

- N.B. :** (1) All questions are compulsory.  
 (2) Figures to the right indicate full marks.  
 (3) Draw neat and labelled diagrams wherever necessary.

1. (A) Choose the correct option from the following :

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- (a) Akinetes are formed in *Spirogyra* during \_\_\_\_\_.
- |                               |                          |
|-------------------------------|--------------------------|
| (i) Asexual reproduction      | (ii) Sexual reproduction |
| (iii) Vegetative reproduction | (iv) All of the above    |
- (b) In *Spirogyra* when the conjugating tube is formed between two adjacent cells it is called \_\_\_\_\_.
- |                             |                          |
|-----------------------------|--------------------------|
| (i) scalariform conjugation | (ii) looping conjugation |
| (iii) lateral conjugation   | (iv) all of the above    |
- (c) \_\_\_\_\_ is a filamentous alga.
- |                            |                       |
|----------------------------|-----------------------|
| (i) <i>Chlorella</i>       | (ii) <i>Spirogyra</i> |
| (iii) <i>Chlamydomonas</i> | (iv) all of the above |
- (d) Example of unicellular algal form is \_\_\_\_\_.
- |                      |                           |
|----------------------|---------------------------|
| (i) <i>Ulva</i>      | (ii) <i>Chlamydomonas</i> |
| (iii) <i>Zygnema</i> | (iv) <i>Ulothrix</i>      |
- (e) Foot cell in *Aspergillus* is \_\_\_\_\_.
- |                  |                 |
|------------------|-----------------|
| (i) 'T' shaped   | (ii) 'U' shaped |
| (iii) 'L' shaped | (iv) 'C' shaped |
- (f) Conidia are \_\_\_\_\_.
- |  |
|--|
| (i) exogenously formed sexual spores in fungi                  |
| (ii) exogenously formed asexual spores in algae                |
| (iii) produced by fungal hyphae in basipetal chains            |
| (iv) produced exogenously by fungal hyphae in acropetal chains |
- (g) Mass of white, delicate, cottony threads in fungi are collectively known as \_\_\_\_\_.
- |                 |            |
|-----------------|------------|
| (i) Mycelium    | (ii) Hypha |
| (iii) Columella | (iv) Spore |
- (h) Genus *Riccia* is a \_\_\_\_\_.
- |                  |                |
|------------------|----------------|
| (i) Pteridophyte | (ii) Algae     |
| (iii) Fungi      | (iv) Bryophyte |

- (i) \_\_\_\_\_ types of rhizoids are found in *Riccia*.
- (i) One (ii) Two  
(iii) Three (iv) Four
- (j) The function of scale of *Riccia* is \_\_\_\_\_.
- (i) Protective (ii) Nutritive  
(iii) Reproductive (iv) All of the above

(B) Answer the following in one sentence :

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- (i) Flagella  
(ii) Pyrenoid  
(iii) Ascospore  
(iv) Any two diseases caused by *Aspergillus*  
(v) Dichotomy in *Riccia* Thallus

2. Answer any two from the following :

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- (a) Discuss sexual reproduction in *Spirogyra*.  
(b) Give economic importance of algae as bio-fertilizer and food.  
(c) Write a detailed note on range of thallus in chlorophyta.  
(d) Explain methods of vegetative and asexual reproduction in *Nostoc*.

3. Answer any two from the following :

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- (a) Discuss the modes of nutrition in fungi studied by you.  
(b) Describe asexual reproduction of *Rhizopus*. Add a note on its systematic position.  
(c) Describe sexual reproduction in *Aspergillus*.  
(d) Give economic importance of fungi.

4. Answer any two from the following :

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- (a) Describe external and internal structure of *Riccia* thallus.  
(b) Explain alternation of generations in *Riccia* life cycle.  
(c) Give general characters of Hepaticae.  
(d) Describe the structure of sporophyte in *Riccia*. Add a note on spore structure and germination.

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5. Write short notes on (any four) :

- (i) Vegetative cell of *Spirogyra*.
  - (ii) Alginates.
  - (iii) Haustoria.
  - (iv) Fungi as food.
  - (v) Antheridium of *Riccia*.
  - (vi) Systematic position of *Riccia* with reasons.
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