K26FY1261 Pages: 2 Reg No:.....
Name:.....

Second Semester FYUGP Degree (Reg/Sup/Imp) Examination April 2026

KU2DSCZOO105 - FUNDAMENTALS OF ANIMAL BIOLOGY

2024 Admission onwards

Time : 1.5 hours Maximum Marks : 50

Section A

Answer any 6 questions. Each carry 2 marks.

1. Briefly describe the functions of nervous tissue
2. What is a tissue? Give two examples.
3. How do myelin sheaths affect the speed of electrical signals?
4. What is the role of voltage-gated ion channels in generating action potentials?
5. How does diffusion occur across cell membranes?
6. How do terrestrial insects regulate the loss of water through evaporation?
7. Differentiate between notochord and vertebra?
8. What are the two main types of invertebrate muscles?

SIR SYED COLLEGE
CENTRAL LIBRARY

Section B

Answer any 4 questions. Each carry 6 marks.

9. Discuss the advantages and disadvantages of different nitrogenous waste products in various animal groups.
10. Define osmotic stress and discuss how cells respond to changes in osmotic conditions.
11. How do aquatic and terrestrial environments pose different challenges to the maintenance of water and electrolyte balance in vertebrates?
12. Explain how melanocytes contribute to animal coloration, and discuss how environmental factors can influence melanin production.
13. Explain sliding filament hypothesis
14. Give an account of invertebrate muscles

Section C

Answer any 1 questions. Each carry 14 marks.

15. (a) How does the correlation between structure and function drive evolutionary adaptations?

    (b) Examine how the surface area-to-volume ratio influences the metabolic rate of organisms.

16. (a) Write an essay on membrane potentials

    (b) Critically assess the structure and function of photoreceptors in the insect and vertebrate eyes. How do rods and cones differ in their contribution to vision, specifically in varying lighting conditions?

قل ربّ زدني علما
SIR SYED COLLEGE
CENTRAL LIBRARY