KALIGANJ GOVT. COLLEGE
Part I Test Examination, 2017
Botany (Honours)

Full marks: 75 Time: 4 hours

The figures in the right-hand margin indicate marks.
Candidates are required to give their answers in their own words as far as practicable.

Answer all the questions

Group-A [Algae]

1. Answer <u>any three</u> of the following: 1 x 3 = 3
   a) What is Psammon?
   b) Name one toxic alga.
   c) What is coenocytic algae?
   d) Name one non-motile colonial alga.

2. Answer <u>any three</u> of the following: 2 x 3 = 6
   a) Define Gaidukov phenomenon.
   b) Mention two similarities of Cyanophyta with Rhodophyta.
   c) Mention two special features of sex organ of *Chara*.
   d) Differentiate between centric and pinnate diatoms.

3. Answer <u>any one</u> of the following: 6 x 1 = 6
   a) Classify algae according to Lee(1989).
   b) With suitable diagram, describe the cell structureof Bacillariophyceae.

4. Answer any one of the following: 10 x 1 = 10

a) Differentiate between Rhodophyceae and Chlorophyceae. Add a note on economic importance of algae as a source of phycocolloid. 5 + 5 = 10

b) Mention the salient features of Phaeophyceae. Describe the sexual reproduction of *Ectocarpus.* 5 + 5 = 10

Group-B [Fungi]

5.Answer any three the following: 1 x 3 = 3

a) What is cleistothecium?
b) What is microconidia?.
c) Name one edible species of *Agaricus*.
d) Write the scientific name of fission yeast.

6. Answer any three of the following: 2 x 3 = 6

a) What is dikaryotisation?
b) Define parasexuality.
c) Mention two unique features of fungal cell.
d) What is sclerotia?

7. Answer any one of the following: 6 x 1 = 6

a) Give a brief idea of aflatoxin.
b) Classify fungi according to Ainsworth (1973) upto orders.

8. Answer any one of the following: 10 x 1 = 10

a) What are the major types of Mycorrhiza? Discuss the role of mycorrhiza in agriculture and forestry. 5 + 5 = 10

b) Describe the sexual reproduction and basidiocarp development in *Agaricus*.

Group-C [Bryophyta]

9. Answer any three of the following: 1 x 3 = 3

a) What is perichaetium?
b) Mention the ploidy level of elater.
c) What is calyptra?
d) Name one aquatic bryophyte.

10. Answer any three of the following: 2 x 3 = 6

a) What are horn-worts?
b) Mention the importance of Bog moss.
c) Mention two difference of bryophyte from algae.
d) What are pseudoelaters? Where is it found?

11. Answer any one of the following: 6 x 1 = 6

a) Discuss the amphibian nature of bryophyte.
b) Describe the structure of the simplest sporophyte among bryophyta.

12. Answer any one of the following: 10 x 1 = 10

a) Briefly describe the structure of antheridiophore and archegoniophore of *Marchantia*. Mention the diagnostic features of *Marchantia* sporophyte. 7 + 3 = 10

b) Describe the structure of mature sporophyte of *Funaria* with suitable sketches. Describe the spore dispersal mechanism in *Funaria* capsule. 7 + 3 = 10

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2017
Botany (Honours)
Paper-II

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Answer all the questions

Group-A
[Microbiology]

5. Answer any three of the following: 1 x 3 = 3
   e) Name one endospore forming rod shaped bacteria, stating its Gram nature.
   f) Mention two significant contributions of Louis Pasteur in Microbiology.
   g) What is defective Phage?
   h) Name two inclusion bodies found in bacterial cell.
   i) Where do you find Braun's lipoprotein?

6. Answer any three of the following: 2 x 3 = 6
   e) Define Viroid. Name two Plant diseases caused by viroid.
   f) What is Hfr male?
   g) Distinguish binary fission and budding with respect to reproduction of bacteria.
   h) What is generation time?

7. Answer <u>any one</u> of the following: 6 x 1 = 6

c) Write a short note on Bacterial growth Curve.

d) With suitable diagram, describe the physico-chemical structure of TMV.

8. Answer <u>any two</u> of the following: 10 x 2 = 20

c) Briefly describe the molecular mechanism of Lysogeny in lambda phage. 10

d) What is F´ factor. Describe the F´X F⁻ Conjugation process in *E.coli.* 2+ 8 = 10

e) Write Short Notes on (*any two*) :-

i. Endospore in Gram Positive Bacteria

ii. Flagella of Gram Negative Bacteria

iii. Differences between Archeaea and Eubacteria.

5+5=10

Group-B

[Applied Microbiology]

5.Answer <u>any four</u> of the following: 1 x 4 = 4

a) What Rhizoplane?

b) Name two microbes capable of Nitrogen Fixation?

c)What do you mean by biofilm?

d) Name the microbial source of Griseofulvin.

e) What do you mean by Bioremediation?

6. Answer <u>any one</u> of the following: 6 x 1 = 6

a) What do you mean by Phyllosphere? Give a brief account on Phyllosphere Microorganisms. 2+4=6

b) Name the Producer organism and use of followings: Curd, amylase, Streptomycin. 2X3=6

Group-C

[Pathology]

8. Answer <u>any two</u> of the following: 1 x 2 = 2

a) Name the causal organism of Bacterial Bilght of Rice.

b) What is Inoculum?

c) What do you mean by Protectant fungicide? Give an example.

9. Answer <u>any three</u> of the following: 2 x 3 = 6

a) What do you mean by disease triangle?

b) Differentiate Vertical and Horizontal resistance.

c) Mention two key properties of Systematic Fungicide.

d) What do you mean by Plant quarantine?

10. Answer <u>any two</u> of the following: 6 x 2 = 12

a) Write a short note on the role of Phytoalexin in host defense.

b) Give a brief account on Chemical Control of Plant disease.

c) What is Pathotoxin? Mention different types of pathotoxins and their roles in disease development.

11. Answer <u>any one</u> of the following: 10 x 1 = 10

a) Name the causal organism of Loose smut of wheat. Mention the symptoms, disease cycle and chemical control of the disease. 1+3+4+ 2 = 10

b) State Koch postulates. Give a brief account of Pre-Penetration stage and penetration stages in the mechanism of infection of host plant by a plant Pathogen. 3 + 7 = 10

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