2021

MICROBIOLOGY — GENERAL

Paper : DSE-B-2

(Industrial Microbiology and Food Microbiology)

Full Marks : 50

The figures in the margin indicate full marks.

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

Units–1-6

Question No. 1 is compulsory and answer *any three* from the rest.

1. Answer *any ten* questions from the following: 2×10

   (a) What is meant by industrial microbiology? Who is the father of industrial microbiology?

   (b) Name the two steps of lactic acid fermentation.

   (c) State two disadvantages of fermentation.

   (d) Name two industry which has regular uses in fermentation technology.

   (e) List two differences between solid state and submerged fermentation.

   (f) Name any two substrates used in solid state fermentation.

   (g) State the principle of submerged fermentation.

   (h) What are industrial strains? Give an example.

   (i) Write two differences between filtration and centrifugation.

   (j) Name two intrinsic parameters that affect microbial growth in food.

   (k) Name two organisms which cause spoilage in canned food.

   (l) Discuss the role of irradiation in food preservation.

   (m) Define HACCP.

   (n) Name any two food borne diseases.

   (o) What role does benzoates play in food preservation?

2. (a) Discuss any five importance of industrial microbiology.

   (b) Explain why microorganisms are important in our daily life. 5+5

3. (a) Give three advantages of solid state fermentation.

   (b) Draw an appropriately labelled diagram of a solid state fermenter. 3+7

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4. (a) Give five applications of submerged fermentation.

　　(b) State five differences between Batch and Continuous fermentation.　　　　5+5

5. (a) What is strain preservation?

　　(b) What are the requirements of preservation of microbial strains?

　　(c) How can we preserve bacterial culture for long time?　　　　3+4+3

6. Discuss the industrial use of :　　　　2½×4

　　(a) Amylase, (b) Protease, (c) Lipase, (d) Esterase.

7. What is (a) Cell disruption, (b) Solvent extraction?　　　　(2×3)+(2×2)

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