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 :　　　　　　　　　　　　　　　　　　　　　　2×10

　(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 β-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 β-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

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(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. (2½+2½)+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

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