

3478 (N)
B.Sc. (Biotechnology)
Examination, June-2022
TRANSCRIPTOMICS AND
METABOLOMICS
[B-306 (Old) & B-310 (New)]
[B.Sc. Biotech.]

Time : Three Hours / [Maximum Marks : 100

Note : Attempt **five** questions in detail. Each question carries 20 marks.

- 1/ Describe the production process of Insulin with suitable diagram. 20
- 2/ Define transcriptomics. Discuss its two application in disease diagnosis. 20

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3. Define metabolic engineering. Discuss limitations in metabolic engineering due to technology in detail. 20
4. Write short notes on any **two** of the following : 20
 - (i) Network rigidity
 - (ii) Metabolic control theory
 - (iii) Insertional Mutagenesis
- 5/ What are alkaloids? Explain in detail biosynthesis pathways and their importance. 20
6. Write short notes on any **two** of the following : 20
 - (i) Metabolic profiling
 - (ii) Metabolic Control analysis
 - (iii) FANCY
7. What is Gene mapping? Write down differences between structural and functional gene mapping. 20

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8. What is Uni Genes. Give a detailed description of Unigene Database. 20
9. Write short notes on any **two** of the following : 20
- (i) NMR and metabotic profiling
 - (ii) Carotenoid biosynthesis
 - (iii) Transcript Maps
10. Define metabolomics. Discuss its importance in disease diagnosis. 20