This question paper contains **2** printed pages]

NY—77—2023

FACULTY OF SCIENCE

M.Sc. (Second Year) (Third Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(New/CBCS Pattern)

BIOTECHNOLOGY

Paper BT-X

(Industrial Biotechnology)

(Thursday, 7-12-2023) **Time : 2.00 p.m. to 5.00 p.m.**

Time—Three Hours *Maximum Marks*—75

N.B. :— (*i*) Attempt *All* questions.

(*ii*) *All* questions carry equal marks.

1. Discuss in detail various methods for removal and recovery of cell mass. 15

Or

(*a*) Discuss in detail physical methods of cell disruption. 8

(*b*) Describe principle and working of GC-MS. 7

2. Discuss in detail production, recovery and applications of penicillin. 15

Or

(*a*) Explain in detail Liquid-liquid extraction. 8

(*b*) Discuss production, recovery and applications of alcohol. 7

P.T.O.

3. Discuss in detail production and applications of pectinase enzyme. 15

Or

(*a*) Discuss microbial transformation with example. 8

(*b*) Explain concept of biodegradable plastic. 7

4. Discuss in detail transformation of steroid and non-steroid compounds. 15

Or

(*a*) Describe in detail fermentation economics. 8

(*b*) Discuss concept of QA. 7

5. Write shorts notes on (any *three*) : 5×3=15

(1) Adsorption

(2) Acetone

(3) Dextran

(4) Pyrogen testing

(5) Condensations.