

B.Sc. Semester - 2 (CBCS) Examination
March/April - 2024 (As Per Syllabus Year-2016)
MICRO-BIOLOGY (CORE)

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

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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- Que.1(A) Objective type questions. (04)
(1) What is the smallest unit of an element?
(2) Name the bond formed when electrons are shared between atoms.
(3) Define a chemical reaction.
(4) What is the significance of pH in biological systems?
- Que.1(B) Answer in brief. (Any 1 out of 2) (02)
(1) Explain the structure of an atom.
(2) Enlist the types of chemical bonds.
- Que.1(C) Answer in detail. (Any 1 out of 2) (03)
(1) Describe the properties of water.
(2) Why is biochemistry essential for microbiologists?
- Que.1(D) Write a note on. (Any 1 out of 2) (05)
(1) Explore the concept of molecules bonds, highlighting its importance.
(2) Discuss the role of chemical reactions in living organisms.
- Que.2(A) Objective type questions. (04)
(1) What are carbohydrates primarily composed of?
(2) Name the main types of lipids found in biological systems.
(3) What are proteins made up of?
(4) What are the two types of nucleic acids?
- Que.2(B) Answer in brief. (Any 1 out of 2) (02)
(1) Discuss the classification of carbohydrates.
(2) Discuss the biological functions of lipid.
- Que.2(C) Answer in detail. (Any 1 out of 2) (03)
(1) Describe the classification of lipids.
(2) Discuss the biological functions of carbohydrates.
- Que.2(D) Write a note on. (Any 1 out of 2) (05)
(1) Explain the classification of proteins based on their structure and function.
(2) Explore the classification of nucleic acids, detailing their structural components.
- Que.3(A) Objective type questions. (04)
(1) Explain: Apo Enzyme.
(2) Define: Enzyme activity.
(3) _____ scientist give the term enzyme.
(4) At low temperature enzyme is more active. (True / False)
- Que.3(B) Answer in brief. (Any 1 out of 2) (02)
(1) Nomenclature of enzyme.
(2) Regulation of enzymes synthesis.
- Que.3(C) Answer in detail. (Any 1 out of 2) (03)
(1) Explain various Characterization of Enzyme.
(2) Mechanism of enzyme synthesis.
- Que.3(D) Write a note on. (Any 1 out of 2) (05)
(1) Types enzyme inhibitions.
(2) Chemical and Physical properties of enzyme.

- Que.4(A) Objective type questions. (04)
- (1) Define sterilization.
 - (2) What is the primary difference between disinfectants and antiseptics?
 - (3) What is bacteriostasis?
 - (4) Define the term "phenol coefficient."
- Que.4(B) Answer in brief. (Any 1 out of 2) (02)
- (1) Explain: filtration methods to control microorganisms.
 - (2) Short note on germicide.
- Que.4(C) Answer in detail. (Any 1 out of 2) (03)
- (1) How dye and detergent used as chemical agents to microbial control.
 - (2) Explore the uv light and x -rays act physical agents of microbial control.
- Que.4(D) Write a note on. (Any 1 out of 2) (05)
- (1) Discuss the principles and types of sterilization techniques commonly used in microbial control.
 - (2) Describe the chemical agents of microbial control.
- Que.5(A) Objective type questions. (04)
- (1) Define antibiotics.
 - (2) Name one common mechanism of action shared by many antibiotics.
 - (3) What is the primary target of β -lactam antibiotics?
 - (4) Name a class of antibiotics that inhibit bacterial protein synthesis.
- Que.5(B) Answer in brief. (Any 1 out of 2) (02)
- (1) Write any two names of antifungal agents.
 - (2) What are antitumor chemotherapeutic agents?
- Que.5(C) Answer in detail. (Any 1 out of 2) (03)
- (1) Write any three names of antiviral agents.
 - (2) Nonmedicinal uses of antibiotics.
- Que.5(D) Write a note on. (Any 1 out of 2) (05)
- (1) Discuss the mode of action of antibiotics that target bacterial cell wall synthesis.
 - (2) Explain how antibiotics that inhibit bacterial protein synthesis function.
