

K21U 6780

Reg. No. :

Name :

I Semester B.Sc. Degree (C.B.C.S.S. – O.B.E.- Regular/Supplementary/
Improvement) Examination, November 2021

2019 Admission Onwards

COMPLEMENTARY ELECTIVE COURSE IN BIOCHEMISTRY

1C01BCH – Biochemistry – I

Time : 3 Hours

Max. Marks : 32

SECTION – A

Answer **all** questions. **Each** carries 1 mark.

1. Define epimer.
2. Define chiral carbon atom.
3. What is molarity ?
4. Define Diastereomers.
5. What is colloidal solution ?

(5×1=5)

SECTION – B

Answer **any four** of the following. **Each** question carries 2 marks.

6. Explain about vitamin A.
7. Which vitamin deficiency causes scurvy?
8. Define pH scale.
9. What is invert sugar ?
10. What is Tyndall effect ?
11. Define Brownian movement.

(4×2=8)

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SECTION – C

Answer **any three** of the following. **Each** question carries **3** marks.

12. Derive Henderson Hasselbalch equation.
13. Define enantiomers with an example.
14. Explain the source and function of Vitamin K.
15. Draw and explain sugars in six-membered ring. Give an example.
16. How will you prepare 0.1 N HCl ?

(3×3=9)

SECTION – D

Write an essay on **any two** of the following. **Each** question carries **5** marks.

17. Name the source, chemical nature, deficiency disease and functions of Niacin, Riboflavin, Pantothenic acid and cyanocobalamin.
18. Explain various branches of Biochemistry.
19. Explain about homopolysaccharides with examples.
20. Explain about biological buffer.

(2×5=10)

SECTION – B



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(2019 Admission Onwards)
CORE COURSE IN BIOTECHNOLOGY
1B01BTC : Cell Biology**

Time : 3 Hours

Max. Marks : 40

PART – A

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

1. What is leucoplasts ?
2. What is PPLO ?
3. What is lampbrush chromosomes ?
4. What are lysosomes ?
5. What are acrocentric chromosomes ?
6. What is actin ?

(6×1=6)

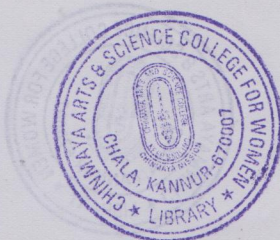
PART – B

Answer **any six** of the following. **Each** question carries **two** marks.

7. Write a note on cytoskeletal structures.
8. Brief account on chromatin.
9. Compare amoeboid and flagellar motion.
10. Write the structure of cell membrane.
11. Give examples of cell organelles.
12. Write the difference between plant and animal cell.

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13. Compare mitosis and meiosis.

14. Give examples of nucleoproteins.

(6×2=12)

PART – C

Write a short essay on **any four** of the following. **Each** question carries **three** marks.

15. What are peroxisomes ?

16. Describe passive and active transport.

17. Detail the significance of meiosis.

18. What is the ribosome ?

19. Describe the cell cycle.

20. Write about fluid mosaic model.

(4×3=12)

PART – D

Write an essay on **any two** of the following. **Each** question carries **five** marks.

21. Describe mitosis and its stages.

22. Discuss the special type of chromosomes.

23. Give a brief account of the organisation of chromosomes.

24. Briefly describe the ultrastructure of the endoplasmic reticulum.

(2×5=10)



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(2019 Admission Onwards)

COMPLEMENTARY ELECTIVE COURSE IN MICROBIOLOGY
(For Biochemistry/Biotechnology/Life Sciences (Zoology) and
Computational Biology)

1C01MCB : Basic Microbiology – I

Time : 3 Hours

Max. Marks : 32

PART – A

Short Answer. Answer **all** questions. **Each** question carries **1** mark.

(5×1=5)

1. Ernst Abbe equation.
2. Simple staining.
3. Mesosomes.
4. Spheroplast.
5. Growth factors.

PART – B

Short Essay. Answer **any 4** questions. **Each** question carries **2** marks.

(4×2=8)

6. Swan neck experiment.
7. Principle and procedure of Gram staining.
8. What are trace elements ?
9. ABC transporters.
10. Comment on the iron intake by bacteria.

P.T.O.



PART - C

Essay. Answer **any 3** questions. **Each** question carries **3** marks. **(3×3=9)**

11. Contributions of Robert Koch to the field of Microbiology.
12. Briefly describe the working principle of fluorescent microscopy with diagram.
13. Dark field microscopy.
14. Structure of flagella with diagram.
15. Purpose and process of sporulation in bacteria.

PART - D

Long Essay. Answer **any 2** questions. **Each** question carries **5** marks. **(2×5=10)**

16. Write an essay on chemical methods of sterilisation.
17. Explain in detail the Electron Microscopy technique.
18. Describe the Gram positive and negative cell wall in detail.
19. Explain the role of various macro elements required for bacterial growth.



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I Semester B.Sc. Degree (C.B.C.S.S. – Supplementary)

Examination, November 2021

(2015-2018 Admissions)

COMPLEMENTARY COURSE IN MICROBIOLOGY

1C01 MCB : Basic Microbiology – I

Time : 3 Hours

Max. Marks : 32

SECTION – A

(Answer **all five** questions.)

(5×1=5)

1. Who formulated the first vaccine ?
2. Nigrosin can be used for _____ staining.
3. Treponema is observed using _____ microscopy.
4. Give an example for an anaerobic spore forming bacteria.
5. _____ is an example for dry heat sterilization.

SECTION – B

(Answer very briefly on **any four** of the following.)

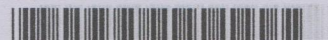
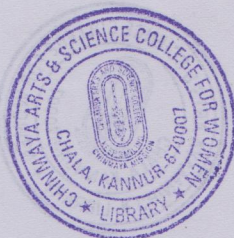
(4×2=8)

Comment on the following.

6. Immunization
7. Animalcules
8. Catalase test
9. Pili
10. Agar
11. LPCB.

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SECTION – C

(Write short notes on **any three** of the following.)

(3×3=9)

12. State Koch's postulates.
13. Explain briefly the principle and procedure of spore staining.
14. Comment on the concept of microbial species and strain.
15. How does penicillin affect the cell wall of bacteria ?
16. Write about the nutritional classification of bacteria.

SECTION – D

(Answer **any two** of the following in detail.)

(2×5=10)

17. What is staining ? Write about any five staining techniques.
18. Write in detail about the biochemical characterization of bacteria.
19. Write an essay on culture media, its preparation and types.
20. With a neat diagram explain the structure of a bacterial cell.