

2017

BOTANY

[Honours]

PAPER – I

Full Marks : 90

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

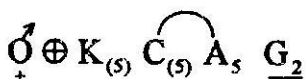
Illustrate the answers wherever necessary

GROUP – A

- 1. Answer any ten questions of the following : 2×10**
 - (a) What is F and Hfr in context to bacteria ?**
 - (b) Schematically show the five kingdom concept.**

(Turn Over)

- (c) Define denitrifying. Name two denitrifying bacteria.
- (d) What is 'gongrosira stage'? Give an example.
- (e) What is 'Cleistogamy'. Give an example.
- (f) Give two differences between Basidiomycotina and Ascomycotina, with example from each.
- (g) What is the difference between rhizomorph and scherotia. Give an example from each.
- (h) Name the causal organism of blight of betel and late blight of potato.
- (i) Name two means of biological control of plant diseases.
- (j) Give example of Verticillaster and Capitate inflorescence.
- (k) Give the diagram of a Campylotropous ovule.
- (l) Draw the floral diagram of the flower with floral formula.



and calyx and corolla in imbricate aestivation.

(3)

- (m) Name the families where pepo and caryopsis fruits are seen.
- (n) What is malacophily ? Give example.
- (o) Write down two importance of bacterial capsule.

GROUP – B

Answer any five questions : 8 × 5

2. Draw and describe the ultrastructure of a bacterial flagellum. How does it differ from pili in structure and function. 5 + 3
3. Indicate the role of Plasmids of different types in bacteria. What is interferon ? 6 + 2
4. What are the ecological importances of lichens ? Name two Actinomycetes with economic importance. 6 + 2
5. Comment on the following : 4 × 2
- (a) *Reproduction* of centric diatoms
- (b) Systemic fungicide.

6. Write short notes on : 4 + 4
(i) Types of Aestivation with example.
(ii) Schizocarpic fruits with examples.
7. Illustrate the different types of sexual reproduction in fungi. What is Buller phenomenon ? 6 + 2
8. Write down the ultrastructure of heterocyst and mention it's role in nitrogen fixation. 5 + 3
9. Discuss the role of different enzymes in Pathogenesis. Mention the differences between enzyme and toxin. 6 + 2

GROUP – C

Answer any two questions : 15 × 2

10. Describe the generalised transduction process in bacteria. Draw and describe a normal bacterial growth curve. What are the special features of archaebacteria ? Name two myxomycetes. 5 + 4 + 4 + 2
11. Name one coprophilous fungus. Describe the

(5)

sexual reproduction of an unicellular fungus studied by you. Discuss the disease cycle and control measures of tikka disease of groundnut.

1 + 5 + 5 + 4

12. Write notes on :

(i) Classification of algae (Lee, 1989) with class characters 8

(ii) Vegetative structure of *Laminaria* (morphology and anatomy) and its economic importance. 5 + 2

13. Write short notes on : 5 × 3

(i) Contrivances for Cross Pollination

(ii) Racemose inflorescence with example.

(iii) Types of Placentation with example.