SG BOT—01

3rd Semester Examination, 2020

Time : 3 hours

Full Marks : 60

Answer any **one** Group as per your syllabus

Answer from **all** the Sections as per direction

The figures in the right-hand margin indicate marks

Candidates are required to answer in their own words as far as practicable

GROUP – A

(MODEL SYLLABUS)

(BIODIVERSITY (MICROBES, ALGAE, FUNGI AND ARCHEGONIATE)

SECTION – A

1. Answer *all* bits in *one* or *two* words each as required : 1 × 8

(*a*) Who discovered TMV in 1886 ?

(*b*) What is the generic name of the rod-shaped gram positive bacterium commonly found in curd ?

(*c*) Name the reserve food material in Phaeophyceae.

(*d*) The thallus in slime molds is a naked amoeboid mass of protoplasm. It is called _____ .

(*e*) What is the female sex organ in Bryophytes known as ?

(*f*) The ferns are included under the order _____ as per the system of classification adopted by Vishishta(1977).

(*g*) Pinus is included under the order _____

(*h*) In cycas, the dichotomously branched dwarf roots that harbour blue-green algae, are known as _____ roots.

SECTION – B

2. Answer any *eight* bits within a maximum of *three* sentences each : $1\frac{1}{2} \times 8$

(*a*) Write any two important general features regarding the structure of virus.

(*b*) Write any two important functions of capsule in bacteria.

(*c*) What is chromoplasm in cyanophyceae ?

(*d*) Highlight multiaxial thallus in Rhodophyceae.

(*e*) What do you understand by holocarpic thallus in fungi ?

(*f*) What is an antherozoid in Bryophytes ?

(*g*) How adventitious branches help in vegetative reproduction in Bryophytes ?

(*h*) Write down the systematic position of *Equisetum*.

(*i*) What are megasporophylls in Gymnosperms ?

(*j*) Write two important features of female prothallus in *Pinus*.

SECTION – C

3. Answer any *eight* bits within a maximum of *75* words each : 2×8

(*a*) What do you understand by helical symmetry in virus ?

(*b*) What are mesosomes in bacteria ?

(*c*) Highlight coccoid habit in algae.

(*d*) Highlight nutrition in fungi.

(*e*) What are selerotia in fungi ?

(*f*) Write three important characteristic features of the gametophyte of liverworts.

(*g*) Draw a labelled diagram of plectostele.

(*h*) Mention important medicinal uses of *Selaginella*.

(*i*) What are the distinguishing features of the order cycadales ?

(*j*) Highlight the main features in leaf anatomy in Gymnosperms.

SECTION – D

Answer **all** the questions within a maximum of **500** words each : 6 × 4

4. Discuss lytic cycle in bacteriophage.

Or

Narrate the process of conjugation in bacteria.

5. Elaborate sexual reproduction in *Oedogonium*.

Or

Describe reproduction in *Rhizopus*.

6. Discuss adaptations to land habit by Bryophytes.

Or

Describe heterospory and seed habit in Pteridophytes.

7. Discuss cycas as a living fossil.

Or

Write a note on female strobilus of *Gnetum*.

GROUP – B

(OLD SYLLABUS)

(BIODIVERSITY)

SECTION – A

1. Write short notes on the following : 2 × 6

(*a*) Two economic uses of bacteria

(*b*) RNA virus

(*c*) Nostoc

(*d*) Elaters

(*e*) Rhizophores

(*f*) Siphonostele.

SECTION – B

Answer **all** questions : 12 × 4

2. Discuss the structure and reproduction in bacteria. 12

Or

Write notes on : 6 × 2

(*i*) DNA virus

(*ii*) Economic importance of virus.

3. Describe the range of thallus structure in algae. 12

Or

Write notes on : 6 × 2

(*i*) Economic importance of algae

(*ii*) Lichens.

(*Turn Over*)

4. Describe the unifying features of archegoniates. 12

Or

Write notes on : 6 × 2

(*i*) Adaptation to land habit

(*ii*) Morphology of *Marchantia*.

5. Describe the heterospory and seed habit in pteridophytes. 12

Or

Write notes on : 6 × 2

(*i*) Early land plants

(*ii*) *Pinus* Needle.
