

2018

M.Sc. 1st Seme. Examination

MICROBIOLOGY

PAPER—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.

Illustrate the answers wherever necessary.

Group-A

[Marks : 20]

1. Answer any *two* questions : 2×2
- (a) Which of the fungal pRNA gene is considered for fungal identification ? State the reason.
 - (b) What do you mean by functional evolution of fungi ?
 - (c) Yeast can grow both aerobically and anaerobically — explain.
 - (d) What *is* *terpens* ? Write the name of one fungi which produces *terpens*.

(Turn Over)

2. Answer any *two* questions : 2×4
- (a) Which polysaccharide is abundant in fungal cell wall ?
Mention the chemical composition of that polysaccharide.
State the role of secondary metabolites in fungal systematics. 1+1+2
- (b) Why toxigenic fungi is important in agriculture ? Justify your answer with suitable example. 4
- (c) Write in brief about the biodiversity of yeasts. 4
- (d) What is YM Shift ? Write the name of fungi which exhibit this phenomenon. 3+1
3. Answer any *one* question : 1×8
- (a) What is Mycorrhizal symbiosis ? Differentiate between ecto and endo mycorrhiza. Write the applications of mycorrhiza in agriculture. 2+2+4
- (b) Write short note on :
- (i) RFLP in fungal systematics,
- (ii) Aflatoxin,
- (iii) Biochemical methods of fungal characterization. 3+2+3
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Group-B

[Marks : 20]

1. Answer any *two* questions : 2×2
- (a) What is the function of eye spot in algal cell ? 2
- (b) What are stone warts ? Give an example. 1+1
- (c) What is Carbon Concentrating Mechanism (CCM) ?
Mention any one importance of it. 1+1
- (d) Differentiate between Zygosporoes and Oosporoes. 2
2. Answer any *two* questions : 2×4
- (a) State two features of diatoms. Briefly mention the role
of diatoms in biofuel production. 2+2
- (b) Write the different characteristics of Amoebiods.
- (c) Distinguish between Phaeophyceae and Rhodophyceae.
- (d) Elucidate the features of pyrophyta with example.

3. Answer any *one* question :

1×8

- (a) Outline the classification of Algae as given by Smith.
State the importance of fucoxanthin. 6+2
- (b) Describe the life cycle of *Plasmodium vivax* with suitable diagram.
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