

(d) Give an example of each of the following :

(i) Cellulose degrader

(ii) Halophilic bacteria

(iii) Phosphate solubiliser (1×3=3)

6. Briefly explain the following :

(a) Nitrate pollution

(b) Presence/absence test of coliforms

(c) Degradation of Chitin

(d) Antagonism

(e) Bioluminescent bacteria (3×5=15)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 3398

K

Unique Paper Code : 32531328

Name of the Paper : Microbiology

Name of the Course : **Environmental Microbiology**

Semester : CBCS (LOCF), Sem III

Duration : 3 Hours

Maximum Marks : 75

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 a question together.

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1. (a) Discuss the role of microbes degrading plastic giving suitable examples. (5)
 - (b) Write a note on Sulphur cycle. (5)
 - (c) Discuss synergism with the help of suitable examples? (5)
2. Write short notes on any **three** of the following :
 - (i) Activated sludge process
 - (ii) Microbial degradation of lignin
 - (iii) *Rhizobium* symbiosis
 - (iv) Nematophagus fungi (5×3=15)
3. Differentiate between any **five** of the following :
 - (i) Acidophiles and alkaliphiles.
 - (ii) Oligotrophic and eutrophic lake.
 - (iii) Oxidation ponds and Septic tank.

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- (iv) Nitrification and denitrification.
 - (v) Commensalism and amensalism.
 - (vi) Neuston and pleuston (3×5=15)
4. (a) What is sewage strength? How is it determined? (5)
 - (b) Write in brief about degradation of pesticide DDT. (5)
 - (c) Comment on termite gut microflora. (5)
5. (a) Write a note on spore dispersal in *Pilobolus*? (4)
 - (b) Describe in brief the mycorrhizal associations. (4)
 - (c) Write a note on microbial succession in decomposition of plant organic matter. (4)

P.T.O.