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- (c) What do you understand by oilzapper? Discuss its importance. (2)

(200)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 3386 I

Unique Paper Code : 2534001203

Name of the Paper : Application of Microbes in Biotechnology

Name of the Course : Microbiology (NEP-UGCF)

Semester : V

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll. No. on the top immediately on receipt of this question paper.
 2. Attempt **any five** questions.
 3. **All** questions carry equal marks.
 4. Attempt all parts of the question together.
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1. Differentiate between the following (any three): -
(3×4=12)
(a) Biofertilizers and biopesticides

P.T.O.

(b) Biofuel and Biogas

(c) Primary and secondary metabolites

(d) Genomics and Proteomics

2. Write short notes on the following: (3×4=12)

(a) Microbial biosensor

(b) Biodegradation of xenobiotics

(c) High fructose corn syrup

3. (a) What do you know about microbial biotechnology?

Discuss its importance in agriculture with suitable example. (1+4=5)

(b) Describe the applications of bioleaching in metal recovery with suitable examples. (5)

(c) Comment on metabolic engineering. (2)

4. (a) What are the genetically modified organisms?

Briefly discuss about Bt Cotton. (1+5=6)

(b) Why is Golden Rice considered a genetically modified crop? What was aim to develop it as a transgenic plant? (5)

(c) Define bioleaching. (1)

5. (a) Discuss the production and application of streptomycin. (5)

(b) What is the process of production of vitamin B12? Briefly elaborate on its applications. (5)

(c) Describe the natural mutant. (2)

6. (a) What do you understand by bioremediation? Describe the roles of microbes in bioremediation citing suitable examples. (1+5=6)

(b) Comment on recombinant vaccine. (4)