

**BBYET-143**

**ASSIGNMENT BOOKLET**

**Bachelor's Degree Programme**

**(BSCG)**

**(Economic Botany and Biotechnology)**

**Valid from 1<sup>st</sup> January, 2023 to 31<sup>st</sup> December, 2023**



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

**(2023)**

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:

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**ROLL NO.:** .....

**NAME:** .....

**ADDRESS:** .....

.....

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**COURSE CODE:** .....

**COURSE TITLE:** .....

**ASSIGNMENT NO.:** .....

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

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**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 1<sup>st</sup> January 2023 to 31<sup>st</sup> December, 2023.** If you have failed in this assignment or fail to submit it by December, 2023, then you need to get the assignment for the year 2024, 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: BBYET-143

Assignment Code: BBYET-143/TMA/2023

Maximum Marks: 100

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

1. Define the following terms: (2×5=10)
  - i) Genetic bottleneck
  - ii) Synthetic medium
  - iii) Probe
  - iv) Genetically modified organism (GMO)
  - v) Organogenesis
2. Differentiate between the following: (3×5=15)
  - i) Top down and bottom up genetic basis of domestication.
  - ii) Rhizogenesis and Caulogenesis
  - iii) Spice and condiment
  - iv) Genomic and cDNA library
  - v) Direct and Indirect embryogenesis
3. a) Define totipotency. Describe any two application of plant tissue culture. (5)  
b) What is a protoplast? Describe the technique of somatic hybridization with the help of a diagram. (5)
4. Write short note on the following: (3×5=15)
  - i) Colony hybridisation
  - ii) Domestication syndrome
  - iii) Wood distillation
5. Describe the origin, taxonomy and distribution of wheat and rice. (10)
6. What is genetic engineering? Describe the technique of Agrobacterium-mediated transformation with the help of a diagram. (2+8=10)
7. Enlist the major fibre yielding plants. Describe the morphology, cultivation and uses of any two of them. (2+8=10)

8. Write the botanical name of the following plants: (1×10=10)

i) Soybean

vi) Jute

ii) Cotton

vii) Pigeon Pea

iii) Coconut

viii) Flax

iv) Cowpea

ix) Gram

v) Sunhemp

x) Pea

9. What is germplasm? Explain the two approaches followed for the germplasm conservation. (2+8=10)