

2010

M.Sc.

1st Semester Examination

MICROBIOLOGY

PAPER—II (MCB-102)

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer any two questions from each group.

Group—A

[Marks : 20]

Answer any two questions.

1. Answer any four of the following :

4×2½

- (i) Name the classes of fungi as classified by Gwynne-Vaughan and Barnes, mentioning one important feature of each class.

(Turn Over)

- (ii) Distinguish between ascospore and basidiospore.
- (iii) Define dikaryotization. State its significance.
- (iv) State the economic importance of *Aggaricus* (both useful and harmful).
- (v) What is VAM? State its importance.
2. Describe the different methods of sexual reproduction found in fungi. State the economic importance of Lichens. 5+5
3. What is endophytic fungi? Name our endophytic fungus and state its importance. Mention four industrial uses of fungi and name the genera involved in the process. Draw the graphic life cycle of a heterothallic species of *Mucor* and describe it. 1+1+4+4

Group—B

[Marks : 20]

Answer any two questions.

4. (a) Draw the word diagram of a triphasic life cycle of an algae that you have studied. Write the structural and functional features of the stigma of *Chlamydomonas* sp. 3+2

- (b) Write the important characteristic features of the cellular ultra structure of *Chlorella*. Mention its two economic importance. 3+2
5. (a) What are the characteristic features of the flagella of *Euglena*? (Illustrate your answer with a labelled diagram). Mention four unique features of brown algae. 4+1
- (b) What are the basis of classification of algae as proposed by Fritsch (1935)? "Robert Edward Lee (1999) classified algae into four "Evolutionary Groups" — what are the composition of each group? 2+3
6. Answer any *five* of the following : 5×2
- (i) What is diatomin ?
- (ii) What is alternation of generations ? Mention a group of algae, lacking alternation of generations and the reason for this absence. 1+1
- (iii) What are the differences between microzoospores and macrozoospores in case of *Ulothrix sp.*? 2
- (iv) What is the importance of Complementary chromatic adaptation in case of deep-sea Red-algae? 2

- (v) Write the importance of algae in S.C.P. production and mention one demerit of such proteins. 2
- (vi) Mention the economic importance of red algae with at least two important examples. 2
-