BBCET-141

ASSIGNMENT BOOKLET

Bachelor's Degree Programme
B.Sc. Honours in Biochemistry (BSCBCH)

NUTRITIONAL 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 of B.Sc. (Hons.) Biochemistry (BSCBCH) programme that we sent you after your enrolment. A weight age of 30 percent, 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 two parts, Part A and B. It covers all blocks of the course. The total marks of all the parts are 100, of which 35% are needed to pass it.

Instructions For Formatting Your Tutor Marked Assignments (TMA)

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:

You may reproduce the Course Code and Assignment Code from the assignment.

ENROLMENT NO.:

PROGRAMME TITLE : .....

COURSE CODE : .....

COURSE TITLE : .....

ASSIGNMENT CODE : .....

STUDY CENTRE : .....

NAME: .....

ADDRESS:.....

.....

.....

SIGNATURE:.....

.

DATE: .....

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

2. Use only foolscap size paper for your response and tie all the pages carefully. Avoid using very thin paper. Allow a 4 cm margin on the left and at least 4 lines in between each answer. This would facilitate the evaluator to write useful comments in the margin at appropriate places.
3. Write the responses in your own handwriting. Do not print or type the answers. Do not copy your answers from the Units/Blocks sent to you by the University. It is advised to write your answers in your own words as it will help in grasping the study material.
4. Do not copy from the response sheets of other students. If copying is noticed, the assignment will be rejected.
5. Write each assignment separately. All the assignments should not be written in continuity.
6. Write the question number with each answer.
7. **The completed assignment should be submitted within the due date** to the Coordinator of the Study Centre allotted to you. TMAs submitted at any other place and after due date will not be evaluated.
8. After submitting the TMA, get the acknowledgement from the Coordinator on the prescribed assignment remittance-cum-acknowledgement card. **We strongly suggest that you retain a copy of your answer sheets.**
9. In case you have requested for a change of Study Centre, you should submit your TMA only to the original Study Centre until the change of Study Centre is notified by the University.
10. 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 Dec, 2024, then you need to get the assignment for the year 2025, and submit it as per the instructions given in the Programme Guide.
11. **You cannot fill the examination form for this course** until you have submitted this assignment.

We wish you good luck.

ASSIGNMENT

Nutritional Biochemistry
Core Course in Biochemistry

Course Code: **BBCET-141**
Assignment code: **BBCET-141/TMA/2024**
Maximum marks: **100**

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

Write the answers in your own words; do not copy from the course material.

PART-(A) Marks: 50

1. Explain the following terms in 3-4 lines: (5X2= 10)
(a) Nutrient requirement
(b) Macronutrients
(c) Dietary reference intakes (DRIs)
(d) Metabolizable energy
(e) BMR and RMR

2. (a) Which different factors contribute to the poor control of food intake in humans? (5)
(b) Name common anthropometric indicators used for determining the nutritional status of an individual. What information do these provide? (5)

3. (a) What are the criteria and symptoms of iron and iodine deficiency? (5)
(b) Discuss the role of hormones in regulation of blood glucose. (5)

4. (a) Write functions of lipids; giving one example of each. (5)
(b) What is biological importance of cholesterol and phospholipids? (5)

5. (a) Name two major cytoskeletal proteins found in cells and write their functions. (5)
(b) Discuss two parameters used to evaluate the quality of a protein. (5)

PART- (B) Marks: 50

6. (a) What are the three constituents of folic acid structure. Write two functions of folic acid.(5)

(b) What is biochemical name of vitamin E? Mention its dietary sources and biochemical functions. (5)

7. (a) What is the importance of potassium in our body? (5)
   (b) Give two examples each of NAD and FAD dependent enzymes. Also name the vitamins from which these cofactors are derived. (5)

8. (a) Write the biochemical functions of zinc and selenium. (5)
   (b) Discuss the role of nutrients on bioavailability of drugs with suitable examples. (5)

9. (a) What are nutraceuticals and state their benefits? (5)
   (b) What is meant by obesity? Discuss its types. (5)

10. (a) Discuss the role of microbes involved in food borne diseases. (5)
    (b) How are heavy metals harmful for us? (5)