

(i) Printed Pages : 2

Roll No.

(ii) Questions : 9

Sub. Code :

1	7	5	7	3
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Exam. Code :

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B.A./B.Sc. (General) 6th Semester

(2056)

BIOTECHNOLOGY (Elective)

Paper : Environmental and Fermentation Biotechnology

BIOT-Elect.-Sem.-VI-T

Time Allowed : 3 Hours]

[Maximum Marks : 75

Note :— Attempt Five Questions in all selecting Two from each Section (A & B). Question No.9 is compulsory.

SECTION—A

1. Discuss the environmental impacts of conventional fuels and compare them with modern fuels. 15
2. Explain the role of methanogenic bacteria in biogas production. How does microbial hydrogen production contribute to renewable energy? 15
3. Describe the microbial degradation of pesticides and toxic chemicals. Give suitable examples. 15
4. Write a note on *Bacillus thuringiensis* toxin as a natural pesticide and its role in biological control. 15

SECTION—B

5. Explain the methods of isolation and screening of microbes of industrial importance. 15
6. Discuss strain improvement techniques in industrial microbiology with examples. 15
7. Describe the design and construction of fermenters. What are the roles of antifoams and control panels? 15
8. Explain upstream and downstream processing in industrial fermentation with suitable examples. 15

SECTION—C (Compulsory)

9. Answer briefly :
 - (a) Define biofertilizers with examples. 2
 - (b) What is inoculum development? 2
 - (c) Differentiate between primary and secondary metabolites. 2
 - (d) What is immobilization of enzymes? 2
 - (e) Write short notes on solar energy converters. 2
 - (f) Explain the importance of hygiene in a fermentation laboratory. 2
 - (g) What is the gasohol experiment? 2
 - (h) Give the principle of flocculation. 1