1 /21 **1010N692** Candidate's Seat No :_____

B.Sc. Sem.-6 (Rep) Examination

CC-309

Biotechnology

Time : 2-30 Hours] **October-2025** **[Max. Marks : 70**

Q.1. How is inoculum developed for bacterial and fungal fermentation? (14)

OR

Q.1.A. Explain the sources and raw materials used in the fermentation process. (7)

Q.1.B. Enlist the criteria for the selection of industrially important organisms. (7)

Q.2. Discuss Inoculum development and media for Rhizobium biofertilizers. (14)

OR

Q.2.A. Describe the production of Baker yeasts and its uses. (7)

Q.2.B. Explain the media used for *B. thuringiensis* production and give its mode of action. (7)

Q.3. How is the overproduction of amino acids obtained by using auxotrophic strains of organisms? (14)

OR

Q.3.A. Discuss the commercial production and applications of Vitamin C. (7)

Q.3.B. Explain the procedure for fermentation and recovery of citric acid (7)

Q.4. Explain the genetic regulation and the role of secondary metabolites in the fermentation industry. (14)

OR

Q.4.A. Describe the process and significance of fermentative production of Polyester. (7)

Q.4.B. Describe the production of ergot alkaloids. (7)

Q.5. Short Questions (Any 7) (14)

1) Differentiate between primary screening and secondary screening of organisms.
2) Why media formulation is needed?
3) Which disease is caused by Vitamin B12 deficiency?
4) Give two examples of synthetic antifoam used in the fermentation medium.
5) Name two species of yeast used as the source of SCP.
6) What is the economic importance of *Chaetocerous* algae?
7) Define auxotrophs.
8) Name microbes widely used for the production of acetone-butanol.
9) Define Microbial growth kinetics.
10) Write the mode of action of Amphotericin B.
11) Give an example of bacteria that synthesize Sterol.
12) What is submerged fermentation?