[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1074 **I**

Unique Paper Code : 2162012301

Name of the Paper : Phycology – The World of Algae

Name of the Course : **B.Sc. (Hons.) Botany**

Semester : III

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **four** Questions in all.
3. Question No. **1** is compulsory
4. Attempt **all** parts of the questions together
5. Draw well labelled diagrams wherever necessary.

1. (a) Define the following terms **(any five)** : (1×5=5)

   (i) Gas vacuole

   (ii) Heterocyst

   (iii) Akinete

P.T.O.

(iv) Cystocarp

(v) Conceptacles

(vi) Eye Spot

(vii) Amylum stars

(b) Fill in the blanks **(any five)** : (1×5=5)

(i) Multiflagellate zoospores are found in _____ .

(ii) Cells in *Polysiphonia* are interconnected by _____.

(iii) Presence of Cap cells is the characteristic feature of _____ .

(iv) Iodine is extracted from _____ (Name of algae).

(v) _____ causes Rust disease of tea.

(vi) _____ are the characteristic spores of diatoms.

(vii) Rhizoids of *Chara* possess _____ *septa.*

(c) Name an algal genus for the following **(any five)** : (1×5=5)

(i) Hormogonium

(ii) False branching

(iii) Trichoblast

(iv) Androspore

(v) Spermocarp

(vi) Rolling alga

(vii) Halophilic alga

2. Differentiate between the following **(any three)** : (3×5=15)

(i) Gongrosira stage and Plakea stage

(ii) Oogamy and Isogamy

(iii) Unilocular sporangia and plurilocular sporangia

(iv) Cyanophyceae and Rhodophyceae

(v) Nannandrous and Macrandrous species of *Oedogonium*

3. Write short notes on the following **(any three)** : (3×5=15)

(i) Evolutionary significance of *Prochloron*

(ii) Sexual reproduction in *Chara*

(iii) Significant contribution of F.E. Fritsch and M.O.P. Iyengar

(iv) Bioluminescence in algae

(v) Palmella stage in *Chlamydomonas*

4. Draw well-labelled diagrams of the following **(any three)** : (3×5=15)

(i) V.S. bisexual conceptacle of *Sargassum*

(ii) Discoid thallus of *Coleochaete*

(iii) E.M. of Heterocyst

(iv) W.m. of cystocarp of *Polysiphonia / Gracillaria*

(v) E.M. of *Chlamydomonas / Chlorella*

5. (i) Explain the alternation of generation and its significance in *Ectocarpus*. (8)

(ii) Discuss the range of thallus organization in algae. (7)

OR

Explain the reproduction in *Nostoc*? Highlight its ecological and economic importance. (7)