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UG/5th Sem/Micro(H)/T/19

2019

B.Sc. (Honours)

5th Semester Examination

MICROBIOLOGY

Paper - DSE-1T

(Microbial Biotechnology)

Full Marks : 40

Time : 2 Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Group - A

1. Answer any *five* questions from the following.

5×2=10

- (a) What do you mean by genetically engineered microbes. Give two examples.
- (b) Enlist two biotech industries producing vaccines.
- (c) Define biosensors with examples.

[Turn Over]

(2)

- (d) Give examples to any two industrially important fungi with their uses.
- (e) Define biotransformation. Write any one industrial application of it.
- (f) What is downstream processing ? Mention two basic criteria of it.
- (g) Give two examples of Methane and hydrogen producing microbes.
- (h) How do you perform a biocatalytic oxidation of alcohol to acid ?

Group - B

2. Answer any *four* questions from the following.

4×5=20

- (a) Describe schematically the process of biopesticides production. Why they are advantageous over chemical pesticides ? 3+2
- (b) Explain mass balance and its use in biotransformation.
- (c) Describe the mechanism of depth filtration. Add a note on log penetration theory. 3+2
- (d) What are immobilized enzymes ? Name the methods of enzyme immobilization. 2+3

(3)

(e) Explain in detail the process for production of high fructose syrup.

(f) Explain the terms (any *two*) 2×2½

(i) Adsorption

(ii) Antifoam agents

(iii) Trophophase

(iv) Solid-Liquid separation

Group - C

3. Answer any *one* question from the following.

1×10=10

(a) Write down the different methods of chromatography available for purification of biomolecules.

(b) (i) Describe the procedure of different recombinant vaccines production.

(ii) Describe the brief idea about application of industrial biotechnology in therapeutics.

6+4