

B.Sc. Semester - 2 (CBCS) Examination
June/July-2022 [NEW COURSE]
MICROBIOLOGY (CORE)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Ques.1 A. Answer in brief**04**

- 1) Define pH.
- 2) What are covalent bonds ?
- 3) What is hydrolysis reaction ?
- 4) Discriminate between atom and molecule.

Ques.1 B. Answer the following (Any one out of two)**03**

- 1) Explain redox reactions with examples.
- 2) Write a list of properties of water.

Ques.1 C. Answer in detail (Any one out of two)**07**

- 1) Discuss the scope of Biochemistry.
- 2) Write a note on pH

Ques.2 A. Answer in brief**04**

- 1) What are reducing sugars ?
- 2) What is the contribution of Chargaff ?
- 3) What are sphingolipids ?
- 4) Which bonds are involved in tertiary structure of proteins ?

Ques.2 B. Answer the following (Any one out of two)**03**

- 1) Describe various polysachharides you know.
- 2) Explain types of RNA with functions.

Ques.2 C. Answer in detail (Any one out of two)**07**

- 1) Write a note on structure, types and importance of lipids.
- 2) Describe significance of proteins and aminoacids.

Ques.3 A. Answer in brief**04**

- 1) What is activation energy ?
- 2) Write a list of groups of enzymes.
- 3) What is Km value ?
- 4) What is apoenzyme and holoenzyme ?

Ques.3 B. Answer the following (Any one out of two) **03**

- 1) Explain mechanism of enzyme action.
- 2) Write a brief note on enzyme kinetics.

Ques.3 C. Answer in detail (Any one out of two) **07**

- 1) Describe regulation of enzyme synthesis and operon concept.
- 2) Explain enzyme inhibition with suitable examples.

Ques.4 A. Answer in brief **04**

- 1) What is the mode of action of UV rays on bacteria ?
- 2) What is fractional sterilization ?
- 3) Define : Z value
- 4) Which heavy metals are antimicrobial in nature ?

Ques.4 B. Answer the following (Any one out of two) **03**

- 1) Describe principle of steam under pressure.
- 2) Explain gaseous antimicrobial agents.

Ques.4 C. Answer in detail (Any one out of two) **07**

- 1) Write a note on characteristics of ideal antimicrobial agents.
- 2) Describe chemical antimicrobial agents in detail.

Ques.5 A. Answer in brief **04**

- 1) What are beta lactam antibiotics ?
- 2) Write examples of antibiotics that inhibit bacterial protein synthesis.
- 3) What is bioassay ?
- 4) Write examples of antitumor chemotherapeutic agents.

Ques.5 B. Answer the following (Any one out of two) **03**

- 1) What are nonmedical uses of antibiotics ?
- 2) Explain antifungal and antiviral agents.

Ques.5 C. Answer in detail (Any one out of two) **07**

- 1) Describe any four antibiotics with their source, structure and mode of action.
- 2) Explain historical aspects of chemotherapeutic agents.
