BZYCT-135

ASSIGNMENT BOOKLET

Bachelor's Degree Programme

(BSCG)

(Physiology and Biochemistry)

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 B. Sc. 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 is of 100 marks, 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) Solve this assignment, and **submit the complete assignment answer sheets within the due date.**

6) The assignment answer sheets are to be submitted to your Study Centre within the due date. **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 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 examination form for this course** until you have submitted this assignment.

We wish you good luck.

ASSIGNMENT

Course Code: BZYCT-135
Assignment Code: BZYCT-135/TMA/2025
Maximum Marks: 100

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

1. a) How many molecules of CO_2, NADH and $FADH_2$ are produced in one citric acid cycle? (3)

   b) Briefly discuss β oxidation of fatty acids. (7)

2. a) Enlist the four major classes of digestive enzymes in animals. (3)

   b) Describe the digestion of carbohydrates. (7)

3. Write the differences between the following pairs: (2½×4=10)

   i) RBCs and WBCs

   ii) Membrane Potential and Action Potential

   iii) 'Aerobic' and Anaerobic' respiration with reference to glucose catabolism

   iv) Molluscan kidney and Malphighian tubules

4. a) What are allosteric enzymes? (3)

   b) Define enzyme inhibition. Explain any one type of enzyme inhibition. (7)

5. a) Explain the composition of blood. (5×2=10)

   b) Which hormones are secreted by the pancreas? Explain their functions.

6. Write short notes on the following: (10)

   i) Bohr's effect

   ii) Pheromones

7. a) Describe how renal tubule and collecting ducts produce dilute and concentrated urine. (7)

   b) How does short-term regulation of the urea cycle differ from long-term regulation? (3)

8. a) Explain oogenesis in human female. (5×2=10)

   b) What is ageing? Mention any three theories of ageing.

9. a) Briefly discuss the Menstrual cycle. (5×2=10)

   b) Explain the various mechanisms of enzyme regulation.

10. a) Explain the factors that affect the O_2 dissociation curve. (5×2=10)

    b) Elaborate the chemical nature of hormones.