

BZYCT-135

ASSIGNMENT BOOKLET

Bachelor's Degree Programme

(BSCG)

(Physiology and Biochemistry)

Valid from 1st January, 2024 to 31st December, 2024



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

(2024)

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:

.....

.....

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 2024 to 31st December, 2024.** If you have failed in this assignment or fail to submit it by December, 2024, then you need to get the assignment for the year 2025, 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/2024
Maximum Marks: 100

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

1. Define the following terms: (2½×4=10)
 - i) Pheromone
 - ii) Vitamins C
 - iii) Allosteric enzyme
 - iv) Malpighian tubule
2. a) Discuss the mechanism urine production in nephron. (5×2=10)
b) Explain β-oxidation pathway of saturated fatty acid breakdown.
3. Write differences between the following pairs: (2½×4=10)
 - i) Epinephrine and Norepinephrine
 - ii) 'A' band and 'T' band of myofibril
 - iii) Allosteric enzymes and Isoenzymes
 - iv) Glycogenesis and Glycogenolysis
4. a) Discuss the importance of K_m and V_{max} in enzyme catalysed reactions. (5×2=10)
b) Explain the various mechanisms of enzyme regulation.
5. a) Define ageing. Mention any three theories of ageing. (5×2=10)
b) Write a formula representing the reaction between haemoglobin and oxygen. What factors influence the rate and direction of the reaction?
6. Describe the role of free radicals in their sources in the body. (10)
7. a) Derive Michaelis-Menten equation. (5×2=10)
b) Draw Lineweaver-Burk plot.
8. a) Discuss the functions of Electron Transport System-I (ETS-I). (5×2=10)
b) Which hormones are secreted by the pancreas? Explain their functions.
9. a) Explain Oogenesis in human females. (5×2=10)
b) Diagrammatically explain the biochemical pathways that produce ATP for vertebrate muscle contraction
10. Write short notes on the following: (2½×4=10)
 - i) Synaptic transmission
 - ii) Fat soluble vitamins
 - iii) Bohr's effect
 - iv) Essential amino acid