Exam.Code:0036
Sub. Code: 0981

2072

B.Sc. (Hons.) Biotechnology

Fourth Semester

BIOT- 405-T: Agro and Industrial Biotechnology

Time allowed: 3 Hours Max. Marks: 67

***NOTE**: Attempt five questions in all, including Question No. I which is compulsory and selecting one question from each Unit.*

x-x-x

1. Answer the following briefly:
   a) Somatic recombination
   b) Lipases and their importance
   c) Hops and their need in beer production
   d) Cheese ripening
   e) Prototrophs
   f) Lyophilization
   g) Malting and Kilning
   h) Aerobic fermentation
   i) Leavening process
   j) Spawn

(1 ½ x10-=15)

UNIT-I

2.a) How will you do the selection and identification of isolated microbes of industrial importance?

b)Discuss the methods of cryopreservation of commercially important microbes. (7+6=13)

3.a) On the basis of merits and demerits of microbial vs chemical processes, which one you will prefer for commercial production of various metabolites?

b) Why agriculture has been given status of industry? Give reasons. (7+6=13)

UNIT-II

4.a) Describe the methods of production of auxotrophic mutants and their Importance.

b) Explain the concept of media formulation and process optimization for commercial important microbes. (7+6=13)

5.a) Describe protoplast fusion as a method of microbial strain improvement.

b) How will you maintain a microbe improved for hyper production of metabolites? Explain. (7+6=13)

UNIT-III

6.a) Describe the commercial production process of alcohol.

b) Describe the production of proteases and their industrial applications. (7+6=13)

7.a) How Penicillin production is carried out at industrial level? Discuss the microbe involved and the basic requirements for its production.

b)What are secondary metabolites? How the VitaminB12 is produced? (7+6=13)

UNIT-IV

8.a) How vermicomposting and composting can be done? What are their advantages?

b) With suitable examples explain microbial biotransformation and its applications. (7+6=13)

9.Explain the following:

a) Herbicide and biopesticide production b) Algal SCP Production (7+6=13)

x-x-x