

This question paper contains 2 printed pages]

**NB—02—2023**

**FACULTY OF SCIENCE**

**B.Sc. (Third Year) (Sixth Semester) EXAMINATION**

**NOVEMBER/DECEMBER, 2023**

**(New Course)**

**BIOTECHNOLOGY**

**(Pharmaceutical Biotechnology)**

**(Wednesday, 29-11-2023)**

**Time : 10.00 a.m. to 1.00 p.m.**

*Time—Three Hours*

*Maximum Marks—75*

*N.B. :— (i) All questions are compulsory.*

*(ii) All questions carry equal marks.*

1. Explain types of secondary metabolites and explain the factors that affect production of secondary metabolites. 15

**Or**

- (a) What are plant secondary metabolites ? Enlist various medicinal applications of secondary metabolites. 8
- (b) Discuss general characteristics of antibiotics. 7
2. Explain various classifications of antibiotics based on mode of actions and chemical groups attached to them. 15

**Or**

- (a) Explain principle and methods of microbial assay. 8
- (b) Explain various types of microbial resistance to antibiotics. 7

P.T.O.

WT

( 2 )

NB—02—2023

3. Describe in detail mechanism of action of anticancer drugs. 15

**Or**

(a) Explain mechanism of action of antidiabetic drugs. 8

(b) Explain structure and mechanism of action of quinolines and sulfonamides. 7

4. Explain in detail the stages of drug discovery and development process. 15

**Or**

(a) Explain liposomes as drug delivery system. 8

(b) Explain the concept of pharmacodynamics. 7

5. Write short notes on any *three* of the following : 3×5=15

(a) Antihypertensive drugs

(b) International pharmacopoeia

(c) Chemoinformatics

(d) Pharmacokinetics

(e) Protein engineering applications.

NB—02—2023

2