

K19P 0291

Reg. No. :

25-4-19.

Name :

**II Semester M.Sc. Degree (Reg./Suppl./Imp.) Examination, April 2019
(2014 Admission Onwards)
BIOTECHNOLOGY
BTG 2C 05 : Immunology**

Time : 3 Hours

Max. Marks : 40

SECTION – A

Write about **each** of the following in 2 or 3 sentences. **Each** question carries 1 mark. (10×1=10)

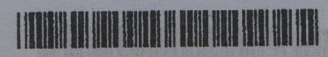
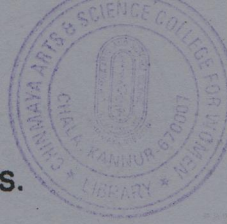
1. Plant based vaccine.
2. Membrane attack complex.
3. Name antigen presenting cells.
4. Co-stimulatory signal.
5. Function and features of macrophages.
6. Name any two systemic autoimmune diseases.
7. Tc cell function.
8. Interleukin.
9. Hybrid monoclonal antibodies.
10. Type I hypersensitivity.

SECTION – B

Write notes on or discuss **any four** of the following. **Each** question carries 5 marks. (4×5=20)

11. Explain principle and applications of agglutination reactions.
12. Describe cytokines and their importance.

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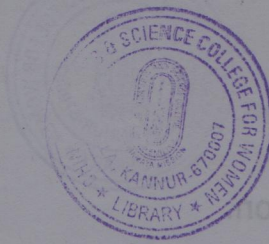


- 13. Explain structure of immunoglobulins.
- 14. Explain innate and acquired immunity.
- 15. Explain immunosuppressive agents and their applications.
- 16. Describe lymphocyte activation and differentiation.

SECTION – C

Write an essay on **any one** of the following. The question carries **10** marks. **(10x1=10)**

- 17. Explain principle and applications of immunofluorescence and Western Blotting.
 - 18. Explain structure and components of B cell receptor, its function and activation.
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BIOTECHNOLOGY
BTG2C06 : Molecular Biology

Time : 3 Hours

Max. Marks : 40

SECTION – A

Write about **each** of the following in **2 or 3** sentences. **Each** question carries **1** mark. **(10×1=10)**

1. 10 nm fiber.
2. Xeroderma pigmentosum.
3. Diagrammatic representation of substitution mutation.
4. Interspersed repetitive DNA.
5. Euchromatin.
6. Class II aminoacyl tRNA synthetase.
7. Components of 40S subunit.
8. Mode of action of aminoglycosides.
9. Intrinsic termination.
10. Comment on Lac operon function, if glucose is absent and lactose is present.

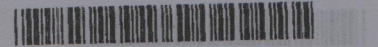
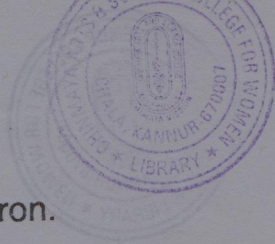
SECTION – B

Write notes on or discuss **any four** of the following. **Each** question carries **5** marks. **(4×5=20 Marks)**

11. Describe translational elongation.
12. Explain transcription repressors and their mode of action.

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13. Describe regulation of trp operon.
14. How microsatellites differ from minisatellites ?
15. Describe any five types of mutation.
16. Explain features of prokaryotic DNA polymerases.

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SECTION - C

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

(1×10=10)

17. Describe the molecular processes at the replication fork.
18. Describe the types, function and mode of action of eukaryotic RNA polymerases.

SECTION - B

Write notes on or discuss any four of the following. Each question carries 5 marks. (4×5=20 Marks)

11. Describe translational elongation.
12. Explain transcription repressors and their mode of action.

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II Semester M.Sc. Degree (Reg./Suppl./Imp.) Examination, April 2019
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BIOTECHNOLOGY

BTG2C07 : Genetics

Time : 3 Hours

Max. Marks : 40

SECTION – A

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

1. Lyon's hypothesis.
2. Sex linked inheritance.
3. Multiple alleles.
4. Co-dominance.
5. Turner syndrome.
6. Genomic imprinting.
7. Simple transposons.
8. Aneuploidy.
9. Genetic drift.
10. Molecular clock.

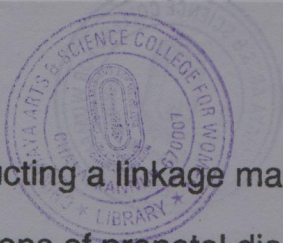
(10×1=10)

SECTION – B

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

11. Briefly explain the factors that affect HW equilibrium.
12. What are the different types of mutation ?
13. What are the Mendelian laws of inheritance ?

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14. What are the steps in constructing a linkage map by 3 point crosses ?
15. Briefly explain the pros and cons of prenatal diagnosis.
16. What are the different DNA based diagnosis techniques ? (4x5=20)

SECTION - C

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

17. What are the different types of extra chromosomal inheritance mechanisms ?
18. Briefly explain the gene transfer mechanisms in bacteria. (1x10=10)

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

1. Lyon's hypothesis.
2. Sex linked inheritance.
3. Multiple alleles.
4. Co-dominance.
5. Turner syndrome.
6. Genomic imprinting.
7. Simple transposons.
8. Aneuploidy.
9. Genetic drift.
10. Molecular clock.

(10x1=10)

SECTION - B

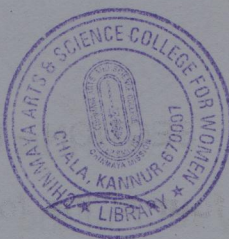
Write notes on or discuss any four of the following. Each question carries 5 marks.

11. Briefly explain the factors that affect HW equilibrium.
12. What are the different types of mutation ?
13. What are the Mendelian laws of inheritance ?

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**II Semester M.Sc. Degree (Reg./Suppl./Imp.) Examination, April 2019
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BIOTECHNOLOGY
BTG 2E01 : Enzymology**

Time : 3 Hours

Max. Marks : 40

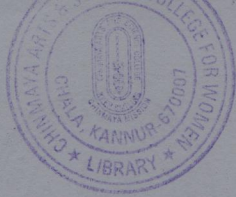
SECTION – A

Write about **each** of the following in **2 or 3** sentences. **Each** question carries **1** mark. **(1×10=10)**

1. What are serine proteases ? Give an example.
2. Mention two applications of abzymes.
3. Write a note on allosteric activators.
4. What is molecular docking ?
5. Write down Michaelis-Menten equation.
6. How will you convert Katal to international unit ?
7. Explain induced fit hypothesis.
8. Isoenzymes is useful in clinical diagnosis. Describe the statement with an example.
9. Distinguish between synthase and synthetase enzymes.
10. Define turn over number.

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SECTION – B

Write notes on or discuss **any four** of the following. **Each** question carries 5 marks. (5×4=20)

11. Explain the role of covalent modification in enzyme regulation.
12. Explain Briggs Haldane kinetics.
13. Write a note on the specificity of enzymes.
14. Explain metal ion catalysis with a suitable example.
15. Discuss about the applications of enzyme engineering.
16. Describe different models of allosterism.

SECTION – C

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

17. Give an idea about different types of enzyme action. Explain the importance of LB plot in inhibition studies.
18. Discuss about the different methods employed for the isolation and purification of enzymes.