

M.Sc. 1st Semester Examination, 2013

MICROBIOLOGY

PAPER— MCB - 102(Gr. A + B)

Full Marks : 40

Time : 2 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

**Write the answers to questions of each Group in
separate books**

GROUP — A

[Marks : 20]

Answer any two questions

1. Write notes on (any four) :

$2\frac{1}{2} \times 4$

(i) Basidiospores and ascospores.

(Turn Over)

(2)

- (ii) Impact of fungi on ecosystem.
- (iii) Role of mycorrhiza in Agriculture.
- (iv) Multiple allele heterothallism.
- (v) Industrial importance of fungi in food processing.
- (vi) Planogametic copulation found in fungi.
2. Describe the vegetative and asexual reproduction and economic importance of *Saccharomyces*. Write a detailed note on the asexual reproduction of *Aspergillus*. 2 + 2 + 2 + 4
3. Mention the important features of Lichen. Write a note on the nature of association of two partners found in Lichen. State in brief the various types of external structure of Lichen. Give a note on the economic importance of Lichen. 2 + 2 + 3 + 3

(3)

GROUP – B

[Marks : 20]

Answer Q. No. 4 and any one from the rest .

4. Write short explanatory notes on any *four* of the following : $2\frac{1}{2} \times 4$
- (i) Reasons of absence of sexual reproduction in Blue-green algae.
 - (ii) "Deep sea Rhodophycean members are characteristically red in colour".
 - (iii) Briefly describe the economic importance of diatoms.
 - (iv) Structural features of the longer flagellum of *Euglena Spirogyra*.
 - (v) Write a brief note on spirulina as food supplement.
5. Name different types of "life cycle" patterns (with example) that you have studied in different groups of algae. Graphically represent the life cycle of

(4)

Polysiphonia sp., with a reference to genomic number. Schematically represent the nuclear behaviour during sexual auxospores formation in diatoms. 3 + 3 + 4

6. (a) Write the economic importance of the following : 2 × 3

(i) Silica Gel

(ii) SCP

(iii) Kelps.

(b) Write the differences between the following pairs : 2 × 2

(i) Plurilocular sporangia and plurilocular gametangia.

(ii) Zoospores and gametes.