

BACHELOR OF SCIENCE (CBCS-2018 COURSE)
S. Y. B. Sc. Sem-IV :SUMMER- 2022
SUBJECT : BOTANY : PLANT BIOTECHNOLOGY

Day : Monday
Date : 11/7/2022

S-18383-2022

Time : 03:00 PM-06:00 PM
Max. Marks : 60

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat labeled diagrams **WHEREVER** necessary.
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Q.1 Attempt **ANY TWO** of the following: (12)

- a) Comment on meaning of genetic engineering.
- b) Which are process of anaerobic waste water treatment.
- c) What are petro crops? Explain their importance.

Q.2 Attempt **ANY TWO** of the following: (12)

- a) Enlist products and by products of fermentation.
- b) What are bio-fertilizers? Describe the type of bio-fertilizers.
- c) Explain the steps involved in plant tissue culture.

Q.3 Attempt **ANY TWO** of the following: (12)

- a) What is bioplastic? Give its significance in environmental biotechnology.
- b) What is bioreactor? Describe tubular tower fermenter.
- c) What is organic farming? Explain how it is helpful for the human health.

Q.4 Attempt **ANY THREE** of the following: (12)

- a) Give the concept of plant biotechnology.
- b) Explain process of manufacture of citric acid.
- c) Describe gaseous fuels.
- d) Give the importance of biotechnology.

Q.5 Attempt **ANY FOUR** of the following: (12)

- a) Give the concept of scaling-up.
- b) What are phages? Give their properties.
- c) Give merits and demerits of biogas.
- d) Enlist the organisms involved in fermentation.
- e) Give the importance of *SCP*.
- f) Describe role of *Azotobacter* in bio-fertilizer.

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