

No. of Printed Pages : 1

Sl. No.

21BTH1C2L

M.Sc. I Semester Degree Examination, April/May - 2023

BIOTECHNOLOGY

Advanced Genetics

Time : 3 Hours

Maximum Marks : 70

Notes : (i) Answer **any five** of the following questions with Question No. 1 (Q.1) **compulsory**, each question **carries equal** marks.
(ii) Draw neat diagrams wherever necessary.

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| 1. | Explain in brief about Prokaryotic genome organization. | 14 |
| 2. | Explain the genetic disorder related to the metabolism of phenylalanine. | 14 |
| 3. | (a) What are monogenic disorders, write about cystic fibrosis. | 7 |
| | (b) Write the causes, symptoms and prevention of thalassemia. | 7 |
| 4. | (a) Explain the method of gene mapping. | 7 |
| | (b) Write about autosomal linked genetic disorders. | 7 |
| 5. | (a) Describe the structure of composite transposons. | 7 |
| | (b) Write about mobile genetic elements. | 7 |
| 6. | (a) Define Pedigree and analyse the Pattern of inheritance using pedigree | 7 |
| | (b) Write a brief note on two point mapping. | 7 |
| 7. | (a) Write a note on psychotherapeutic counselling and its risk assessment in Mendelian and Multifactorial syndrome. | 7 |
| | (b) Explain in brief about any two genetic basis of syndromes. | 7 |
| 8. | (a) Somatic cell fusion | 5 |
| | (b) Integration of cytogenetic | 5 |
| | (c) Models of eugenics | 4 |

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