

SECOND SEMESTER (CBCSS—UG) DEGREE EXAMINATION, APRIL 2021**Botany****BOT 2C 02—CRYPTOGAMS, GYMNOSPERMS AND PLANT PATHOLOGY**

Time : Two Hours

Maximum : 60 Marks

Section A*Answer at least eight questions.**Each question carries 3 marks.**All questions can be attended.**Overall Ceiling 24.*

1. What are the functions of protein coat and nucleic acid in a virus ?
2. Discuss the role of bacteria in medicine.
3. Comment on different types of sexual reproduction in algae.
4. Describe lateral conjugation, citing an example.
5. What are the important features of Zygomycotina ?
6. Differentiate between saprophytic and parasitic fungi. Give examples.
7. What are rhizophores ? Give an example.
8. Describe the structure of sporophyte in *Riccia*.
9. Write an account on the roots in *Cycas*.
10. Write about any two methods of vegetative reproduction in bryophytes.
11. What are the symptoms of citrus canker ?
12. Comment on the pathogen and the method of spreading in the case of leaf mosaic of tapioca.

(8 × 3 = 24 marks)

Section B*Answer at least five questions.**Each question carries 5 marks.**All questions can be attended.**Overall Ceiling 25.*

13. Describe the structure of a typical bacterial cell.
14. Explain thallus structure and mode of reproduction in *Nostoc*.

Turn over

15. Write about pycnidiospore and uredospore stage in the life cycle of *Puccinia*.
16. What are lichens ? Write about the economic importance of lichens.
17. Describe the external features of *Riccia* gametophyte.
18. What are coralloid roots ? Describe the anatomy of coralloid roots.
19. Write the name of the pathogen, the symptoms, method of spreading and the control measures in blast of paddy.

(5 × 5 = 25 marks)

Section C (Essay Type Questions)

Answer any **one** question.

The question carries 11 marks.

20. Describe the mode of reproduction in *Polysiphonia*.
21. Explain the external features of the sporophyte and the spore producing organs in *Selaginella*.

(1 × 11 = 11 marks)

**SECOND SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2021**

Botany

**BOT 2B 02—MICROBIOLOGY, MYCOLOGY, LICHENOLOGY AND PLANT
PATHOLOGY**

Time : Two Hours

Maximum : 60 Marks

Section A

Answer at least eight questions.

Each question carries 3 marks.

All questions can be attended.

Overall Ceiling 24.

1. What is transduction ?
2. What do you mean by biological control of plant diseases ? Give examples.
3. Differentiate necrosis from chlorosis.
4. Explain the process of dikaryotization in basidiomycetes.
5. Differentiate soredia from isidia found in lichens.
6. Name the causative organism behind blast disease of paddy. Write any two control measures to eradicate the pathogen.
7. What is clamp connection ? What is its role ?
8. Write notes on 'Fairy rings' of *Agaricus* mushroom.
9. Write notes on peptidoglycan.
10. Give an account of the different views regarding the interaction between the components of lichens.
11. Differentiate obligate saprophytes from facultative saprophytes.
12. What are Viroids ? Give an example.

(8 × 3 = 24 marks)

Turn over

Section B

Answer at least five questions.

Each question carries 5 marks.

All questions can be attended.

Overall Ceiling 25.

13. Discuss the role of microbes in the production of alcohol, acids and SCP.
14. Describe the various symptoms of plant diseases.
15. Enumerate the medicinal importance of fungi.
16. Give an account of mechanism of synthesis of vaccines. Add a note on its importance.
17. Explain the internal structure of *Usnea* with suitable diagrams.
18. Describe the ultra structure of a bacterial cell. Draw suitable diagrams.
19. Describe the salient features of sac fungi.

(5 × 5 = 25 marks)

Section C

Answer any one question.

The question carries 11 marks.

20. Discuss on the classification, architecture and multiplication of viruses.
21. Enumerate the important characteristics of *Agaricus* mushroom and bring out its life cycle with suitable diagrams.

(1 × 11 = 11 marks)

**SECOND SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2021**

Botany

BOT 2C 02—CRYPTOGAMS, GYMNOSPERMS AND PLANT PATHOLOGY

Time : Three Hours

Maximum : 64 Marks

Section A

*Answer all questions.
Each question carries 1 mark.*

Answer in a word :

1. A virus attacking a bacterium.
2. The extra-genomic DNA segment of bacteria.
3. A completely closed fruiting body (ascocarp) in ascomycotina
4. A parasitic fungus.
5. Reserve food material present in phaeophyceae.
6. Fusion between motile gametes of equal size.
7. Amphibians of plant kingdom.
8. Spore bearing leaf in pteridophytes.
9. Pollinating agent of cycas.
10. The Pathogen in Citrus canker.

(10 × 1 = 10 marks)

Section B

*Answer any seven questions.
Each question carries 2 marks.*

11. Distinguish obligate and facultative parasitic bacteria.
12. Explain scalariform conjugation.
13. Describe any two methods of reproduction in Nostoc.
14. Write a note on tetrasporophyte in Polysiphonia.

15. Write any *four* important features of the division Basidiomycotina.
16. What is heteroecious fungi ? Give an example.
17. Describe the structure of sporophyte in Riccia.
18. What is coralloid root ? Mention its significance.
19. What is rhizophore ? Name a plant, where it is found.
20. Name of the pathogen and control measures in Blast disease of paddy.

(7 × 2 = 14 marks)

Section C

Answer any six of the following.

Each question carries 4 marks.

21. Describe briefly structure of a bacterial cell with the help of a diagram.
22. Describe the mode of reproduction in fungi.
23. Describe diplobiontic life cycle with example ?
24. Write a note on economic importance of lichens.
25. Describe the thallus structure in riccia.
26. Describe the general characters of pteridophytes.
27. Describe the structure of TMV.
28. Describe the sexual reproduction in bacteria.

(6 × 4 = 24 marks)

Section D

Answer any two of the following.

Each question carries 8 marks.

29. Describe the structure and reproduction in Sargassum.
30. Write an essay on the external morphology and reproductive structure of Cycas.
31. Explain the morphology and life history of Selaginella.

(2 × 8 = 16 marks)

**SECOND SEMESTER (CUCBCSS-UG) DEGREE EXAMINATION
APRIL 2021**

Botany

BOT 2B 02—RESEARCH METHODOLOGY AND MICROTÉCHNIQUE

Time : Three Hours

Maximum : 80 Marks

Section A

Answer all questions.

Each question carries 1 mark each.

1. Define Histogram.
2. What is Correlation ?
3. What is a Sample ?
4. What is Bibliography ?
5. Define Magnification.
6. An example for mountant.
7. What is resolving power ?
8. Name a natural dye.
9. What is Camera lucida ?
10. Define Normality.

(10 × 1 = 10 marks)

Section B

Answer all questions.

Each question carries 2 marks.

11. Differentiate between Standard deviation and Mean deviation.
12. What is Error ? Name any two types of errors.
13. Define Chi-square test and mention its significance.
14. What is Buffer ? Explain its significance.

Turn over

15. What is Vital staining ? Give an example.
16. Write a note on Phase contrast microscope.
17. What is Maceration ? How is it done ?
18. Explain Colorimetry.
19. What is Dehydration ? Give an example for dehydrant.
20. What is a whole mount ? How it is prepared ?

(10 × 2 = 20 marks)

Section C (Short essays)

Answer any six questions.

Each question carries 5 marks.

21. What is a Microtome ? Give its advantages and write short notes on the types you have studied.
22. What is Hypothesis ? Differentiate between experimental hypothesis and null hypothesis with examples.
23. What is data presentation ? Explain two methods of data presentation with diagrams.
24. Enumerate the different methods of collecting data.
25. What is Chromatography ? Explain partition chromatography.
26. Define Micrometry and Write down the steps involved in micrometry.
27. What is Fixation ? Give the composition of any two common fixatives you have studied.
28. Explain the parts of a compound microscope.

(6 × 5 = 30 marks)

Section D (Essays)

Answer any two questions.

Each question carries 10 marks.

29. Explain various measures of central tendencies with examples.
30. Explain the steps involved in scientific methods.
31. Write a note on electron microscopy, types and its applications.

(2 × 10 = 20 marks)