

**B.Sc. Semester - 2 (CBCS) Examination****March/April- 2019 (Old Course)****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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**Ques.1 A. Answer the following (One mark each) [4]**

- 1) Define: Dehydration
- 2) Define: CoValent Bond
- 3) What is pH ?
- 4) Mention any four properties of water that makes it ideal solvent.

**Ques.1 B. Answer in brief (Any one out of two) [2]**

- 1) Give names of electrodes of Laboratory pH meter.
- 2) What are reducing agents ?

**Ques.1 c. Answer in detail (Any one out of two) [3]**

- 1) Explain the significance of H bond in biomolecules.
- 2) What are isotopes? What are their applications?

**Ques.1 d. Write a note on (Any one out of two) [5]**

- 1) Describe types of chemical reactions in detail.
- 2) Write a note on biological buffers.

**Ques.2 A. Answer the following (One mark each) [4]**

- 1) What are enantiomers ?
- 2) What are waxes ?
- 3) What is the contribution of Rosalind Franklin ?
- 4) What are conjugated proteins ?

**Ques.2 B. Answer in brief (Any one out of two) [2]**

- 1) Discuss any two heteropolysachharides.
- 2) What are steroids ?

**Ques.2 c. Answer in detail (Any one out of two) [3]**

- 1) Write a note on Types of RNA.
- 2) What is Tertiary structure of protein?

**Ques.2 d. Write a note on (Any one out of two) [5]**

- 1) Describe the function of lipids in nature.
- 2) Explain double helical structure of DNA.

**Ques.3 A. Answer the following (One mark each) [4]**

- 1) Define: Activation energy
- 2) Define: Km
- 3) What are transferases ?
- 4) What are Ribozymes ?

**Ques.3 B. Answer in brief (Any one out of two) [2]**

- 1) Define Allosteric effector
- 2) Explain non competitive inhibition.

**Ques.3 c. Answer in detail (Any one out of two)** [3]

- 1) Define: Coenzyme, Cofactor and Prosthetic group.
- 2) Describe enzyme nomenclature in detail.

**Ques.3 d. Write a note on (Any one out of two)** [5]

- 1) Explain the mechanism of enzyme action.
- 2) Describe major factors affecting enzyme activity.

**Ques.4 A. Answer the following (One mark each)** [4]

- 1) Define: Tyndallization
- 2) Define: Decimal reduction time
- 3) What are Thymidine dimers ? How are they formed ?
- 4) Name few gaseous antimicrobial agents.

**Ques.4 B. Answer in brief (Any one out of two)** [2]

- 1) Explain bacteriological filters.
- 2) What are surface active agents ?

**Ques.4 c. Answer in detail (Any one out of two)** [3]

- 1) Explain the mechanism of steam under pressure.
- 2) Explain cold sterilization.

**Ques.4 d. Write a note on (Any one out of two)** [5]

- 1) Discuss desiccation as antimicrobial agent.
- 2) Explain halogens and their applications.

**Ques.5 A. Answer the following (One mark each)** [4]

- 1) What are beta lactam antibiotics ?
- 2) Give name of microorganism responsible for production of streptomycin and bacitracin
- 3) What are interferons ?
- 4) Why penicillin affects only growing culture of bacteria ?

**Ques.5 B. Answer in brief (Any one out of two)** [2]

- 1) Explain antifungal antibiotics.
- 2) Contribution of Selman Waksman

**Ques.5 c. Answer in detail (Any one out of two)** [3]

- 1) Describe chemical structure of penicillin and its derivatives.
- 2) Explain bioassay of antibiotic

**Ques.5 d. Write a note on (Any one out of two)** [5]

- 1) Antibiotics that inhibit protein synthesis.
- 2) Explain the characteristics of ideal chemotherapeutic agent.

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