

B.Sc. Semester - 2 (CBCS) Examination
March/April -2019 (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) How H Bond is formed in a water molecule ?
- 2) What are redox reactions ?
- 3) What is dehydration reaction ?
- 4) What is the composition of a standard buffer solution ?

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

- 1) Describe salient physical and chemical properties of water
- 2) What are ionic and covalent bonds ?

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

- 1) Describe types of chemical reactions in detail.
- 2) Explain the scope of biochemistry in detail.

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

- 1) What are enantiomers ?
- 2) What are waxes ?
- 3) Write functions of r RNA and t RNA.
- 4) Give name of aromatic amino acids.

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

- 1) Explain structure of triglyceride and sterols in brief.
- 2) Describe biological functions of polysachharides.

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

- 1) Explain the molecular structure of double helix in detail.
- 2) Proteins are most essential structural and functional components of a living cell - Justify

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

- 1) What are allosteric effector molecules ?
- 2) What is noncompetitive inhibition ?
- 3) What is induction ?
- 4) Write contribution of J.B. Sumner and John Northrop in enzymology.

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

- 1) Discuss rules of enzyme nomenclature.
- 2) Explain enzyme inhibition in brief.

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

- 1) What is activation energy ? Write a note on mechanism of enzyme action
- 2) Explain mechanism and regulation of enzyme synthesis.

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

- 1) Write the principle of autoclave.
- 2) Give name of gaseous antimicrobial agents.
- 3) What are surface active agents ?
- 4) Define : Pasteurization

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

- 1) Describe Phenol coefficient method in brief.
- 2) Explain desiccation and osmotic pressure as antimicrobial agents.

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

- 1) Discuss various chemical antimicrobial agents.
- 2) Describe the parameters for an ideal antimicrobial agent.

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

- 1) Write the contribution of Selman Waksman.
- 2) Give name of few antifungal antibiotics.
- 3) What is mode of action of streptomycin, chloramphenicol and bacitracin ?
- 4) What is 6APA ?

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

- 1) Describe antiviral and antitumor agents with examples.
- 2) What are non medical uses of antibiotics ?

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

- 1) Discuss beta lactam antibiotics in detail.
- 2) Write a detailed account on microbiological assay of antibiotics.
