UG/I/BOT/H/I/18

2018

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 from the following : 2 × 10

   (*a*) Name an ascomycetous fungi that does not produce any fruit bodies and a chytrid causing plant disease.

(*b*) What do you mean by sexduction ?

(*c*) What are $T_i$ plasmids ?

(*d*) What is helotism ?

(*e*) Mention the pigments and food reserves of Bacillariophyta.

(*f*) Distinguish between capitate and capitulum inflorescence.

(*g*) What is Gaiducov phenomenon ?

(*h*) What is McDonald pfitzer law ?

(*i*) What do you mean by Autoceous and Heteroceous rust ? Give examples.

(*j*) Define Gynostegium and Gynostemium.

(*k*) What are phylloclade and cladode ?

(*l*) Name the causal organism of Tungro Virus disease of rice and Tikka disease of ground nut.

(*m*) Mention two pigments found in cyanobacteria.

(*n*) Define axile placentation with one example.

(*o*) What is gynobasic style ? Where do you find it ?

## GROUP – B

Answer any **five** questions : $8 \times 5$

2. What do you mean by gram staining ? Differentiate between the cell wall of a gram positive bacteria from that of a gram negative bacteria. $2 + 6$

3. What is triphasic life cycle ? Give an account of post-fertilization changes in *Polysiphonia*. $2 + 6$

4. Describe with suitable diagrams the different types of cohesion and adhesion of stamens. $4 + 4$

5. Write short notes on : $4 \times 2$

   (*i*) Koch's postulate

   (*ii*) Brachymeiosis.

6. What is meant by pollination ? Write the differences between self pollination and cross pollination. Describe different contrivances for self pollination. $2 + 2 + 4$

7. Draw and describe Lytic and Lysogenic cycle with reference to $T_4$ phage. Name two nitrogen fixing bacteria. 6 + 2

8. Write a note on the origin and evolution of sex in algae. Mention the economic importance of *Anabaena*. 6 + 2

9. Classify fungi upto subdivisions with characters and examples according to Ainsworth-1973. Name on edible mushroom. 7 + 1

## GROUP – C

Answer any **two** questions : 15 × 2

10. Classify bacteria based on their morphology or cell shape. Give examples of each type. How do they grow asexually ? 5 + 5 + 5

11. Write morphological notes on : 3 × 5

    (*i*) Placentation of Cucumber

    (*ii*) Fruit of *Citrus* sp.

(*iii*) Inflorescence of Lamiaceae

(*iv*) Fruit of Apple

(*v*) Fruit of Okra or Ladies finger.

12. (*a*) Write the differences between pathogen and pathogenicity. Give a short note an Host-Parasite interaction. 3 + 5

(*b*) Describe the stages found in the life cycle of *Claviceps*. 7

13. Draw and describe the macrandrous life cycle of *Oedogonium* with example. Write a note on bacterial features of Cyanophyta. Mention one pigment and one reserve material of xantho-phyceae. 8 + 5 + 2