Roll No. | | | | | | | | | | | | **Total No. of Pages: 03**

Total No. of Questions: 11

Master of Science (Chemistry) (Sem. – 2)

CHEMICAL BIOLOGY

Subject Code: CHL-415B-18

M Code: 75986

Date of Examination : 23-12-2022

Time: 3 Hrs. **Max. Marks: 70**

INSTRUCTIONS TO CANDIDATES:

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains EIGHT questions carrying FIVE marks each and students have to attempt any SIX questions.**
3. **SECTION-C is COMPULSORY consisting of TWO questions with internal choice carrying TEN marks each.**

SECTION-A

1. Write briefly:

a) What is combinatorial synthesis and its advantages?

b) What is stored in DNA libraries?

c) Which is the most accepted theory of origin of life?

d) Which forces are responsible in biological macromolecules?

e) How lipids are chemically synthesized?

f) What organelle synthesizes nucleic acids?

g) How molecular bindings are analyzed? Explain.

h) What is the principle of electrophoresis to study the biomolecules?

i) What are the applications of electronic spectroscopy for biomolecules?

j) What is a genome? How many genes are in a genome?

SECTION-B

2. How are protein libraries created? Describe the different types of protein libraries.

3. Write a short note on biooligomers.

4. What do you understand by catalytic antibodies? Discuss the applications of catalytic antibodies.

5. Write a short note on evolution of proteins function.

6. How peptides are chemically synthesized? Explain with suitable examples.

7. How lipids are synthesized in biological system? Explain.

8. How do you analyze the molecular recognition in a macromolecule?

9. Illustrate NMR spectroscopy for the study of structure of proteins and nucleic acids.

SECTION-C

10. Discuss the chemical and biological synthesis of nucleic acids.

Or

Discuss the chemical and biological synthesis of proteins.

11. How mass spectrometry is useful for the determination of biomolecules?

Or

Describe the different types of structures of carbohydrates and their subunits.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.