVI)
Insect Vectors and Histology (DSE - F - 32)
Sub. Code : 81689

Day and Date : Saturday, 30/03/2024

Total Marks : 40

Time : 2.30 p.m. to 4.30 p.m.

Instructions : 1) All questions are compulsory.

2) Figures in the right indicate full marks.

3) Draw neat and labelled diagram wherever necessary.

Q. 1) Choose the correct alternatives from the given below and rewrite the sentences [08]

1. The Hardest Material in the body is
 - a) Bone
 - b) Cementum
 - c) Enamel
 - d) Dentine
2. How many species of Plasmodium cause malaria in human beings?
 - a) Four
 - b) Three
 - c) Two
 - d) Five
3. Rat flea transmits..... disease
 - a) Dengue
 - b) Malaria
 - c) Plague
 - d) Filariasis
4. The Digestive enzyme present in the mammalian saliva is.....
 - a) Ptyalin
 - b) Lipase
 - c) Grypsin
 - d) Protease
5. Elephantiasis is
 - a) Helminthic disease
 - b) Bacteria disease
 - c) Viral disease
 - d) Protozoan disease

