D 93554 **(Pages : 2)** **Name**.....

Reg. No.....

FIRST SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020

(CCSS)

Applied Plant Science

BOT 1C 05—PTERIDOPHYTES AND GYMNOSPERMS

(2019 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

I. Answer any *two* questions in not more than 500 words :

1 Explain morphology, anatomy and phylogeny of coniferales.

2 Give an account on recent system of classification of Pteridophytes. Write significance of DNA barcoding in Pteridophytes.

3 Describe development of male and female gametophyte in *Zamia*.

(2 × 10 = 20 marks)

Part B

II. Answer any *eight* questions not more than 250 words :

4 Discuss stelar evolution in Pteridophytes.

5 Briefly explain heterospory and evolution of seed habit in Pteridophytes.

6 Describe pattern of gametophyte development in homosporus Pteridophytes.

7 Give a brief account on morphology and development of synangium in *Psilotum*.

8 Describe morphological and anatomical features of Ophioglossales.

9 Explain polyploidy in Pteridophytes.

10 Discuss sporangial development in Lycopodiales.

11 Explain morphological and anatomical features of stem of *Medullosa*.

12 Discuss about the development of male and female gametophyte in *Ephedra*.

13 Discuss the economic importance of Gymnosperms.

(8 × 5 = 40 marks)

Turn over

Part C

III. Answer any *ten* questions in not more than *five* sentences :

14 Describe morphological features of *Zamia* root.

15 Explain telome theory.

16 Explain anatomy of Lygopteris's.

17 What is Bars of Sanio ?

18 Explain morphological features of sporangium of Isoetus.

19 Explain structural features of microspore of Cycadales.

20 What are the stages of development of male gametophyte in *Podocarpus*.

21 Give an account on ovule features of *Ginkgo*.

22 Give an account on fossil gymnosperms in India.

23 Enumerate ecological functions of pteridophytes.

24 Differentiate between apogamy and apospory.

25 Explain morphology of sporocarp of *Salvinia*.

(10 × 2 = 20 marks)

D 93553 **(Pages : 2)** **Name**.....

Reg. No.....

FIRST SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020

(CCSS)

Applied Plant Science

BOT 1C 03—FUNGI AND PLANT DISEASES

(2019 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

I. Answer any *two* questions in not more than 500 words :

1 Give an account on classification of fungi. Briefly explain DNA barcoding in fungi.

2 Discuss life cycle pattern in basidiomycetes. Add suitable illustrations.

3 What are major causes of plant diseases ? Add a note on causative agents and management of crop diseases.

(2 × 10 = 20 marks)

Part B

II. Answer any *eight* questions not more than 250 words :

4 Enumerate characteristics of ascomycetes.

5 Explain thallus organization, nutrition and reproduction of lichens.

6 Explain formation of asexual propagules and sporulation in deuteromycetes.

7 What are Koch's postulates ?

8 Give an account on pathogenic mycoplasma and nematodes.

9 Enlist any *five* fungal diseases having devastating effects. Name causative agents of these diseases.

10 Discuss economic significance of lichens.

11 Write significance of homothallism and heterothallism in fungi.

12 Describe current taxonomic concepts regarding protistan fungi.

13 Explain incompatibility, sexual compatibility and parasexuality in fungi. Cite suitable examples.

(8 × 5= 40 marks)

Part C

III. Answer any *ten* questions in not more than five sentences :

14 What is Ergot ?

15 What is Pathogenesis ?

16 What is sclerotia and stromata ?

17 What are radiotrophic fungi ?

18 Enlist any *four* characters of myxomycetes.

19 What is meant by teleomorph-anamorph connections ?

20 Describe chemical composition of fungal cell wall.

21 What is meant by Mycoses ? What are three different groups of Mycoses ?

22 What is Mycorrihizae ? Give an example.

23 Explain the process of clamp connection and crozier formation.

24 Compare rusts and smuts.

25 What are major symptoms of nematode attack in plants ?

(10 × 2 = 20 marks)

D 93552 (Pages : 2) Name.....

Reg. No.....

FIRST SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020

(CCSS)

Applied Plant Science

BOT 1C 01—VIRUSES, BACTERIA, ALGAE AND BRYOPHYTES

(2019 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

I. Answer any *two* questions in not more than 500 words. Each question carries 10 marks :

1 Give an account on classification of viruses. Add a note on animal viruses and disease caused by them.

2 Discuss morphology and ultra-structure of bacteria.

3 Describe important applications of cyanobacteria.

(2 × 10 = 20 marks)

Part B

II. Answer any *eight* questions in not more than 250 words. Each question carries 5 marks :

4 Illustrate various life cycle patterns in algae.

5 What are major types of algal pigments ?

6 Describe mode of genetic exchange in bacteria.

7 Give an account on fossil bryophytes.

8 Describe structure and morphology of plant viruses with special reference to TMV.

9 Discuss molecular phylogenetics and DNA barcoding in bryophytes.

10 Discuss evolution of sporophyte in bryophytes.

11 Briefly explain inter relationships of blue green algae.

12 Explain bacterial endospore formation.

13 Enlist distinct features of bacillariophyta.

(8 × 5 = 40 marks)

Part C

III. Answer any *ten* questions in not more than five sentences. Each question carries 2 marks :

14 Write any *two* source of agar.

15 What is bioremediation ?

16 What are prions ?

17 Why *Agrobacterium* known as 'natural genetic engineer'.

18 What are bio indicators ? Give examples of bio indicators.

19 What is hem agglutination assay ?

20 Name two nitrogen fixing Cyanobacteria you have been studied.

21 What is Floridean starch ? Name the group of plants in which Floridean starch is present.

22 What are plasmids ? Write its importance.

23 Write short note on water blooms.

24 Explain cyanobacterial association with fungi.

25 Suggest methods to estimate microbial number and biomass.

(10 × 2 = 20 marks)