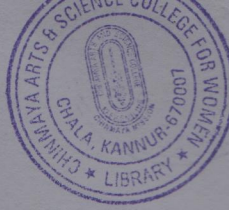


Reg. No. : .....

Name : .....



I Semester M.Sc. Degree (C.B.S.S. – Reg./Supple./Imp.)  
Examination, October 2021  
(2018 Admission Onwards)  
BIOTECHNOLOGY/MICROBIOLOGY  
BTG1C01/MBG1C01 : Biochemistry

Time : 3 Hours

Max. Marks : 40

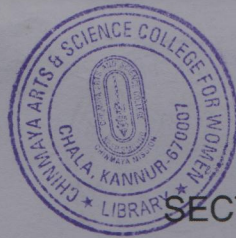
SECTION - A

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

1. What do you mean by torsion angle ?
2. Vitamin C deficiency causes bleeding of the gum. Why ?
3. Mention the major function of ergosterol in plants.
4. Name two amino acids that contain sulphur in it.
5. Why fructose is also called laevulose ?
6. What is meant by 'isoelectric precipitation' ?
7. Describe the function of anthocyanins.
8. Mention a function of zinc in our body.
9. Name two phospholipids seen in the mammalian cell membrane.
10. Draw the structure of pseudouridine.

P.T.O.

K21P 4192



SECTION – B

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

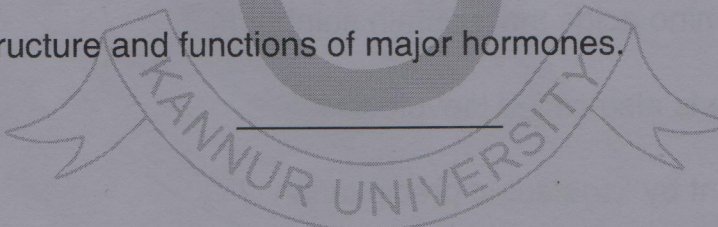
(4×5=20)

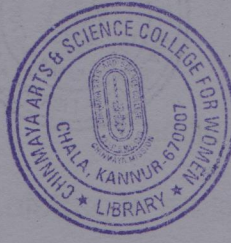
11. Describe the structural variation between alpha-helix and beta-pleated sheets.
12. Write a note on homopolysaccharides.
13. Discuss the physiological roles of eicosanoids.
14. Explain the function of neurotransmitters.
15. Write a note on fat-soluble vitamins.
16. Classify amino acids based on their polarity.

SECTION – C

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

17. Explain the structure of DNA in detail.
18. Discuss the structure and functions of major hormones.





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BIOTECHNOLOGY/MICROBIOLOGY  
BTG1C02/MBG1C02 : Biophysics

Time : 3 Hours

Max. Marks : 40

SECTION – A

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

1. What is Rubisco ?
2. Define pH.
3. Define Enthalpy.
4. What is Tyndall effect ?
5. What is redox potential ?
6. What is the difference between osmosis and dialysis ?
7. What is action potential ?
8. Draw the cyclic pyranose form of a monosaccharide.
9. What are surfactants ?
10. Define second law of thermodynamics.

SECTION – B

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

11. Explain Ramachandran plot.
12. Describe about adsorption and its biological importance.

P.T.O.

K21P 4193

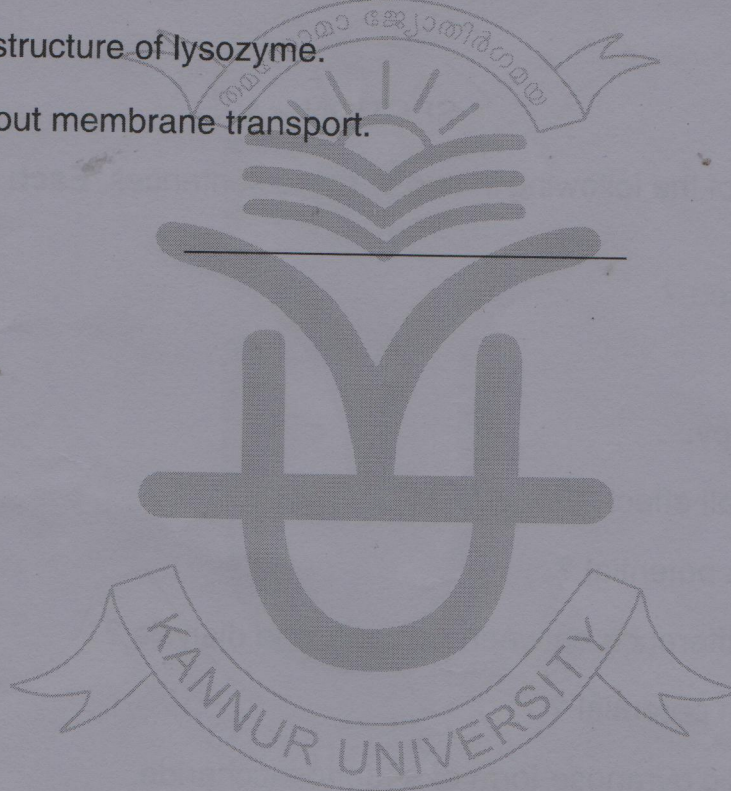


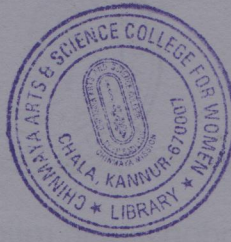
13. Explain about DNA supercoiling.
14. Explain about tertiary structure of protein.
15. Describe energy of activation.
16. Explain the structure of t-RNA.

SECTION – C

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

17. Explain the structure of lysozyme.
18. Describe about membrane transport.





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Examination, October 2021  
(2018 Admission Onwards)  
BIOTECHNOLOGY/MICROBIOLOGY  
BTG1C03/MBG1C03 : Cell 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 **1** mark.

1. What is meant by cell line transformation ?
  2. What are pluripotent stem cells ?
  3. What are vital stains ?
  4. What is the cellular role of Golgi bodies ?
  5. What is meant by facultative heterochromatisation ?
  6. What is the cellular role of p<sup>53</sup> ?
  7. What is pinocytosis ?
  8. What are phagosomes ?
  9. What is meant by Hayflick's limit ?
  10. What are histones ?
- (10×1=10)**

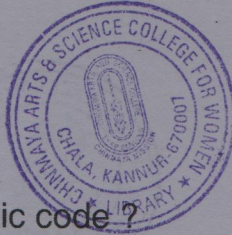
**SECTION – B**

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

11. Compare and contrast prokaryotic and eukaryotic ribosomes.

P.T.O.

**K21P 4194**

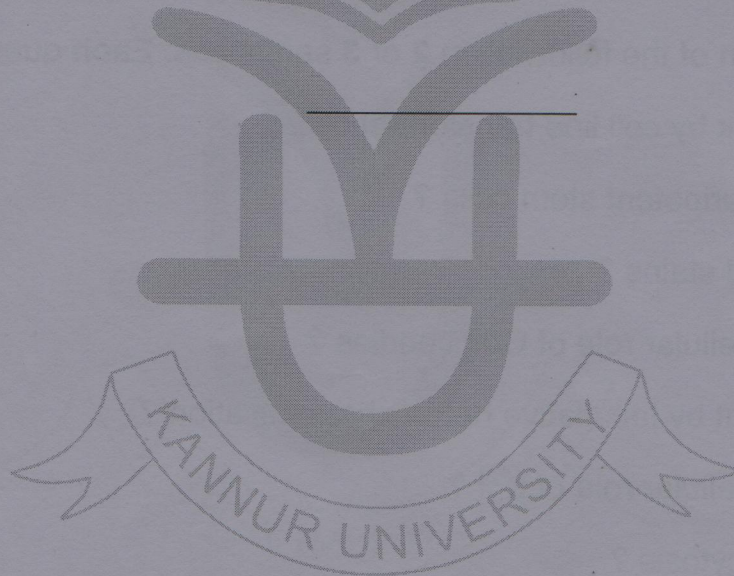


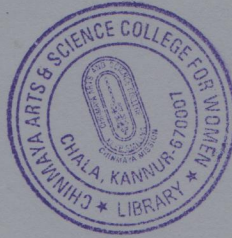
12. What are the features of genetic code?
13. Discuss the functions of endoplasmic reticulum.
14. Briefly explain the organization of nucleosomes.
15. Explain the organization of chloroplast.
16. Briefly explain the features of proteins targeted to general export pathway. **(4×5=20)**

**SECTION – C**

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

17. Briefly explain the different stages of Prophase 1 of meiosis.
18. What are the different cell cycle checkpoints? **(1×10=10)**





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**I Semester M.Sc. Degree (C.B.S.S. – Reg./Supple./Imp.)**  
**Examination, October 2021**  
**(2018 Admission Onwards)**  
**BIOTECHNOLOGY/MICROBIOLOGY**  
**MBG1C04/BTG1C04 : General Microbiology**

Time : 3 Hours

Max. Marks : 40

**SECTION – A**

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

1. What is the use of tyndallization ?
2. What are membrane filters ?
3. What is the evolutionary significance of Archaeobacteria ?
4. Why are fungi imperfectii called so ?
5. What are mesosomes ?
6. What is meant by bacterial nucleoid ?
7. What is meant by negative staining ?
8. What is the function of volutin granules ?
9. What are transposons ?
10. Explain stationary phase in bacterial growth. (10×1=10)

**SECTION – B**

Answer **any four** of the following. **Each** question carries **5** marks.

11. Describe the chemical methods of control of microbes.
12. Describe antibiotic sensitivity tests.
13. Explain five kingdom classification.
14. Explain classification of fungi based on methods of reproduction.
15. Describe the structure of bacterial cell wall.
16. Describe the methods of preservation of microbial cultures. (4×5=20)

**SECTION – C**

Answer **any one** of the following. The question carries **10** marks.

17. Microscopic techniques used in Microbiology.
18. Principles of bacterial taxonomy. (10×1=10)