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Name.....

Reg. No.....

**THIRD SEMESTER (CBCSS—UG) DEGREE EXAMINATION  
NOVEMBER 2025**

Zoology

ZOL 3C 03T—PHYSIOLOGY AND ETHOLOGY

(2020—2023 Admissions)

Time : Two Hours

Maximum : 60 Marks

**Section A**

I. Short Answer Questions. Each question carries 2 marks :

- 1 What is a balanced diet ?
- 2 Distinguish between active and passive transport.
- 3 List out any *four* adaptive mechanisms of diving mammals.
- 4 What is myocardial infarction ?
- 5 What is Bohr effect ?
- 6 What is sliding filament theory ?
- 7 Write short notes on muscle fatigue.
- 8 Write short notes on dialysis.
- 9 Define threshold stimulus.
- 10 Distinguish between hibernation and aestivation.
- 11 What is Pavlovian conditioning ?
- 12 What is Diapause ?

(Ceiling : 20 marks)

**Section B**

II. Paragraph Questions. Each question carries 5 marks

- 13 Write notes on obesity.
- 14 Explain the neural and chemical control of respiration.

**Turn over**

- 15 Explain the structure of human heart.
- 16 Describe the hormonal regulation of kidney function.
- 17 What is Synapse ? Add notes on synaptic transmission.
- 18 Explain various factors that influence behaviour.
- 19 Write notes on biological rhythms.

(Ceiling : 30 marks)

### Section C

III. Essay questions. Answer any *one* question :

- 20 Describe in detail the ultrastructure of a striated muscle and events in muscle contraction.
- 21 What is learned behaviour ? Explain various types of learned behaviour.

(1 × 10 = 10 marks)

**D 111998****(Pages : 2)****Name.....****Reg. No.....****THIRD SEMESTER (CBCSS-UG) DEGREE EXAMINATION, NOVEMBER 2024****Zoology****ZOL 3C 03T—PHYSIOLOGY AND ETHOLOGY****(2019–2023 Admissions)****Time : Two Hours****Maximum : 60 Marks****Section A****I. Short answer questions. Each question carries 2 marks.**

- 1 What is BMR ? Mention the factors affecting it
- 2 Write short notes on vesicular transport.
- 3 Write short notes on oxygen transport.
- 4 Write short notes on pacemaker.
- 5 What is neuroglia ? Give example
- 6 Distinguish between osmoconformers and osmoregulators
- 7 Write short notes on All or None law.
- 8 What is tetanus ?
- 9 What is rigor mortis ?
- 10 Write short notes on circadian rhythm
- 11 What is homing ?
- 12 What is imprinting ?

**(Ceiling 20 Marks)****Section B****II. Paragraph questions. Each question carries 5 marks.**

- 13 Explain fluid mosaic model of plasma membrane.
- 14 Write notes hormonal control of gastrointestinal function.
- 15 Explain the structure of haemoglobin.
- 16 Write notes on formed elements of blood.
- 17 Explain urea cycle.

**Turn over**

- 18 Write notes on courtship.  
19 Give an account on communication in animals.

(Ceiling 30 Marks)

**Section C**

III. Essay questions. Answer any one question.

- 20 Elaborate the structure of neuron and mechanism of impulse propagation.  
21 What is behaviour ? Explain major patterns of innate behaviour.

(1 × 10 = 10 Marks)

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NOVEMBER 2023**

Zoology

ZOL 3C 03T—PHYSIOLOGY AND ETHOLOGY

(2019—2022 Admissions)

Time : Two Hours

Maximum : 60 Marks

**Section A**

I. Short Answer Questions. Each question carries 2 marks :

- 1 What are the constituents of a normal diet ?
- 2 Write short notes on cardiac cycle.
- 3 Distinguish between hypoxia and asphyxia.
- 4 What is Haemostasis ?
- 5 What is Thrombosis ?
- 6 Distinguish between twitch and tetanus.
- 7 Distinguish between isometric and isotonic contraction.
- 8 What is saltatory transmission ?
- 9 Write short notes on types of neurons.
- 10 What is heart lung machine ?
- 11 Distinguish between taxis and kinesis.
- 12 Write short notes on trial-and-error learning

(Ceiling : 20 Marks)

**Section B**

II. Paragraph Questions. Each question carries 5 marks :

- 13 Write the adaptations of desert animals
- 14 Describe the mechanism of carbon dioxide transport.

**Turn over**

- 15 Write notes on the composition and functions of blood plasma.
- 16 Describe ornithine cycle.
- 17 Write notes on neurotransmitters
- 18 Describe the events in muscle contraction
- 19 Write notes on social organization in mammals.

(Ceiling : 30 Marks)

### Section C

III. Essay Questions. Answer any *one* question :

- 20 Provide a detailed account of the mechanism of blood clotting.
- 21 Explain innate and learned behaviours in animals.

(1 × 10 = 10 marks)

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**THIRD SEMESTER (CBCSS—UG) DEGREE EXAMINATION  
NOVEMBER 2022**

Zoology

ZOL 3C 03T—PHYSIOLOGY AND ETHOLOGY

(2019 Admission onwards)

Time : Two Hours

Maximum : 60 Marks

**Section A**

I. Short Answer Questions. Each question carries 2 marks :

- 1 What is active transport ?
- 2 What is emulsification of fats ?
- 3 Write any *two* major respiratory problems at high altitude.
- 4 Define Cardiac cycle.
- 5 What is heart lung machine ?
- 6 What is RAAS ?
- 7 Distinguish between muscle twitch and tetanus ?
- 8 What is meant by saltatory conduction of impulses ?
- 9 Define the term threshold stimulus. What is all or none response ?
- 10 What is Habituation ?
- 11 Define circadian rhythm.
- 12 What is latent learning ? Give an example.

(Ceiling : 20 marks)

**Section B**

II. Paragraph Questions. Each question carries 5 marks :

- 13 Explain the fluid mosaic model of plasma membrane.
- 14 Give an account of hormonal control of gastrointestinal function.

**Turn over**

- 15 Explain the structure of haemoglobin.
- 16 Briefly describe the conducting system of heart.
- 17 Explain the major steps involved in urea cycle.
- 18 What is Synapse ? Explain the different mechanisms of synaptic transmission.
- 19 Write an account of social behaviour of elephants.

(Ceiling : 30 marks)

### Section C

III. Essay Questions. Answer any *one* question :

- 20 Describe the ultrastructure of skeletal muscle fibre. Explain the mechanism of muscle contraction.
- 21 Discuss the different behavioural patterns in animals.

(1 × 10 = 10 marks)