1058

B.Sc. (Hons.) Biotechnology

Fourth Semester

BIOT- Sem-IV-V-T: Agro and Industrial Biotechnology

Time allowed: 3 Hours   Max. Marks: 67

NOTE: *Attempt* <u>*five*</u> *questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.*

x-x-x

I.   Write short answers of the following:-

    a) HFCS

    b) Lipases

    c) Mycorrhizal association

    d) Top yeast

    e) Cryopreservation

    f) Media for penicillin production

    g) Azolla and BGA interaction

    h) Submerged fermentation

    i) Koji

    j) Strain improvement   (10x1½)

UNIT – I

II.   a) How the industrial important microbes are selected for commercial processes? Discuss the procedure.

    b) What are the common methods of preservation for the microorganisms?   (2x6½)

III.   a) Describe the main characteristics of microbial industrial processes.

    b) Why its important to preserve industrially important microbes? How will you preserve sporufating fungi?   (2x6½)

UNIT – II

IV.   a) Describe how the mutational programmes are helpful in improvement of Microbes of industrial importance?

    b) Write the importance of media formulation and process optimization for the high production of desirable agro-microbial products.   (2x6½)

P.T.O.

V. a) Discuss the methods of maintenance of hyperproducer microbes.

b) Which methods are commonly used to improve microbial strains? (2x6½)

UNIT – III

VI. a) Give a comparison of primary and secondary metabolites of microbial origin with suitable examples.

b) Discuss the microbiology and production of cheese and bread making. (2x6½)

VII. a) Discuss the applications of enzymes in food and textile industries.

b) How alcohol is produced commercially? Explain the process and the microbes involved. (2x6½)

UNIT – IV

VIII. a) How biotechnology proved a boon in agro- industries? Give examples to support your answer.

b) Describe the production process of fungal SCP. (2x6½)

IX. Write note on the following:-
   a) Microbial biotrasformations
   b) Biopesticides and herbicides (2x6½)

x-x-x