Seat No. _____

HT-16

B. Sc. (Microbiology) (Sem. II)

(CBCS) (WEF-2019) Examination

May - 2023

MB - 201 : Basics of Bio-Chemistry & Microbial Control

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

1 (a) Objective : **4**

(1) ____ and _____ decides the atomic weight.

(2) Dipole moment is due to _____.

(3) Define : pH.

(4) Define : Isotopes.

(b) Answer in brief : (any 1 out of 2) **2**

(1) What is polar and non-polar covalent bonds ?

(2) Structure of Atom.

(c) Answer in detail : (any 1 out of 2) **3**

(1) Explain in brief pH.

(2) Explain structure and properties of water.

(d) Write a note on : (any 1 out of 2) **5**

(1) Explain Acid – base and oxidation – reduction reactions.

(2) Type of chemical bonds.

2 (a) Objective : **4**

(1) Define and give example: Reducing sugar.

(2) Who suggested double helical structure of DNA ?

(3) The monomer of protein is _____.

(4) Give examples of simple lipids.

(b) Answer in brief : (any 1 out of 2) **2**

(1) Give structure of nucleotide.

(2) Biological functions of proteins.

(c) Answer in detail : (any 1 out of 2) **3**

(1) Classification of Lipid.

(2) Explain disaccharides and polysaccharides.

(d) Write a note on : (any 1 out of 2) **5**

(1) Structure and functions of RNA.

(2) Explain structure of protein.

3 (a) Objective : **4**

(1) What is K_m value ?

(2) Holoenzyme = ____ + _____.

(3) Which group of enzymes catalyze transfer of a functional group?

(4) Define : Coenzyme.

(b) Answer in brief : (any 1 out of 2) **2**

(1) Define Allosteric enzyme.

(2) Nomenclature of enzyme.

(c) Answer in detail : (any 1 out of 2) **3**

(1) Classification of enzyme.

(2) Competitive inhibition.

(d) Write a note on : (any 1 out of 2) **5**

(1) Regulation of enzyme activity.

(2) Difference between Prokaryotic and Eukaryotic enzyme regulation.

4 (a) Objective : **4**

(1) Give full form : HEPA.

(2) At which temperature and time pasteurization is carried out ?

(3) What do you understand by Disinfectant ?

(4) Give examples of alcohol used as antimicrobial agent.

(b) Answer in brief : (any 1 out of 2) **2**

(1) Enlist gaseous agents and their mode of action against microbes.

(2) How osmotic pressure reduces microbial population ?

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

(1) How Radiation is used as antimicrobial agent ?

(2) Explain phenol coefficient method for evaluation of chemical antimicrobial agents.

(d) Write a note on : (any 1 out of 2) **5**

(1) High temperature as physical agent of microbial control.

(2) Explain : Quaternary ammonium compounds act as antimicrobial agent.

5 (a) Objective : **4**

(1) Give example of antibiotics that inhibit Protein synthesis of bacteria.

(2) What is the mode of action of Ampicillin ?

(3) Streptomycin was discovered by _____

(4) Define : Antibiotic.

(b) Answer in brief : (any 1 out of 2) **2**

(1) Characteristics of ideal cheomotherapeutic agent.

(2) Antibiotics inhibiting DNA synthesis of bacteria.

(c) Answer in detail : (any 1 out of 2) **3**

(1) Explain Antiviral chemotherapeutic agent.

(2) Explain : Non-medical use of antibiotics.

(d) Write a note on : (any 1 out of 2) **5**

(1) Explain antibiotics affecting cell-wall synthesis of bacteria.

(2) Write a note on Antifungal agents.

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