BZYCT-133

ASSIGNMENT BOOKLET

Bachelor's Degree Programme

(BSCG)
(COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY OF VERTEBRATES)

Valid from 1st January, 2025 to 31st December, 2025

School of Sciences
Indira Gandhi National Open University
Maidan Garhi, New Delhi-110068

(2025)

Dear Student,

Please read the section on assignments in the Programme Guide for Core Courses that we sent you after your enrolment. A weightage of 30 per cent, as you are aware, has been earmarked for continuous evaluation, **which would consist of one tutor-marked assignment** for this course. The assignment is in this booklet, and it consists of three parts, Part A, B and C. The total marks of all the parts are 100, of which 35% are needed to pass it.

Instructions for Formatting Your Assignments

Before attempting the assignment please read the following instructions carefully:

1) On top of the first page of your answer sheet, please write the details exactly in the following format:

ROLL NO.: ……

NAME: ……

ADDRESS: ……

……

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COURSE CODE: …….

COURSE TITLE: …….

ASSIGNMENT NO.: ……..…

STUDY CENTRE: ……..….. **DATE:** …….……...

PLEASE FOLLOW THE ABOVE FORMAT STRICTLY TO FACILITATE EVALUATION AND TO AVOID DELAY.

2) Use only foolscap size writing paper (but not of very thin variety) for writing your answers.

3) Leave 4 cm margin on the left, top and bottom of your answer sheet.

4) Your answers should be precise.

5) Complete each of Part A, Part B and Part C of this assignment separately, and **submit them together.**

6) The assignment answer sheets are to be submitted to your Study Centre as per the schedule made by the study centre. **Answer sheets received after the due date shall not be accepted.**

   We strongly suggest that you retain a copy of your answer sheets.

7) This assignment is **valid from 1st January, 2025 to 31st December, 2025**. If you have failed in this assignment or fail to submit it by 31st December, 2025, then you need to get the assignment for the year 2026, and submit it as per the instructions given in the Programme Guide.

8) **You cannot fill the exam form for this course** till you have submitted this assignment.

We wish you good luck.

ASSIGNMENT
(Tutor Marked Assignment)

Course Code: BZYCT-133
Assignment Code: BZYCT-133/TMA/2025
Maximum Marks: 100

Note: Attempt all questions. The marks for each question are indicated against it.

1. a) Explain keratinization in terrestrial vertebrates. (5)

   b) Give *five* features that you can use to distinguish between the skulls of frog and rabbit. (5)

2. a) Explain the major differences between reptilian and avian digestive systems. (5)

   b) Describe the structure of the respiratory system of cartilaginous fishes and state how does it differ from that of bony fishes. (5)

3. a) Discuss lymphatic system in different vertebrates. (4)

   b) Write short notes on: (6)

      i) Blood filteration in kidney

      ii) Types of mammalian uteri

4. a) Which part of the brain is well developed in all vertebrates and why? (4)

   b) What are pit organs in reptiles? How do vipers and boas locate prey? (6)

5. Briefly write the functions of the following hormones secreted in mammals. (10)

   a) Adrenocorticotropic hormone

   b) Parathormone

   c) Aldosterone

   d) Testosterone

   e) Progesterone

6. List at least *three* stages in gene expression that can be regulated to result in differentiated cell types? Explain any *one* of them with the help of an example. (10)

7. Describe the mechanisms evolved by eggs to prevent polyspermy. (10)

8. Make a flow chart to show the events in metamorphosis. (10)

9. Discuss the process of development of extra embryonic membranes in chick. (10)

10. a) Draw a flow chart to show how the three germinal layers are derived from the zygote. (4)

    b) How do genetic and environmental defects cause problems in embryonic development? (6)