

MIC 502

Reg. No

**CREDIT BASED FIFTH SEMESTER B.Sc. DEGREE EXAMINATION
OCTOBER/NOVEMBER 2009**

**MICROBIOLOGY
ENVIRONMENTAL AND SOIL MICROBIOLOGY**

Time: 3 Hrs

Max. Marks: 70

Note: Draw diagrams wherever necessary.

PART -A

- I. Answer any TEN of the following. 1x10=10**
- a) Sludge
 - b) IMViC Test
 - c) BOD
 - d) Rhizosphere
 - e) Moniliasis
 - f) Biomagnification
 - g) Communalism
 - h) Biomining
 - i) Causative Agent of Coffee Leaf Rust
 - j) Leghaemoglobin.
 - k) Xenobiotic
 - l) Viral Insecticide

PART - B

UNIT -1

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

- II. a) Mention the factors affecting microbes in stored water and list the common pathogens in water. 06**
b) Write a note on confirmatory test for Water Examination by using EMB Agar, 04
- III. a)**
b)
- IV a)**
b)
- Explain the biogas plant - floating type. **06**
Write briefly on disinfection of water. **04**
- Discuss about large scale treatment of sewage by activated sludge method. **06**
Write a note on Oxidation Pond. **04**

UNIT - II

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

- V. a) Explain the different impingement methods for trapping Air-Borne Microbes. 06**
b) Write a note on Tuberculosis. 04
- VI. a) Discuss about meningitis and viral influenza. 06**
b) Write a note on factors affecting microbe&ia Air. 04
- VII. a) Describe any three methods of control of microbes in air. 06**
b) List the air borne fungal diseases and their causative agent. 04

UNIT - III

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

- VIII. a) What is Rhizosphere? How is it beneficial to plants? 06**
b) Write a note on Ectomycorrhiza. 04
- IX. a) Explain the use and application of Rhizobium-biofertilizer. 06**
b) Write a note on Microbial Leaching. 04
- X. a) Discuss sulphur cycle and its environmental significance. 06**
b) Give an account of cause, symptoms and control of Citrus Canker. 04

CREDIT BASED FIFTH SEMESTER B.Sc. DEGREE EXAMINATION
OCTOBER/NOVEMBER 2010
MICROBIOLOGY - VI
ENVIRONMENTAL AND SOIL MICROBIOLOGY

Time: 3 Hrs

Max. Marks: 70

Note: Draw diagrams wherever necessary:

PART-A**I. Answer any TEN of the following. 1X10 = 10**

- a) Mycorrhiza
- b) EMB Agar
- c) Chlorination
- d) Blastomycosis
- e) Rubeola
- f) COD
- g) Coffee Leaf Rust
- h) Cellulolytic Bacteria i) Expand - VAM
- j) Slit Sampler k) Neutralism l) Rhizoplane

PART - B**V****UNIT -1****Answer any TWO complete questions of the following. 10 X 2 = 20**

- II. a) Explain the presumptive test for coliforms in water. - 06
- b) Write the effect of light rays and temperature on microbes in stored water. 04
- III. a) Explain the methods involved in filtration in purification of drinking water. 06
- b) Write a note on oxidation pond. 04
- IV a) Discuss in brief the mechanism of biogas production. 06
- b) Write a note on membrane filtration technique. 04

UNIT-II**Answer any TWO complete questions of the following. 10 X 2 = 20**

- V. a) Discuss the methods of liquid impingement. 06
- b) Write a note on moniliasis and sporotrichosis. 04
- VI. a)
- b)
- VII a)
- b)
- Discuss about whooping cough and small pox. 06
- Write a note on sedimentation. 04
- Discuss the factors affecting microbes in air. 06
- Write a note on burkard spore trap. 04

UNIT - III**Answer any TWO complete questions of the following. 10 X 2 = 20**

- VIII. a) Discuss nitrogen cycle and give its significance. 06
- b) Write a note on bicleaching 04
- IX a)
- b)

- X. a)
b)

Explain the role of microbes in crop protection.	06
Write a brief note on non symbiotic nitrogen fixation	04
Discuss on biodegradation of petroleum products.	
Discuss in brief about the cause, symptoms and control of citrus canker.	04

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**Reg.
No.**

**CREDIT BASED FIFTH SEMESTER B.Sc. DEGREE EXAMINATION OCTOBER
2011**

**MICROBIOLOGY
ENVIRONMENTAL AND SOIL MICROBIOLOGY**

Time: 3 Hrs

Max. Marks: 70

Note: Draw diagrams wherever necessary.

1x10=10

10x2=20 06 04

06

04

06 04

10x2=20 06 04

06 04

PART - A

I. Answer any TEN of the following.

- Actinomycetes.
- Rubella.
- Super Bug.
- MPN.
- Droplet Nuclei.
- Anaerobic Digester.
- Causative Agent of Citrus Canker,
- Bioremediation.
- Sewage, j)
TMV. k)
Biogas. l)
Moniliasis.

y TWO complete questions of the following.

- II. a) Discuss the factors affecting Microbes in stored Water,
b) Write a note on Confirmed Coliform test.
- III. a) Explain about Biological Oxygen Demand,
b) Write a note on Septic Tank.
- IV a) Discuss the different types of Microbes in water,
b) Write a note on Oxidation Pond.

UNIT-II

b)

a) b)

Answer any TWO complete questions of the following. V. a) Explain the construction and working of Anderson Sampler. Write a brief note on Microbes present in Air.

VI.

VII. a) b)

Discuss any three Bacterial Air Borne Diseases. Write a note on Burkard spore trap.

Discuss the use of Kluver and Visser sampler for Enumeration of Air Microflora.

Write Short note on Whooping Cough.

06

04

UNIT - III

Answer any TWO complete questions of the following.

- VIII. a) Describe the Sulphur cycle in Soil.
b) Write a short note on Tikka disease of Groundnut.
- IX. a) Discuss briefly on the structural defense Mechanism in plants,
b) Write a note on Ectomycorrhiza.
- X. a) Discuss in brief the production of Rhizobium Biofertilizer
b) Write a brief note on decomposition of cellulose.

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

MICROBIOLOGY

ENVIRONMENTAL AND SOIL MICROBIOLOGY

Duration: 3 Hours

Max Marks: 80

Note: Draw diagrams wherever necessary.

PART A

I. Answer any TEN of the following:

2x10=20

- a) Azolla
- b) Droplet Nuclei
- c) Influenza
- d) Coffee Leaf Rust
- e) Visser Sampler
- f) Surface water
- g) Super Bug
- h) Cellulolytic Bacteria
- i) IMViC Test
- j) Thermal Precipitation
- k) Sedimentation
- l) Sewage

PART-B

UNIT-I

Answer any TWO complete questions of the following:

10x2=20

- II. a) Explain about Biological Oxygen Demand. 06
b) Write a brief note on membrane filter technique. 04
- III. a) Discuss Filtration as a method of purification of water. 06
b) Write a note on Activated Sludge process. 04
- IV. a) Discuss the different types of microbes in water. 06
b) Write a note on Cess Pool. 04

UNIT-II

Answer any TWO complete questions of the following:

10x2=20

- V. a) Discuss the different types of microbes present in air. 06
b) Write a note on Lemon Sampler. 04
- VI. a) Discuss any three Fungal Airborne diseases. 06
b) Write a note on Vertical Cylinder Spore Trap. 04
- VII. a) Discuss the factors affecting microbes in air. 06

- b) Write a note on Burkard Spore Trap. 04

UNIT-III

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

- VIII. a) Discuss briefly on the Active Defense Mechanism of plants. 06
b) Write a brief note on Blast of rice. 04
- IX. a) Discuss in brief about Mycorrhizal biofertilizers. 06
b) Write a note on Citrus Canker 04
- X. a) Describe the Carbon cycle in soil. 06
b) Write a note on Antagonism between Soil Microorganisms. 04

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

MICROBIOLOGY

ENVIRONMENTAL AND SOIL MICROBIOLOGY

Duration: 3 Hours

Max Marks: 80

Note: Draw diagrams wherever necessary.

PART A

- I. Answer any TEN of the following: 2x10=20**
- m) Sewage
 - n) Blast of Rice
 - o) Electrostatic Precipitation
 - p) IMViC Test
 - q) Whooping Cough
 - r) Cess Pool
 - s) Rubella
 - t) Rhizobium
 - u) Vertical Cylinder Spore Trap
 - v) Super Bug
 - w) Atmospheric Water
 - x) Commensalism

PART-B

UNIT-I

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

- II. a) Discuss Rapid Sand Filtration as a method of purification of water. 06
b) Write a note on Presumptive test for Coliforms. 04
- III. a) Discuss briefly on the factors affecting microbes in stored water. 06
c) Write a brief note on Biological Oxygen Demand. 04

- IV. a) Discuss Slow Sand Filtration as a method of purification of water. 06
 b) Write a brief note on Septic tank. 04

UNIT-II

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

- V. a) Discuss the significance of microbes in air. 06
 b) Write a brief note on Sieve and Slit Device. 04
- VI. a) Discuss the different types of microbes present in air. 06
 b) Write briefly on Moniliasis and Sporotrichosis. 04
- VII. a) Explain briefly the methods of impingement in liquids. 06
 c) Write a brief note on Anderson Sampler. 04

UNIT-III

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

- VIII. a) Discuss the role of secondary metabolites in disease development. 06
 c) Write a note on antagonism between soil microorganisms. 04
- IX. a) Discuss the biodegradation of pesticides. 06
 b) Write briefly on Cyanobacteria as biofertilizers. 04
- X. a) Discuss the decomposition of starch and lignin. 06
 b) Write a brief note on Tikka disease of Groundnut. 04

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Reg. No.

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

MICROBIOLOGY

ENVIRONMENTAL AND SOIL MICROBIOLOGY

Duration: 3 Hours

Max Marks: 80

Note: Draw diagrams wherever necessary.

PART A

- I. Answer any TEN of the following: 2x10=20**
- y) MPN
 - z) Blastomycosis
 - aa) BOD
 - bb) Cellulolytic Bacteria
 - cc) Kluyver Sampler
 - dd) Surface water
 - ee) Mycorrhiza
 - ff) Burkard Spore Trap
 - gg) Sandal Spike
 - hh) Sieve Device
 - ii) Trickling Filter
 - jj) Soil Actinomycetes

**PART-B
UNIT-I**

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

- | | | | | |
|------|----|---|----|----|
| II. | a) | Discuss the different types of Microorganisms in water. | | 06 |
| | b) | Write briefly on Chemical Oxygen Demand. | 04 | |
| III. | a) | Discuss briefly the mechanism of Biogas Production. | | 06 |
| | d) | Write a brief note on Membrane Filter Technique. | | 04 |
| IV. | a) | Discuss briefly on IMViC Test. | | 06 |
| | b) | Write a note on Oxidation Pond. | | 04 |

UNIT-II

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

- | | | | | |
|------|----|--|----|----|
| V. | a) | Discuss any three Viral Airborne Diseases. | 06 | |
| | b) | Write a brief note on Anderson Sampler. | 04 | |
| VI. | a) | Discuss the factors affecting Microbes in Air. | 06 | |
| | b) | Write a note on Lemon Sampler. | 04 | |
| VII. | a) | Discuss any three Bacterial Air Borne Disease. | 06 | |
| | d) | Write briefly on Microbes present in Air. | | 04 |

UNIT-III

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

- | | | | | |
|-------|----|--|----|--|
| VIII. | a) | Describe the Nitrogen Cycle in soil. | 06 | |
| | d) | Write a note on Citrus Canker. | 04 | |
| IX. | a) | Discuss in brief about Rhizobium Biofertilizers. | 06 | |
| | b) | Write a brief note on Microbial Insecticides. | 04 | |
| X. | a) | Discuss Rhizosphere and its significance. | 06 | |
| | b) | Write briefly on Bioleaching. | 04 | |

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

MICROBIOLOGY

PAPER VI – ENVIRONMENTAL AND SOIL MICROBIOLOGY

Duration: 3 Hours

Max Marks: 80

Note: Draw diagrams wherever necessary.

PART A

- | | | |
|-----------|---|----------------|
| I. | Answer any TEN of the following: | 2x10=20 |
| | a) Cellulolytic Bacteria | |
| | b) Membrane Filter | |
| | c) Tuberculosis | |
| | d) TMV | |
| | e) Chemical Oxygen Demand | |
| | f) Anderson Sampler | |
| | g) Electrostatic Precipitation | |
| | h) Oxidation Pond | |
| | i) Commensalism | |
| | j) Small Pox | |
| | k) Septic Tank | |
| | l) Smut of Wheat | |

PART-B

UNIT-I

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

- | | | | | |
|------|----|---|----|----|
| II. | a) | Discuss briefly the factors affecting microbes in stored water. | | 06 |
| | b) | Write a brief note on Activated Sludge process. | 04 | |
| III. | a) | Discuss Slow Sand filtration as a method of purification of water. | | 06 |
| | e) | Write a note on MPN Test. | 04 | |
| IV. | a) | Discuss the mechanism of Biogas production. | | 06 |
| | b) | Write a note on sedimentation as a method of purification of water. | | 04 |

UNIT-II

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

- | | | | | |
|------|----|--|----|----|
| V. | a) | Discuss the significance of microbes in air. | 06 | |
| | b) | Write briefly on Mumps and Measles. | | |
| | | | 04 | |
| VI. | a) | Explain briefly the methods of Impingement in liquids. | | |
| | | | 06 | |
| | b) | Write a note on Coccidiomycosis and Paracoccidiomycosis. | | |
| | | | 04 | |
| VII. | a) | Discuss on Diphtheria and Whooping Cough. | | 06 |
| | e) | Write a note on Sieve and Slit device. | | 04 |

UNIT-III

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

- | | | | | |
|-------|----|---|----|----|
| VIII. | a) | Discuss the production of Rhizobium Biofertilizers. | | |
| | | | 06 | |
| | e) | Write a brief note on Mycorrhiza. | | 04 |
| IX. | a) | Discuss the biodegradation of Petroleum. | | 06 |
| | b) | Write a note on leaf rust of Coffee. | | 04 |
| X. | a) | Discuss the host defense mechanisms in plants. | | 06 |
| | b) | Write briefly on soil actinomycetes. | | |
| | | | 04 | |
