Seat No. _____

HT-003-1012016

B. Sc. (Sem. II) (WEF-2016) Examination

May - 2023

Microbiology : MB-201

(Microbial Chemistry & Microbial Control)

Faculty Code : 003
Subject Code : 1012016

Time : $2\frac{1}{2}$ Hours / Total Marks : **70**

1 (a) Objective type questions : **4**

(1) What is atom ?

(2) What are isotopes ?

(3) Define : Matter.

(4) Give 2 examples of weak bond.

(b) Answer in brief : (any **one**) **2**

(1) What is element ? Give its example.

(2) Write a note on pH.

(c) Answer in detail : (any **one**) **3**

(1) Describe structure and properties of water molecule.

(2) Enlist different types of chemical bonds and explain covalent bond.

(d) Answer in detail : (any **one**) **5**

(1) Discuss : Structure of atom.

(2) Describe various types of chemical reactions.

2 (a) Objective type questions : **4**

(1) Give examples of sulphur containing amino acid.

(2) Give common formula of carbohydrate.

(3) Define : lipid

(4) Give full form of DNA and RNA.

(b) Answer in brief : (any **one**) **2**

(1) Explain the structure of glucose.

(2) Describe functions of lipid.

(c) Answer in detail : (any **one**) **3**

(1) Explain Chargaff's rule of equivalence.

(2) Discuss secondary structure of protein.

(d) Answer in detail : (any **one**) **5**

(1) Write a detailed note on Watson and Crick model of DNA.

(2) Discuss : Polysaccharides.

3 (a) Objective type questions : **4**

(1) Define : Enzyme.

(2) Who coined the term enzyme ?

(3) Enzymes are basically made up of proteins. True/False.

(4) What are allosteric enzymes ?

(b) Answer in brief : (any **one**) **2**

(1) Give properties of an enzyme.

(2) What is feedback inhibition ?

(c) Answer in detail : (any **one**) **3**

(1) Describe Classification of enzyme.

(2) Write a note on lock and key model of enzyme theory.

(d) Answer in detail : (any **one**) **5**

(1) Explain regulation mechanism of enzyme activity.

(2) Discuss factors affecting enzyme activity.

4 (a) Objective type questions : **4**

(1) Define : Sterilization.

(2) Name any 2 chemical antimicrobial agents.

(3) Name any 2 physical antimicrobial agents.

(4) Give examples of heavy metals used as an antimicrobial agent.

(b) Answer in brief : (any **one**) **2**

(1) What is osmotic pressure ?

(2) Explain : Desiccation.

(c) Answer in detail : (any **one**) **3**

(1) Describe filtration as microbial control.

(2) Discuss phenol co-efficient method.

(d) Answer in detail : (any **one**) **5**

(1) Describe characteristic, evaluation and selection of ideal antimicrobial agent.

(2) Explain in detail high temperature as an antimicrobial agent.

5 (a) Objective type questions : **4**

(1) Penicillin was discovered by_____

(2) What is chemotherapy ?

(3) Define : Antibiotic.

(4) Give 2 examples of antifungal agents.

(b) Answer in brief : (any **one**) **2**

(1) Write characteristics of ideal antimicrobial agent.

(2) Describe non-medical use of antibiotics.

(c) Answer in detail : (any **one**) **3**

(1) Explain in detail mode of action of penicillin.

(2) Discuss antibiotic that damage cell membrane.

(d) Answer in detail : (any **one**) **5**

(1) Explain in detail antibiotic inhibiting cell wall synthesis in bacteria.

(2) Discuss : Antibiotic inhibiting protein synthesis in bacteria.