

Reg. No. :

Name :

**V Semester B.Sc. Degree (CBCSS – O.B.E. – Regular/Supplementary/
Improvement) Examination, November 2023
(2019 – 2021 Admissions)
CORE COURSE IN ZOOLOGY
5B06ZLG : Animal Physiology**

Time : 3 Hours

Max. Marks : 40

Instruction : Give illustrations and figures wherever necessary.

- I. Essay questions. **Each** question carries 8 marks. Answer any two. (2×8=16)
- 1) Elaborate the ultrastructure of skeletal muscle. Describe the events associated with muscle contraction.
 - 2) Elaborate the process of urine formation.
 - 3) Write an essay on the major endocrine glands in man and their associated hormones.
 - 4) Explain how a nerve impulse is conducted along a nerve fibre.
- II. Short Essay. **Each** question carries 4 marks. Answer any two. (2×4=8)
- 5) Explain sliding filament theory.
 - 6) Explain oestrus cycle.
 - 7) Explain how carbon dioxide is transported in human body.
- III. Short answer questions. **Each** question carries 2 marks. Answer any six. (6×2=12)
- 8) Define ossification. Which are the types of ossification ?
 - 9) Differentiate between uniport and symport system.
 - 10) Write a note on placental hormone.
 - 11) Which are the functions of connective tissue ?
 - 12) What is the peculiarity of SA node ?
 - 13) Define summation of action potential.
 - 14) Write a short note on cholecystokinin.
 - 15) Define osmoconformers.

P.T.O.

K23U 2387



- IV. Multiple choice questions. **Each** question carries 0.5 marks. Answer all. (8×0.5=4)
- 16) During which phase of the menstrual cycle does the uterine lining thicken in preparation for potential embryo implantation ?

A) Menstrual phase	B) Follicular phase
C) Ovulatory phase	D) Luteal phase
 - 17) Which of the following endocrine glands is responsible for regulating calcium levels in the body ?

A) Pituitary gland	B) Thyroid gland
C) Parathyroid glands	D) Adrenal glands
 - 18) What is the main driving force for glomerular filtration in the kidneys ?

A) Blood pressure in the glomerulus	B) Concentration of electrolytes in the glomerulus
C) Hormones produced by the adrenal gland	D) Blood pH in the renal arteries
 - 19) Hemoglobin is composed of four protein subunits. How many of these subunits contain heme groups for oxygen binding ?

A) One	B) Two	C) Three	D) Four
--------	--------	----------	---------
 - 20) Which neurotransmitter is associated with pleasure and reward pathways in the brain and is often linked to addiction and mood regulation ?

A) Serotonin	B) Dopamine	C) Acetylcholine	D) Glutamate
--------------	-------------	------------------	--------------
 - 21) What is the primary function of the enzyme pepsin in the digestive system?

A) Breaking down carbohydrates into sugars	B) Breaking down fats into fatty acids and glycerol
C) Breaking down proteins into smaller peptides	D) Emulsifying lipids in the stomach
 - 22) What is the name of the neurotransmitter released by motor neurons at the neuromuscular junction to signal muscle contraction ?

A) Dopamine	B) Serotonin
C) Acetylcholine	D) GABA (Gamma-Aminobutyric Acid)
 - 23) What effect does a decrease in pH (increased acidity) have on the oxygen-binding capacity of hemoglobin in the Bohr effect ?

A) It increases hemoglobin's affinity for oxygen	B) It decreases hemoglobin's affinity for oxygen
C) It has no effect on hemoglobin's affinity for oxygen	D) It decreases the total hemoglobin concentration