

K21P.0535

Reg. No. :

Name :

**First Semester M.Sc. Degree (CBSS – Reg./Suppl. (Including Mercy
Chance)/Imp.) Examination, October 2020
(2014 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 is the information you get from iodine number ?
2. Describe cell theory.
3. Draw the structure of α D glucopyranose.
4. Mention the importance of selenium in our body.
5. What are zwitter ions ?
6. What do you mean by inhibitory neurotransmitter ? Give examples.
7. What is mutarotation ?
8. What is the function of rRNA ?
9. Name two pigments involved in photosynthesis.
10. What are pheromones ?

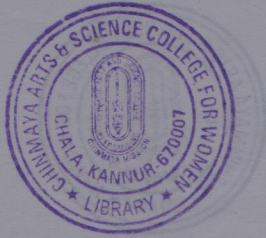
SECTION – B

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

11. Distinguish between Watson-crick base pairing and Hoogsteen base pairing.
12. Write a note on glycosaminoglycans.

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13. Explain the physiological role of macrominerals.
 14. Discuss the mechanism of action of steroid and peptide hormones.
 15. What are the different methods employed for the precipitation of proteins ?
 16. Write a note on fat-soluble vitamins.

SECTION - C

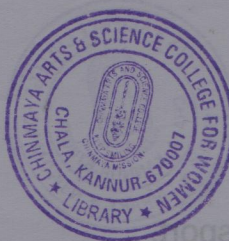
Write an essay on **any one** of the following. The question carries **10** marks. **(1×10=10)**

17. Describe the different levels of structural organization in proteins with the help of suitable example.
18. Classify lipids and discuss about the structure and functions of each class.

SECTION - B

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

11. Distinguish between Watson-crick base pairing and Hoogsteen base pairing.
12. Write a note on glycosaminoglycans.



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**First Semester M.Sc. Degree (CBSS – Reg./Suppl. (Including Mercy
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(2014 Admission Onwards)
BIOTECHNOLOGY/MICROBIOLOGY
BTG1C02/MBG1C02 : Biophysics**

Time : 3 Hours

Max. Marks : 40

SECTION – A

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

1 mark :

(10×1=10)

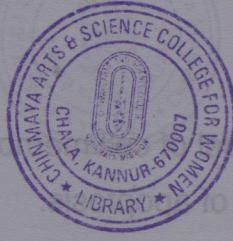
1. Entropy.
2. Oligonucleotides.
3. Peptide bond.
4. Asymmetric carbon.
5. pH.
6. Dialysis.
7. Leucine zipper.
8. Open system.
9. Second law of thermodynamics.
10. Rate of a reaction.

SECTION – B

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

11. Discuss Ramachandran plot.
12. Discuss protein-nucleic acid interactions.

P.T.O.



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Reg. No. :

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**First Semester M.Sc. Degree (CBSS – Reg./Suppl. (Including Mercy
Chance)/Imp.) Examination, October 2020
(2014 Admission Onwards)**

Biotechnology/Microbiology

BTG1C03/MBG1C03 : CELL BIOLOGY

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 are proto-oncogenes ?
2. Mention the importance of receptors.
3. What are autotrophs ?
4. What is the function of selectins ?
5. Name two pigments located in chloroplast.
6. What do you know about flagellin ?
7. Where is glyoxysome found ?
8. Name two molecules found in extracellular matrix.
9. What do you mean by a pluripotent cell ?
10. What is the role of vacuoles in plant cells ?

SECTION – B

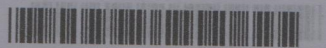
Write notes on or discuss **any four** of the following. **Each** question carries **5** marks.

(4×5=20)

11. Explain the action of G-protein coupled receptors.
12. Write a note on chromatin organization.

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13. Explain the fluid mosaic model of cell membrane.
14. Discuss the different stages of apoptosis.
15. Describe different components of cytoskeleton.
16. Write a note on active transport.

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SECTION - C

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

(1×10=10)

17. Write an essay on cell cycle regulation.
18. Draw the structure of an animal cell and label its different sub-cellular organelles. Detail the functions of mitochondria and endoplasmic reticulum.

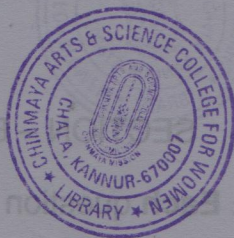
Write about each of the following in 2 or 3 sentences. Each question carries one mark. (10×1=10)

1. What are proto-oncogenes?
2. Mention the importance of receptors.
3. What are autophagy?
4. What is the function of selectins?
5. Name two pigments located in chloroplast.
6. What do you know about flagellin?
7. Where is glyoxysome found?
8. Name two molecules found in extracellular matrix.
9. What do you mean by a pluripotent cell?
10. What is the role of vacuoles in plant cells?

SECTION - B

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

11. Explain the action of G-protein coupled receptors.
12. Write a note on chromatin organization.



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BIOTECHNOLOGY / MICROBIOLOGY
BTG1C04/MBG1C04 : General Microbiology**

Time : 3 Hours

Max. Marks : 40

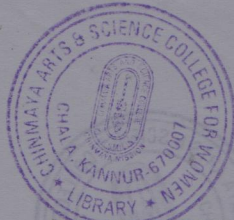
SECTION – A

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

1. What is the principle of confocal microscopy ?
2. What is the principle of Rideal-Walker Test ?
3. How is E test performed ?
4. How do prions replicate ?
5. Write briefly on peptidoglycan.
6. What is the principle of Gram Staining ?
7. Write briefly on bacterial chromosome.
8. How will you explain lag phase in bacterial growth ?
9. What is the use of selective media ?
10. What are mesosomes ? (10×1=10)

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SECTION - B

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

11. Explain the principle of electron microscopy.
12. Write a note on chemical disinfectants.
13. Explain the general properties of viruses.
14. Describe the structure of bacterial flagella.
15. Explain a bacterial growth curve.
16. Explain the pure culture techniques.

(4×5=20)

SECTION - C

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

17. Physical methods of control of microbes.
18. Ultrastructure of a bacterial cell.

(1×10=10)

(10×1=10)

P.T.O.