

CREDIT BASED THIRD SEMESTER B.Sc. DEGREE EXAMINATION - OCTOBER 2012

MICROBIOLOGY**MICROBIAL TAXONOMY AND GROWTH**

Duration: 3 Hours

Max Marks: 80

Note: Draw diagrams wherever necessary.

PART AI. Answer any **TEN** of the following:

2x10=20

- a) Binomial Nomenclature
- b) Doubling Time
- c) Defined Media
- d) Facilitated Diffusion
- e) Synchronous Culture
- f) Archaeobacteria
- g) Viable Count
- h) Mesophiles
- i) Ampule
- j) Basophiles
- k) Pure Culture
- l) Blood Agar

PART-B**UNIT-I**Answer any **TWO** complete questions of the following:

10x2=20

- II.
 - a) Explain the present and past status of bacterial taxonomy. 06
 - b) Write a note on goals and objectives of classification. 04
- III.
 - a) Give an account of Whittaker's five kingdom classification concept. 06
 - b) Briefly explain the criteria used for classification of bacteria. 04
- IV.
 - a) Explain the methods used for classification. 06
 - b) Write a note on taxonomic groups of micro-organisms. 04

UNIT-IIAnswer any **TWO** complete questions of the following:

10x2=20

- V.
 - a) Explain the process of Lyophilization. 06
 - b) Write a note on Anaerobic Jar. 04
- VI.
 - a) Explain the various methods of isolation of micro-organisms in pure culture. 06
 - b) Write a note on the colony characteristics of pure culture. 04
- VII.
 - a) Explain the different types of special media used for microbial cultivation with suitable examples. 06
 - b) Write a note on preservation by using liquid nitrogen. 04

UNIT-III

- Answer any TWO complete questions of the following:** **10x2=20**
- VIII. a) Explain the growth curve of Bacteria. 06
 b) Write a note on chemostat. 04
- IX. a) Classify bacteria based on its nutritional requirements. 06
 b) Write a note on budding. 04
- X. a) Explain the methods of measurement of microbial growth. 06
 b) Write a note on continuous culture. 04

MIC 301

Reg. No.

CREDIT BASED THIRD SEMESTER B.Sc. DEGREE EXAMINATION - OCTOBER 2013

MICROBIOLOGY

MICROBIAL TAXONOMY AND GROWTH

Duration: 3 Hours

Max Marks: 80

Note: Draw diagrams wherever necessary.

PART A

- I. Answer any TEN of the following:** **2x10=20**
- m) Ampule
 - n) Turbidostat
 - o) Subculturing
 - p) Phylogeny
 - q) Doubling Time
 - r) Axenic Culture
 - s) Chocolate Agar
 - t) Archaeobacteria
 - u) Assay Media
 - v) Thermophiles
 - w) Gelatin
 - x) Species

PART-B

UNIT-I

Answer any TWO complete questions of the following: **10x2=20**

- II. a) Explain briefly the methods of classification of Microorganisms. 06
 b) Explain the principles of Binomial Nomenclature. 04
- III. a) Explain the Whittaker's Five Kingdom Classification Concept. 06
 c) Give a brief account of Bergey's Manual of Determinative Bacteriology. 04
- IV. a) Discuss the method of Numerical Taxonomy. 06
 b) Write a note on the objectives and goals of Classification. 04

UNIT-II

Answer any TWO complete questions of the following: **10x2=20**

- V. a) Discuss about specialized media. 06
 b) Write a note on the characteristics of pure culture. 04
- VI. a) Explain the method for cultivation of Anaerobic Organisms. 06
 b) Write a note on preservation by using liquid nitrogen. 04

- VII. a) Explain the various techniques for isolating microbes. 06
 c) Write a note on classification of media. 04

UNIT-III

Answer any TWO complete questions of the following: 10x2=20

- VIII. a) Explain the various nutritional requirements of Microorganisms. 06
 c) Write a note on Asexual Reproduction in bacteria. 04
- IX. a) Explain the growth curve of Bacteria. 06
 b) Write a note on Synchronous Culture. 04
- X. a) Explain the methods of measurement of microbial growth. 06
 b) Write a note on Chemostat. 04

MIC 301

Reg. No.

CREDIT BASED THIRD SEMESTER B.Sc. DEGREE EXAMINATION - OCTOBER 2014

MICROBIOLOGY

MICROBIAL TAXONOMY AND GROWTH

Duration: 3 Hours

Max Marks: 80

Note: Draw diagrams wherever necessary.

PART A

- I. Answer any TEN of the following: 2x10=20**
- y) Micronutrients
 z) Phylogeny
 aa) Inoculation
 bb) Psychrophiles
 cc) Broth Media
 dd) Chemoautotrophs
 ee) Bergey's Manual
 ff) Exponential Phase
 gg) EMB Agar
 hh) Pure Culture
 ii) Species
 jj) Chemostat

PART-B

UNIT-I

Answer any TWO complete questions of the following: 10x2=20

- II. a) Explain the various methods of bacterial classification. 06
 b) Write a note on the goals of classification. 04
- III. a) Explain the criteria used for classifying microorganisms. 06
 d) Write a note on Whittaker's Five-Kingdom Concept. 04
- IV. a) Explain the principles of Binomial Nomenclature. 06
 b) Write a note on Taxonomic Groups. 04

UNIT-II

Answer any TWO complete questions of the following: 10x2=20

- V. a) List out the various methods used for Microbial Isolation. Add a note on Serial Dilution Technique. 06
 b) Write a note on Preservation by using low temperature. 04
- VI. a) Explain the various special media used for cultivating microbes. 06

- b) Write a note on Lyophilisation. 04
- VII. a) Explain the methods used for cultivation of Anaerobic Organisms. 06
d) Write a note on characteristics of Pure Culture. 04

UNIT-III

Answer any TWO complete questions of the following: 10x2=20

- VIII. a) Explain the various modes of nutritional uptake in Microorganisms. 06
d) Write a note on Binary Fission. 04
- IX. a) With a neat illustration explain the Bacterial Growth Curve. 06
b) Write a note on Synchronous Growth. 04
- X. a) Explain the methods of measurement of microbial growth by using cell mass. 06
b) Write a note on the basic nutritional requirements of microbes. 04

MIC 301.1

Reg. No.

CREDIT BASED SECOND SEMESTER B.Sc. DEGREE EXAMINATION - OCTOBER 2015

MICROBIOLOGY

MICROBIAL GROWTH

Duration: 3 Hours

Max Marks: 80

Note: Draw diagrams wherever necessary.

PART A

- I. Answer any TEN of the following: 2x10=20**
- Endoenzymes
 - Synchronous Culture
 - ATP
 - Mesophiles
 - Transferases
 - Photoorganotrophs
 - Enzyme Reversibility
 - Steroids
 - Oxidoreductases
 - Generation Time
 - Peptide Linkage
 - Cellulose

PART-B

Answer any TWO complete questions from each unit

UNIT-I

- II. a) Classify bacteria based on their pH and temperature requirements. 06
b) Write a note on Turbidostat. 04
- III. a) Explain the modes of Asexual Reproduction in Bacteria. 06
e) Write a note on Diffusion. 04
- IV. a) Explain the Bacterial Growth Curve. 06
b) Write a note on Macronutrients. 04

UNIT-II

- V. a) Explain the classification of Proteins. 06
b) Write a note on Free Energy Change. 04
- VI. a) Explain the general properties of Monosaccharides. 06
b) Write a note on Phospholipids. 04
- VII. a) Explain the structure and importance of mRNA and tRNA. 06

e) Write a note on Properties of Water. 04

UNIT-III

- VIII. a) Explain the nomenclature of Enzymes based on substrate acted upon and the type of reaction catalysed. Add a note on active site. 06
e) Write a brief note on *ES complex*. 04
- IX. a) Explain enzyme specificity. 06
b) Write a note on Hydrolases and Isomerases. 04
- X. a) Explain the general characteristics of enzymes. 06
b) Write a note on *Coenzymes and Cofactors*. 04

MIC 301

Reg. No.

CREDIT BASED THIRD SEMESTER B.Sc. DEGREE EXAMINATION OCTOBER 2016

MICROBIOLOGY

MICROBIAL TAXONOMY AND GROWTH

Duration: 3 Hours

Max Marks: 70

Note: Draw diagrams wherever necessary.

PART A

I. Answer any TEN of the following:

1x10=10

- a) Enriched Media
- b) Chemotrophs
- c) Generation Time
- d) Growth Rate
- e) Viable count
- f) Axenic culture
- g) Psychrophiles
- h) Broth
- i) Passive Diffusion
- j) Archaeobacteria
- k) Species
- l) Taxonomy

PART-B

Answer any TWO complete questions from each unit

UNIT-I

- II. a) Explain Bergey's Manual of bacterial classification. 06
- b) Binomial Nomenclature. 04
- III. a) Explain the methods of classification of bacteria. 06
- b) Write a note on Whittaker's five- Kingdom classification. 04
- IV. a) Explain the criteria used for classification. 06
- b) Objectives of classification. 04

UNIT-II

- V. a) Give an account of different types of culture media with an example. 06
b) Lyophilisation. 04
- VI. a) Give different methods used to culture anaerobic organisms. 06
b) List the characteristics of pure culture. 04
- VII. a) Give the different methods of isolation of microorganisms in pure culture. 06
b) Liquid Nitrogen. 04

UNIT-III

- VIII. a) Explain bacterial growth curve. 06
b) Write a note on DMC. 04
- IX. a) Explain the nutritional classification of bacteria. 06
b) Effect of p^H on bacterial growth. 04
- X. a) Explain the nutritional requirements of bacteria. 06
b) Synchronous culture. 04
