

**CREDIT BASED FIRST SEMESTER B.Sc. DEGREE EXAMINATION
OCTOBER 2012**

**BOTANY
MICROBIAL DIVERSITY**

Time: 3 Hrs

Max. Marks: 80

Instructions:

1. Answer both Part A & Part B.
2. Answer SIX full questions from Part B, selecting at least two full questions from each unit.
3. All questions in Part B carry equal marks.
4. Draw diagrams wherever necessary.

PART – A

1. Answer any TEN of the following. 2x10=20
- a) Name any two biological agents responsible for transmission of plant viruses.
 - b) What is Stereomicroscope? Mention its use.
 - c) What are PPLO's.
 - d) What is the function of Pili?
 - e) Name the extrachromosomal material of bacteria that is useful in Genetic Engineering.
 - f) List any four pigments present in Blue green algae.
 - g) Name the three components of disease cycle.
 - h) Give two examples for pathogenic bacteria.
 - i) What is meant by coenocytic hyphae?
 - j) What is pycnidium?
 - k) Draw a labeled diagram of conidiophores of *Penicillium*.
 - l) What are Ascolichens?

**PART – B
UNIT – I**

Answer any TWO of the following.

10x2=20

2.
 - a) What is TEM? Explain its construction, Principle involved and uses. 05
 - b) Explain the lytic life cycle of viruses. 03
 - c) Name any two morphological forms of Bacteria. 02
3.
 - a) Describe any two viral diseases of plants 05
 - b) Give an account of arrangement of flagella in bacteria. 03
 - c) Name any four kingdoms of living organisms. 02
4.
 - a) Give an account of any two types of Genetic recombination in bacteria. 05
 - b) Write a note on nature of Mycoplasmas. 03
 - c) What are Prions? 02

UNIT – II

Answer any TWO of the following.

2x10=20

- | | | | |
|----|----|---|----|
| 5. | a) | Explain the methods and importance of Quarantine and Integrated disease management in controlling the spread of plant diseases. | 05 |
| | b) | Explain the cell structure and reproduction in <i>Gloeocapsa</i> . | 03 |
| | c) | What are single cell proteins? | 02 |
| 6. | a) | Explain the thallus construction and reproduction in <i>Scytonema</i> . | 05 |
| | b) | Draw a labeled diagram of <i>Euglena</i> . | 03 |
| | c) | Write a note on positive role of bacteria in Agriculture. | 02 |
| 7. | a) | Discuss the role of Bacteria in medicine and food processing. | 05 |
| | b) | Write a note on disease caused by bacteria in citrus. | 03 |
| | c) | Explain the structure of <i>Oscillatoria</i> | 02 |

UNIT – III

Answer any TWO of the following.

2x10=20

- | | | | |
|-----|----|--|----|
| 8. | a) | Explain the three morphological forms of Lichens. | 05 |
| | b) | What are mycorrhizae? What is their role in the ecosystem? | 03 |
| | c) | Write a note on economic importance of <i>Pyricularia</i> . | 02 |
| 9. | a) | Explain the stages of reproduction of <i>Puccinia</i> on Barbery | 05 |
| | b) | Give an account of symptoms and control measures of Koleroga | 03 |
| | c) | Draw a labeled diagram of Yeast cell. | 02 |
| 10. | a) | Explain the reproductive structure of <i>Peziza</i> with a neat labeled diagram. | 05 |
| | b) | Write a note on causal organism and symptoms of Bud rot of coconut. | 03 |
| | c) | What is spawning? How it is done? | 02 |

BOT 101.1

Reg. No.

CREDIT BASED FIRST SEMESTER B.Sc. DEGREE EXAMINATION OCTOBER 2013

BOTANY
MICROBIAL DIVERSITY

Time: 3 Hrs

Max. Marks: 80

Instructions:

1. Answer both Part A & Part B.
2. Answer two full questions from each unit.
3. All questions in Part B carry equal marks.
4. Draw diagrams wherever necessary.

PART – A

1. Answer any **TEN** of the following. 10x2=20
- a) What are separation discs? Where do you find them?
 - b) Write any two symptoms of Bunchy top disease in Banana.
 - c) What are heterotrophic bacteria? Give 2 examples.
 - d) Mention the algal features of *Euglena*.
 - e) What do you mean by host specific? Give an example.
 - f) What are biofertilizers?
 - g) What are Prions? Mention any two diseases caused by them.
 - h) Define dikaryotization. In which form do you see this process?
 - i) What is a heteromorous lichen thallus?
 - j) Write a brief note on capsid of TMV.
 - k) What is a rust disease? Give an example.
 - l) Mention the name of the fruiting bodies in *Xylaria*. In which phase of the life cycle do you see them?

PART – B

UNIT – I

- Answer any **TWO** of the following. 10x2=20
2.
 - a) Classify bacteria based on their morphology giving examples. 5
 - b) Write an account of DNA replication process in viruses. 3
 - c) What are viroids? 2
 3.
 - a) Explain the ultrastructure of a bacteriophage. 5
 - b) Differentiate SEM from TEM. 3
 - c) Write two distinct features of *Mycoplasma*. 2
 4.
 - a) Explain the method of endospore formation in bacteria. 5
 - b) Classify viruses based on host giving one example each. 3
 - c) Mention two uses of phase contrast microscope. 2

UNIT – II

Answer any TWO of the following.

10x2=20

5. a) Explain the stages of disease cycle in general. 5
b) What are hormogones? Give an example. 3
c) Mention any two symptoms of blight disease in rice. 2
6. a) Explain the thallus structure in *Nostoc* and *Stigonema* with neat labelled diagrams. 5
b) What are single cell proteins? Mention their importance. 3
c) Write the characteristics of Kingdom Protista. 2
7. a) Mention the causative organism and explain the symptoms and control measures of citrus canker. 5
b) What is pseudobranching? How is it different from true branching? 3
c) What is quarantine? Mention any two methods. 2

UNIT – III

Answer any TWO of the following.

10x2=20

8. a) With a neat labeled sketch explain the structure of V.S. of *Peziza* apothecium. 5
b) Write a note on the beneficial role of mycorrhizae in plants. 3
c) Mention any two enzymes and the fungal source producing them. 2
9. a) Explain briefly the stages of cultivation in *Pleurotes*. 5
b) What are Imperfecti? Mention the characteristic feature of the group giving an example. 3
c) Mention the two groups of fungi involved in the formation of lichen thallus. Give an example for each group. 2
10. a) Mention the causative organism and explain the symptoms and control measures of Koleroga. 5
b) Describe the asexual stage of *Rhizopus*. 3
c) What are foliose lichens? Give an example. 2

BOT 101.2

Reg. No.

CREDIT BASED FIRST SEMESTER B.Sc. DEGREE EXAMINATION OCTOBER 2014

BOTANY
MICROBIAL DIVERSITY

Time: 3 Hrs

Max. Marks: 80

Instructions:

- 1. Answer both Part A & Part B.
- 2. Answer two full questions from each unit.
- 3. All questions in Part B carry equal marks.
- 4. Draw diagrams wherever necessary.

PART – A

1. Answer any **TEN** of the following. 10x2=20
- a) What is the advantage of TEM over SEM?
 - b) Write any two symptoms of viral plant diseases.
 - c) Draw a labelled diagram of *Mycoplasma*.
 - d) What are viroids? Mention any disease caused by them.
 - e) Name any two Chemosynthetic bacteria.
 - f) What is false branching? Where do you find it?
 - g) Give two symptoms of Citrus canker
 - h) What are transgenic organisms? Give an example.
 - i) What is amphigynous antheridium.
 - j) Write any two economic importance of *Lichens*.
 - k) Give the botanical name of any two edible mushrooms.
 - l) What is biocide? Give an example.

PART – B

UNIT – I

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

- 2. a) Give an account of 5 kingdom system of classification. 6
- b) Explain symptoms of Bunchy top disease of banana with causative agent. 4

- 3. a) Describe TMV and add a note on the disease caused by it. 6
- b) Explain characteristics of optical microscope and add a note on image formation. 4

- 4. a) What are prions? Mention their characteristics and diseases caused. 6
- b) Write an account of discovery and classification of viruses. 4

UNIT – II

Answer any TWO of the following.

10x2=20

5. a) What is genetic recombination. Explain transformation in bacteria. 6
b) Describe economic importance of Cyanobacteria 4
6. a) Explain thallus construction in *Oscillatoria* and *Nostoc*. Mention the methods of reproduction. 6
b) Write a note on Nitrogen fixing bacteria. 4
7. a) Describe the structure of a bacterial cell and add a note on classification based on flagellation. 6
b) Explain the structure *Euglena* 4

UNIT – III

Answer any TWO of the following.

10x2=20

8. a) Describe the process of asexual reproduction in *Phytophthora*. 6
b) Explain the structure of lichen apothecium. 4
9. a) Give an account of causative agents, disease symptoms and control measures' of Blast disease of rice and Bud rot of coconut. 6
b) Discuss the role of fungi in antibiotics and biodegradation. 4
10. a) Describe various steps involved in mushroom cultivation. 6
b) Draw neat labelled diagram of Perithecium and explain. 4

BOT 101.1

Reg. No.

CREDIT BASED FIRST SEMESTER B.Sc. DEGREE EXAMINATION OCTOBER 2015

BOTANY
MICROBIAL DIVERSITY

Time: 3 Hrs

Max. Marks: 80

Instructions:

1. Answer both Part A & Part B.
2. Answer two full questions from each unit.
3. All questions in Part B carry equal marks.
4. Draw diagrams wherever necessary.

PART – A

1. Answer any TEN of the following. 10x2=20
- a) What are nanocytes? Give an example.
 - b) Write two characteristic symptoms of bud rot in coconut.
 - c) Mention the methods of transmission of plant viruses.
 - d) What is a dark field microscope?
 - e) What are ascomycetes? Give two examples.
 - f) Mention the causative organism of the blast disease of rice and name the class to which it belongs.
 - g) What are isidia? Mention their importance.
 - h) Mention any two characteristic features of genetic material in viruses.
 - i) What is pathogenecity?
 - j) What are algal blooms? Mention one effect.
 - k) Mention the causative agent and one symptom of ring rot of patoto.
 - l) Write two distinct structural features of Mycoplasma.

PART – B

UNIT – I

- Answer any TWO of the following. 2x10=20
2. a) Explain the process of virus mediated genetic transfer in bacteria. 5
b) Write a note on symptoms of tobacco mosaic disease. 3
c) Mention the name of the kingdom which includes eukaryotic multicellular algae. Give two examples. 2
 3. a) Explain nutritional types in bacteria. 5
b) Write an account of reproduction in Mycoplasma. 3
c) Write a brief note on the working principle of optical microscope. 2
 4. a) Describe the ultrastructure of TMV. 5
b) Write any three characteristic features of kingdom Mycota. 3
c) Mention two uses of SEM. 2

UNIT – II

Answer any TWO of the following.

2x10=20

5. a) Give an account of the biochemical defense mechanism in plants. 5
b) Write a note on the role of bacteria in Biotechnology. 3
c) Name the structure in cyanobacteria helping in the survival during unfavourable conditions. Write two structural features of them. 2
6. a) Explain the role of bacteria in the industries. 5
b) Describe the thallus in *Rivularia*. 3
c) Write the bacterial source and name of any two antibiotics. 2
7. a) Give an account of the general characteristics of cyanobacteria. 5
b) Draw a neat labelled sketch of *Euglena*. 3
c) Write a note on virulence. 2

UNIT – III

Answer any TWO of the following.

2x10=20

8. a) Write a note on the economic importance of Fungi. 5
b) Explain the structure of perithecium in *xylaria*. 3
c) Draw a neat labelled sketch of Asexual stage in *Phytophthora*. 2
9. a) Describe the stages in the life cycle of *Puccinia* on the secondary host. 5
b) Write a note on the nutritive value of mushrooms. 3
c) Classify lichens based on fungal component. 2
10. a) Mention the causative organism and explain the symptoms and control measures of stem bleeding in coconut. 5
b) What are AM? Give two examples. 3
c) What is a conidiophore? Give an example. 2

BOT 101.2

Reg. No.

CREDIT BASED FIRST SEMESTER B.Sc. DEGREE EXAMINATION OCTOBER 2015

BOTANY
MICROBIAL DIVERSITY

Time: 3 Hrs

Max. Marks: 80

Instructions:

1. Answer both Part A & Part B.
2. Answer two full questions from each unit.
3. All questions in Part B carry equal marks.
4. Draw diagrams wherever necessary.

PART – A

1. Answer any TEN of the following. 10x2=20
- a) Mention two diseases of Prions.
 - b) Classify viruses based on host giving an example for each.
 - c) What are fungi imperfecti? Give examples.
 - d) What are single cell proteins? Mention the significance.
 - e) Write the working principle of optical microscope.
 - f) Give two salient features of class cyanophyceae.
 - g) Write any two symptoms of Bunchy top of banana.
 - h) What are endospores? Mention the importance.
 - i) Mention the species of *Penicillium* used in the production of cheese.
 - j) What are foliose lichens?
 - k) Mention two economic importance of lichens.
 - l) Mention two antibiotics produced using bacteria.

PART – B

UNIT – I

- Answer any TWO of the following. 2x10=20
2. a) Explain the structure of TMV. 6
b) Mention four types of microscopes you have studied and write one use of each. 4
3. a) Explain the cell structure and diseases caused in *Mycoplasma*. 6
b) Write any four distinct features of Kingdom Plantae. 4
4. a) Explain the lytic life cycle of bacteriophage. 6
b) Write an account of methods of transmission of viruses. 4

UNIT – II

- Answer any TWO of the following. 2x10=20
5. a) Explain the thallus structure in *Rivularia* and *Oscillatoria*. 6
b) Write the symptoms and control measures of citrus canker. 4

**CREDIT BASED FIRST SEMESTER B.Sc. DEGREE EXAMINATION
OCTOBER 2016**

**BOTANY
MICROBIAL DIVERSITY**

Time: 3 Hrs

Max. Marks: 80

Instructions:

1. Answer both Part A & Part B.
2. Answer two full questions from each unit.
3. All questions in Part B carry equal marks.
4. Draw diagrams wherever necessary.

PART – A

1. Answer any **TEN** of the following. **10x2=20**
- a) Write any two symptoms of Vein clearing disease.
 - b) Mention any two uses of SEM.
 - c) What are biocides? Give two examples.
 - d) What is false branching?
 - e) What are pleomorphic bacteria? Give an example.
 - f) Write any two control measures for Ring rot of potato.
 - g) What are viroids? Give an example.
 - h) Write any two features of the genetic material in TMV.
 - i) What are soredia? Mention the importance.
 - j) Write any two examples for class oomycetes.
 - k) Write the importance of bacteria in sewage treatment.
 - l) Write any two control measures for the disease Bud rot of coconut.

PART – B**UNIT – I**

Answer any **TWO** of the following. **2x10=20**

2. a) Describe the five kingdom system of classification giving two characteristic features with two examples for each. **6**
- b) Give the living and non-living characteristics of viruses. **4**
3. a) With a labelled diagram explain the structure of T₄ bacteriophage. **6**
- b) Write the symptoms and control measures of Bunchy top of banana. **4**
4. a) Explain the structure of Mycoplasma cell with a labelled diagram and mention any two diseases. **6**
- b) Mention the uses of stereomicroscope and TEM. **4**

UNIT – II

Answer any **TWO** of the following.

2x10=20

5. a) Explain the role of bacteria in the field of biotechnology. 6
b) Draw a neat labelled sketch of *Euglena* cell. 4
6. a) Explain the thallus structure in *Gloeocapsa* and *Rivularia*. 6
b) Classify bacteria based on flagellation. 4
7. a) Explain autotrophic bacteria with types and examples. 6
b) Mention any four beneficial aspects of Cyanobacteria with an example for each. 4

UNIT – III

Answer any **TWO** of the following.

2x10=20

8. a) Explain the asexual reproduction in *Rhizopus* and *Phytophthora*. 6
b) Write a brief account on biofertilizers. 4
9. a) Write the causative organism, symptoms and control measures of Blast disease in rice. 6
b) Write a note on perithecium. 4
10. a) Describe the stages of mushroom cultivation. 6
b) Explain the teleutostage of *Puccinia*. 4
