2012

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. Write notes on (any *four*) : $4 \times 2\frac{1}{2}$

(i) Asexual reproduction of yeasts.

(ii) V A mycorrhiza

(iii) What do you mean by heterothallism?

(iv) Industrial importance of fungi (any two importance).

(v) Characteristics of Lichen.

(vi) Endophytic fungi.

2. Write a note on different methods of plasmogamy found in fungi. Mention the class characteristics of Zygomycotina and describe the sexual reproduction found in *Mucor*. 4+2+4

3. Draw and describe the inner structure of mature basidiocarp of *Agaricus*. What is the economic importance of *A. bisporus*. Name two poisonous fungi. What are angiocarpic and gymnocarpic apothecie. 4+2+2+2

Group—B

[Marks : 20]

Answer any *two* questions.

4. (a) In *"The Isles of Man"*, all the algal population of *Ectocarpus siliculosus* are diploid plants.

But in *"The Bay of Naplis"*, all the algal population of *E. siliculosus* are haploid in nature.

In both the cases how could they (*E. siliculosus*) complete their life cycle ?

(b) What do you mean by reduplication of both (sporophytic and gametophytic) generations in case of *Ectocarpus sp.*

$(3\frac{1}{2} \times 2)+3$

5. (i) Write the significance of naming the *"RED SEA"*.

(ii) Name one major commercial product of Red Algae and Brown Algae & mention their uses.

(iii) What do you mean by Engleman's "Theory of complementory chromatic adaptation" ?

(iv) Write the structural and functional features of the stigma (Red Eye Spot) of *Chlamydomonas sp.*

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

6. Write short explainatory notes on the following (*any four*) :

(a) Heterocysts of cyanophyceae.

(b) Zoospores of *Ulothrix* sp.

(c) Phenomenon of *"Rejuvenescence"* in Diatoms.

(d) Triphasic alternation of generations

(e) Range of thallus in Algae.

(f) Algal bloom

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