

[This question paper contains 4 printed pages.]

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Your Roll No.

B.Sc. (Hons.) / II

A

MICROBIOLOGY – Paper VII

(ALGAE & FUNGI)

(Admissions of 2004 & after)

Time : 3 Hours

Maximum Marks : 60

*(Write your Roll No. on the top immediately
on receipt of this question paper.)*

*Attempt five questions in all, selecting at
least two questions from each section. Attempt
sections A and B on separate answer books.*

All questions carry equal marks.

SECTION – A

(Algae)

1. (a) Give the generic name of algae associated with the following →
 - (i) Plakea Stage
 - (ii) Raphe
 - (iii) External fertilization
 - (iv) Synzoospore
 - (v) Gonimoblast filaments

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- (vi) Siphonaceous green algae
- (vii) Non motile gametes
- (viii) Gongrosira stage
- (ix) Red snow
- (x) Bulbils (1×10=10)

(b) What is chromatic adaptation? What is its significance? (1×2=2)

2. (a) Where does reduction division takes place in life cycles of the following algae →

- (i) *Volvox*
- (ii) *Coleochaete*
- (iii) *Fucus*
- (iv) *Polysiphonia*
- (v) *Vaucheria* (1×5=5)

(b) Discuss the various photosynthetic pigments in the algae of different classes studied by you. (3)

(c) Name the algae which is used for the extraction of the following →

- (i) Iodine
- (ii) Alginates
- (iii) Carageenan
- (iv) Antibiotic (1×4=4)

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3. (a) Write short notes on the following →

(i) Chromatophore of brown algae

(ii) Types of branching in blue green algae

(3×2=6)

(b) Differentiate between the following →

(i) Spermatocarp and Cystocarp

(ii) Macrandrous and Nannandrous

(3×2=6)

SECTION - B

(FUNGI)

4. (a) Give the classifications of the following fungi
(any five) :

(i) *Neurospora*

(ii) *Synchytrium*

(iii) *Candida*

(iv) *Ustilago*

(v) *Dictyostelium*

(vi) *Peronospora*

(1×5=5)

(b) What is heterokaryosis? What are different ways in which fungal thallus can become heterokaryotic?

(1+2=3)

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- (c) What are various types of plasmodia found in the class Myxomycetes ? (4)
5. (a) Differentiate between the following (any four) :
- (i) Appressorium and Haustorium
 - (ii) Paraphyses and Periphyses
 - (iii) Foliose and Fruticose lichens
 - (iv) Arthrospore and Chlamydospore
 - (v) Paragynous and Amphigynous antheridium (2×4=8)
- (b) Describe the three types of mycelia found in the class Basidiomycetes. (3)
- (c) Name **one** obligate anaerobic fungus. (1)
6. (a) Write short notes on (any two) :
- (i) Heterothallism
 - (ii) Mycotoxins
 - (iii) Fungal hyphal growth (3×2=6)
- (b) What is the significance of Parasexual Mechanism ? (3)
- (c) Give a brief account of role of fungi in Agriculture OR Industry. (3)