WEST BENGAL STATE UNIVERSITY

B.Sc. Honours PART-I Examinations, 2018

BOTANY-HONOURS

PAPER-BOTA-I

Time Allotted: 4 Hours | Full Marks: 100

The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.

Group-A
[Marks: 25]

1. Answer the following questions in few words:
   (a) What is Gaidukov phenomenon? 2
   (b) What is auxospore? 2
   (c) Mention the name of one non-heterocystous member of cyanophyceae. 1

2. Answer any ***two*** questions from the following: 5×2 = 10
   (a) Write a note on evolution of sex in algae. 5
   (b) Draw the ultrastructure of heterocyst. Mention the adaptive features of heterocyst to fix nitrogen. 3+2
   (c) Mention the salient features of cyanophyceae. 5
   (d) Describe with diagram any reproductive structure of *Chara* sp. 5

3. What is macrandrous and nanandrous species of *Oedogonium*? Briefly describe the sexual reproduction found in nanandrous species with labelled sketches. 2+8

OR

   (a) Write a note on algal toxin. 5
   (b) Describe with suitable diagram the methods of auxospore formation in Pennales. 5

Group-B
[Marks: 25]

4. Answer the following questions:
   (a) What is crozier formation? 2
   (b) What is trichogyne? Name a fungus where it is found. 2
   (c) Define anamorph. 1

5. Answer any ***two*** questions from the following: 5×2 = 10
   (a) Discuss the ecological significance of Lichen. 5
   (b) Write a note on food value of mushroom citing examples of two edible mushrooms. 4+1
   (c) Write a short note on aflatoxin. 5
   (d) Name the fungal sources and uses of α-amylase and riboflavin. 2.5+2.5

6. What do you mean by degeneration of sex in fungi? Discuss the phenomenon in fungi with examples. Add a note on types of spores found in fungi. 2+5+3

OR

What do you mean by mycorrhiza? Write the salient features of different types of mycorrhiza. Mention their role in agriculture. 2+5+3

Group-C

[Marks: 25]

7. Answer the following questions in few words:
   (a) What is viroid? 2
   (b) Name the causal organisms of diphtheria and plague diseases. 2
   (c) What is prion? 1

8. Answer any ***two*** questions from the following: 5×2 = 10
   (a) Draw and describe the structure of endospore in bacteria. 5
   (b) Describe the lytic cycle of bacteriophage with suitable diagram. 5
   (c) Name the microbial sources and uses of Griseofulvin and Dextran. 2.5+2.5
   (d) Write the characteristic features of Archaea. 5

9. What is peptidoglycan? Draw and describe the ultrastructure of peptidoglycan. Mention the functions of Pili. 2+6+2

OR

What is the difference between F^+ and Hfr cells? Describe the process of transformation with special reference to the mechanism of DNA uptake in bacteria. 3+7

Group-D

[Marks: 25]

10. Answer the following questions:
   (a) Define pathotoxins with examples. 2
   (b) Distinguish between primary and secondary inocula. 2
   (c) What is pandemic disease? 1

11. Answer any ***two*** questions from the following: 5×2 = 10
   (a) Write a note on disease triangle. 5
   (b) Describe the role of phytoalexin in host defence. 5
   (c) Mention the different steps of Koch's postulates. 5
   (d) Discuss the role of biochemical tools of pathogens to cause successful infections. 5

12. Name the causal organism of late blight of potato. What are the symptoms of the disease? Describe the disease cycle and mention the control measures of the disease. 1+3+3+3

OR

Name the causal organism of bacterial blight of rice. Describe the symptoms, disease cycle and control measures of the disease. 1+3+3+3

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WEST BENGAL STATE UNIVERSITY

B.Sc. Honours PART-I Examinations, 2018

BOTANY-HONOURS

PAPER-BOTA-II

Time Allotted: 2 Hours | Full Marks: 50

The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.

1. Answer the following questions in brief:
   (a) Name a pollution sensitive bryophyte. 1
   (b) Distinguish between Telome and Awesome. 2
   (c) Distinguish between haplocheilic and Syndetocheilic stomata. 2
   (d) Define Polyembryony with example. 2
   (e) Write the scientific names of two separate Gymnosperm yielding drug and resin. 2
   (f) What is coal-ball? 1

2. Answer any ***one*** question from the following: 2×1=2
   (a) Comment on the role played by Bryophytes in plant succession citing example.
   (b) Differentiate between the external features of antheridiophore and archegoniophore of *Marchantia*.

3. Answer any ***two*** questions from the following: 2×2 = 4
   (a) Comment on the morphological nature of Rhizophore of *Selaginella*.
   (b) Differentiate between apogamy and apospory.
   (c) Why *Lepidodendron* is called Pseudospermatophyta?

4. Answer any ***two*** questions from the following: 2×2 = 4
   (a) Write a note on angiospermic character of *Gnetum*.
   (b) Write down the xerophytic characters depicted by *Pinus* needle.
   (c) Name the different form genera of the reconstructed Bennettitalean taxon.

5. Answer any ***one*** question from the following: 2×1 = 2

   (a) Distinguish between compression and impression.

   (b) What is Duripartic Preservation? Give example.

6. Describe the internal structure of the Sporophyte of *Funaria* and give a labelled sketch of longitudinal section of capsule. 4+3

OR

State the progressive concept of the evolution of Sporophyte in Bryophytes with example. 7

7. Describe with suitable diagrams the various types of Prothalli found in *Lycopodium*. 7

OR

Discuss the origin of seed habit after onset of heterospory. What is Pre-ovule? 5+2

8. With suitable illustrations describe the Post-fertilization development in *Pinus*. 3+4

OR

State the general characters of Pteridospermales and Cordaitales with two examples of each. Mention the different form genera of *Cordaites*. 2+2+1+1+1

9. Classify Gondwana land on the basis of floral assemblage. State the preconditions for fossilization. 5+2

OR

Enumerate the climatic condition and plant association through different periods of Mesozoic era. 7

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