

K22P 0177

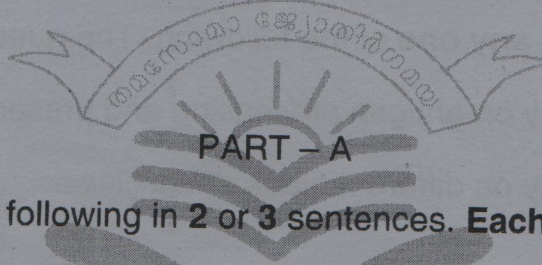
Reg. No. :

Name :

**II Semester M.Sc. Degree (CBSS – Reg./Supple./Imp.)
Examination, April 2022
(2018 Admission Onwards)
BIOTECHNOLOGY
BTG 2C05 : Immunology**

Time : 3 Hours

Max. Marks : 40



PART – A

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

1. Basic features of haptens.
2. Innate immune response.
3. What is anti-idiotypic antibody ?
4. Importance of TSTA.
5. Distribution of TCR.
6. Functions of NK cells.
7. Any two examples for recombinant vaccines.
8. Difference between monoclonal and polyclonal antibody.
9. Role of adjuvants.
10. Distribution of Class II MHC.

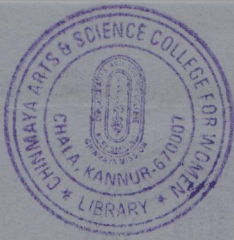
(10×1=10)

PART – B

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

11. Discuss the distribution of different classes of immunoglobulins.
12. Explain the clinical manifestations of graft rejection.

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13. Describe the immune response to tumors.
14. Explain systemic autoimmune diseases.
15. Discuss functions of cytokines.
16. Describe agglutination reaction and passive agglutination with specific examples.

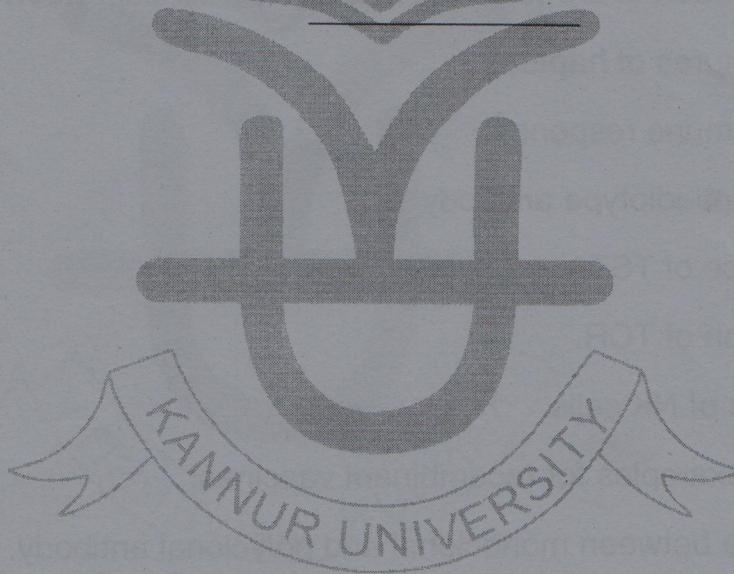
(4×5=20)

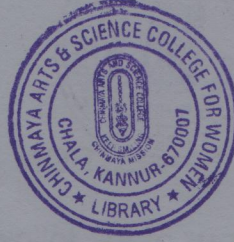
PART – C

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

17. Write an essay on antigen processing and presentation.
18. Write an essay on different types of vaccines.

(1×10=10)





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**II Semester M.Sc. Degree (C.B.S.S. – Reg./Supple./Imp.) Examination, April 2022
(2018 Admission Onwards)
BIOTECHNOLOGY
BTG2C06 : Molecular Biology**

Time : 3 Hours

Max. Marks : 40

Instruction : Draw diagrams wherever necessary.

SECTION – A

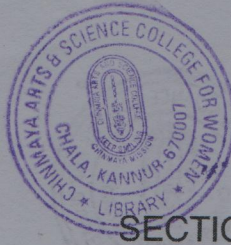
Write about **each** of the following in **2 or 3** sentences. **Each** question carries **one** mark.

(10×1=10)

1. What is B-DNA ?
2. What is STR ?
3. What is SOS repair ?
4. What are topoisomerases ?
5. What is RNA editing ?
6. What is *rho* factor ?
7. What are ribozymes ?
8. What is meant by codon degeneracy ?
9. What is an operon ?
10. What are microarrays ?

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SECTION – B

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

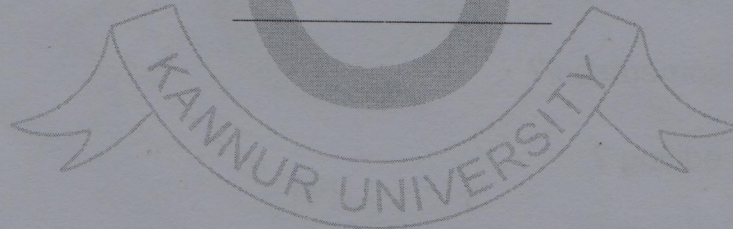
(4×5=20)

11. Explain the organisation of a eukaryotic protein gene with a suitable diagram.
12. Compare eukaryotic and prokaryotic ribosomes.
13. Explain the organisation of nucleosome.
14. What are the different types of gene mutations ?
15. Compare theta and rolling circle replication.
16. What is recombination repair ? How immunoglobulin gene diversity is created ?

SECTION – C

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

17. Narrate the enzymology and mechanics of prokaryotic DNA replication.
18. Explain the steps in prokaryotic translation.

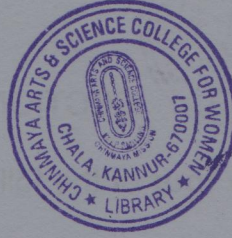




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Reg. No. :

Name :



**II Semester M.Sc. Degree (CBSS – Reg./Supple./Imp.)
Examination, April 2022
(2018 Admission Onwards)
BIOTECHNOLOGY
BTG2 E01 : Enzymology**

Time : 3 Hours

Max. Marks : 40

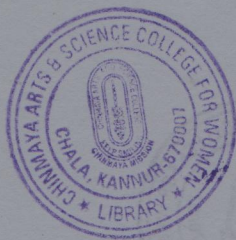
SECTION – A

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

1. What are zymogens ?
2. Define katal.
3. Write MM equation.
4. Name isoenzymes of an enzyme which has clinical importance.
5. What are metallo enzymes ? Give an example.
6. What happens to an enzyme catalyzed reaction when the enzyme concentration is increased ?
7. Who proposed induced fit hypothesis ?
8. Name the coenzyme involved in transamination reactions.
9. Mention a major application of enzyme engineering.
10. Give an example for absolute specificity among enzymes.

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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. How can you find out the K_m and V_{max} of an enzyme ? Explain the role of these parameters in studying action and regulation of enzymes.
12. Write a note on allosteric enzymes.
13. Give an idea about the recommendations of the enzyme commission.
14. Describe the importance of Lineweaver Burk plot in studying enzyme inhibition and bisubstrate reactions.
15. What are the different methods of enzyme immobilization ?
16. What is an active site ? Explain the approaches of drug design based on the active site.

SECTION – C

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

17. With suitable examples, explain covalent catalysis and acid-base catalysis.
18. Discuss different methods for the isolation of purification of enzymes.