[Time: Three Hours] **[Marks. 100]**

Please check whether you have got the right question paper.

N.B: i) All questions are compulsory
ii) Figures to the right indicate full marks
iii) Draw neat and labeled diagrams whenever necessary

Q.1 A. Choose the **correct option** from the following: **10**

a) _____ are also called resting spores.
i) Heterocysts ii) Hormogones iii) Akinetes iv) Vegetative cells

b) *Nostoc* is used in reclamation of _____ soils.
i) acidic and saline ii) sandy and acidic iii) alkaline and sandy
iv) alkaline and saline

c) In *Spirogyra*, when cells from opposite filaments take part in sexual reproduction it is called _____.
i) Scalariform conjugation ii) Looping conjugation iii) Lateral conjugation
iv) None of the above

d) *Spirogyra* shows _____types of alternation of generation.
i) haplontic ii) diplontic iii) diplohaplontic iv) haplodiplontic

e) In *Aspergillus*, the conidia are formed in _____ succession.
i) basipetal ii) acropetal iii) basipetal and acropetal iv) none of these

f) The cytoplasm of *Rhizopus* mycelium is _____.
i) septate, uninucleate ii) septate, multinucleate
iii) aseptate, uninucleate iv) aseptate, multinucleate

g) Mass of white, delicate cottony threads is collectively known as _____.
i) mycelium ii) columella iii) hyphae iv) spore

h) Sporophyte in liverworts is _____.
i) fully independent ii) partially dependent on gametophyte
iii) partially independent iv) fully dependent on gametophyte

i) In *Riccia*, the thallus reproduces vegetatively by _____
i) fragmentation ii) persistant apices iii) tuber formation iv) all of the above

j) The antherozoids of *Riccia* are _____
i) quadriflagellate ii) biflagellate iii) uniflagellate iv) multiflagellate

B. Answer the following in **one sentence**: **10**

a) Name the orders of *Spirogyra* and *Nostoc.*
b) Define conjugation.
c) What are chlamydospores?
d) Define Parasitism.
e) Give the functions of scales in *Riccia.*

Q 2 Answer **any two** from the following : **20**

a) Give economic importance of algae as biofertilizers and food.
b) Describe sexual reproduction in *Spirogyra.*
c) Give the systematic position of *Nostoc*. Add a note on its occurrence and economic importance.
d) Write a detailed account on range of thallus in chlorophyta.

Q.3 Answer **any two** from the following: **20**

a) Describe sexual reproduction in *Aspergillus.*
b) Give systematic position and asexual reproduction of *Rhizopus.*
c) State the general characters of phycomycetes.
d) Write a detailed account on economic importance of fungi.

Q.4 Answer **any two** from the following: **20**

a) Describe the external morphology of *Riccia.* Add a note on its systematic position.
b) Give an account of the sporophytic generation of *Riccia.*
c) Write a detailed account on general characters of Hepaticae.
d) Describe the V.S. of thallus of *Riccia.*

Q.5 Write short notes on **(any four):** **20**

a) Structure of *Nostoc* vegetative cell
b) Systematic position of *Spirogyra*
c) Thallus structure of *Aspergillus*
d) Saprophytism as a mode of nutrition in fungi
e) Vegetative reproduction in *Riccia*
f) *Riccia* spore and its germination
