

BZYCT-135

ASSIGNMENT BOOKLET

**Bachelor's Degree Programme
(BSCG)
PHYSIOLOGY AND BIOCHEMISTRY**

Valid from 1st January, 2022 to 31st December, 2022



**School of Sciences
Indira Gandhi National Open University
Maidan Garhi
New Delhi-110068
(2022)**

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:

.....

.....

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, 2022 to 31st December, 2022.** If you have failed in this assignment or fail to submit it by December, **2022**, then you need to get the assignment for the year **2023**, 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

PHYSIOLOGY AND BIOCHEMISTRY

Course Code: BZYCT-135
Assignment Code: BZYCT-135/TMA/2022
Maximum Marks: 100

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

Part-A

Maximum Marks: 50

1. a) What are the end-products of food that can be absorbed by the body? (5)
Explain how absorption of fats differs from absorption of proteins and sugars.
- b) How is carbon dioxide transported when it is released by the tissues into the blood in mammals? What is the role of carbonic anhydrase? (5)
2. a) Describe in brief the cardiac conduction pathway and cardiac cycle. (5)
- b) Differentiate between artery and vein. (5)
3. a) Draw a diagram showing the urine concentration in the nephron. (5)
- b) Explain briefly the role of myosin in muscle contraction. (5)
4. a) Explain why an action potential is all-or-none event. (5)
- b) i) If a new compound is used that binds to membrane receptors by blocking them which hormones action will be blocked as a result? (1)
- ii) If cAMP formation is inhibited in the cell then what step in the hormone action will be affected? (1)
- iii) How can hormones mediate changes in the cell's function? (2)
- iv) What is the role of calcium ion as a second messenger? (1)
5. With the help of a flow diagram, explain the function of female hormones in humans. How is it regulated? (10)

Part-B

Maximum Marks: 50

6. a) Describe the proteins in terms of levels of organization in primary, secondary, tertiary and quaternary structures. (5)
- b) How temperature and pH affect the rate of enzyme action? (5)
7. a) How a value for K_m can be obtained from the v_o vs S graph when $v_o = 1/2 V_{max}$? (5)
- b) Explain coenzymes and their roles in metabolism. (5)
8. a) What is antioxidant? Explain the different types of antioxidants with suitable examples. (5)
- b) Describe the two phases of glycolysis. What is the net outcome of each phase? (10)

9. a) Discuss the function of Electron Transport Complex-I. (5)
b) Describe ketogenesis. Is it a normal physiological process? (5)
10. Describe urea cycle. (5)