# 2021

### **BOTANY — HONOURS**

Paper: SEC-A-1

## (Applied Phycology, Mycology and Microbiology)

Full Marks: 80

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

## 1. Answer the following questions:

 $2 \times 10$ 

- (a) What is algin? Give one application of it.
- (b) What is dextran? Mention one use.
- (c) What is diatomite? Give one application.
- (d) Name two  $\beta$ -carotene producing algae.
- (e) Name two fungal sources of Aflatoxin.
- (f) What is Griseofulvin? Write one source of it.
- (g) Write one fungal source and one use of Tryptophan.
- (h) What is biocontrol? Name one bacterium used as biocontrol agent.
- (i) Write one bacterial source and one use of lysine.
- (j) What is batch fermentation? Name one advantage of it.

#### 2. Answer any four questions of the following:

5×4

- (a) Briefly discuss algal toxins and their impact on human health.
- (b) Write a flowchart on the production of  $\beta$ -Carotene.
- (c) Write a brief note on Aflatoxin poisoning.
- (d) Give a brief outline of industrial production of ethanol.
- (e) What is biofertilizer? Mention the role of *Rhizobium* as biofertilizer in agriculture.
- (f) Give a flowchart of the industrial production of streptomycin.

#### **3.** Answer *any four* questions of the following :

- (a) What do you mean by SCP? Explain the role of blue-green algae and green algae as SCP. 2+4+4
- (b) (i) Give an outline of production of biodiesel.
  - (ii) Write uses of microbes in mineral processing.

5+5

Please Turn Over

(2)

- (c) Write the source organism and uses of the following: 2½×4 Algin, Cellulase, Amylase and Glutamic acid.
- (d) (i) Write the fungal sources and uses of the following: Riboflavin and Cyclosporin A.
  - (ii) Discuss the industrial production of cheese.

 $(2\frac{1}{2}+2\frac{1}{2})+5$ 

(e) Write an account of fungi as food.

10

(f) Discuss on the bioplastics production from algae. Mention the uses of proteases. Give a brief outline on the industrial production of vinegar.

3+2+5