

K21P 0223

Reg. No. :

Name :

**IV Semester M.Sc. Degree (C.B.S.S. – Reg./Suppl. (Including Mercy
Chance)/Imp. Examination, April 2021
(2014 Admission Onwards)
BIOTECHNOLOGY
BTG4C14 : MICROBIAL TECHNOLOGY**

Time : 3 Hours

Max. Marks : 40

Instruction : Draw diagram wherever necessary.

SECTION – A

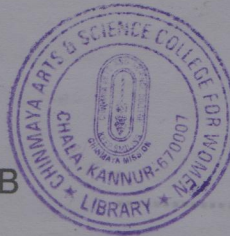
Write about **each** of the following in **2 or 3** sentences. **Each** question carries
1 mark.

(10×1=10)

1. Synbiotics.
2. Solvent extraction.
3. What is RBC ?
4. Enzyme as biosensor.
5. Impeller.
6. Distinguish red wine and white wine.
7. Baculovirus.
8. Trophophase.
9. *C. glutamicum*.
10. Bioleaching.

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SECTION – B

Write notes on or discuss **any four** of the following. **Each** question carries 5 marks.

(4×5=20)

11. Explain different preservation methods used for industrially important microorganism.
12. Describe production of penicillin.
13. Explain health benefits of probiotics.
14. Discuss about the downstream processing of industrially important enzyme.
15. Explain the advantages of solid-state fermentation and submerged fermentation.
16. What is SCP ? Explain microalgae as SCP.
17. Bioethanol production.
18. Screening of strains for aminoacid production.

SECTION – C

Write an essay on **any one** of the following. The question carries 10 marks. (1×10=10)

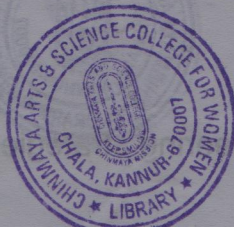
19. Write an essay on strain improvement programs adopted for an industrial strain.
20. Describe any four microbial food products and any four microbes used in agriculture.
21. Write an essay on the formulation and sterilization of fermentation media.



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**IV Semester M.Sc. Degree (C.B.S.S. – Reg./Suppl.(Including Mercy
Chance)/Imp.) Examination, April 2021
(2014 Admission Onwards)
BIOTECHNOLOGY
BTG 4C13 : Environmental and Agricultural Biotechnology**

Time : 3 Hours

Max. Marks : 40

Instruction : Draw diagrams where ever necessary.

SECTION – A

Write about **each** of the following in **2** or **3** sentences. **Each** question carries **1** mark :

1. What are indicator species ?
2. What is VAM ?
3. What is COD ?
4. What is phytoremediation ?
5. What is meant by bioleaching ?
6. What is super bug ?
7. What is DNA barcoding ?
8. What is biopiracy ?
9. What are algal blooms ?
10. What are plantibodies ?

(10×1=10)

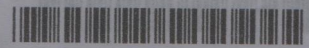
SECTION – B

Write notes on or discuss **any four** of the following. **Each** question carries **5** marks :

11. What are the different types of biosensors ?
12. What are the different steps in sewage treatment ?

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13. Comment on the metabolic engineering strategies to improve *vinca* alkaloids production in plant cell cultures.
14. What are the biotechnological methods for treating polluted air ?
15. What are the different types of biofertilizers ?
16. What are the applications of transgenic technology in agriculture ?
17. Briefly explain the applications of remote sensing.
18. What are the different methods of biodiversity conservation ? **(5×4=20)**

SECTION – C

Write an essay on **any one** of the following. **Each** question carries **10** marks :

19. What are the different methods for conservation of biodiversity ?
20. What are the different strategies for municipal solid waste management ?
21. What are the applications of aquatic biotechnology ? **(10×1=10)**

(10×1=10)

SECTION – B

Write notes on or discuss **any four** of the following. **Each** question carries **5** marks :

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IV Semester M.Sc. Degree (CBSS – Reg./Suppl. (Including Mercy
Chance)/Imp.) Examination, April 2021
(2014 Admission Onwards)

BIOTECHNOLOGY

BTG 4C12 : Medical Biotechnology

Time : 3 Hours

Max. Marks : 40

Instruction : Draw diagrams *wherever* necessary.

SECTION – A

Write about **each** of the following in **2** or **3** sentences. **Each** question carries **1** mark.

1. What is FISH ?
2. What are SNP's ?
3. Define pyrosequencing.
4. What are adult stem cells ?
5. What is fragile X Syndrome ?
6. What is chorionic villi sampling ?
7. What is xenotransplantation ?
8. What is karyogram ?
9. What is the karyotype and symptoms of Down's syndrome ?
10. What is the molecular pathology of familial breast cancer ? (10×1=10)

SECTION – B

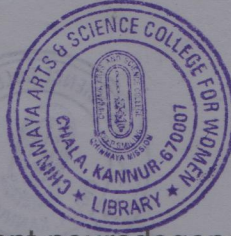
Write notes on or discuss **any four** of the following. **Each** question carries **5** marks.

11. Write down the principle and procedure of Sanger's sequencing.
12. What is DNA profiling ? What are its applications ?
13. What are the karyotypes and symptoms of sex chromosome aneuploidies in humans ?

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14. Huntington's Chorea is a dominant neurodegenerative disorder of late onset. The disease generally starts when an individual reaches middle age. Discuss the pros and cons of advising genetic screening in affected families.
15. What are the advantages of adenoviral vectors in gene therapy ?
16. What is the molecular pathology and symptoms of phenyl ketonuria ?
17. What are the applications of FISH ?
18. What are the different DNA probe labelling techniques ? **(5×4=20)**

SECTION – C

Write an essay on **any one** of the following. **Each** question carries **10** marks.

19. What are the different types of gene therapy ? Gene therapy is best suited for single gene disorders. Discuss this statement.
20. What is the principle and procedure of PCR ? Outline any five applications of PCR in medicine.
21. Briefly explain the procedure and applications of SNP profiling. **(10×1=10)**

SECTION – B

Write notes on or discuss **any four** of the following. Each question carries 5 marks.

11. Write down the principle and procedure of Sanger's sequencing.
12. What is DNA profiling ? What are its applications ?
13. What are the karyotypes and symptoms of sex chromosome aneuploidies in humans ?