PG/IS/MCB-102/19

M.Sc. 1st Semester Examination, 2019

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 Groups in separate books

GROUP – A

[Marks : 20]

1. Answer any *two* questions : 2 × 2

(*a*) *Distinguish* between chitin and murein.

(*b*) Name one aflatoxin producing fungus. How it affects human system ?

(*c*) Name two fungal antagonists.

(*d*) Mention two application of mycorrhiza.

2. Answer any *two* questions : 4 × 2

(*a*) Write a note on how gene duplication in yeast leads to adaption in new environment. 4

(*b*) Write a note on toxins from *Penicillum Sp.* 4

(*c*) What is biopesticide ? Name two fungal biopesticide and name the affected insects by them. 2 + 1 + 1

(*d*) Discuss the ecological role of soil fungi. 4

3. Answer any *one* question : 8 × 1

(*a*) Give two example of non ribosomal peptides. Discuss the process of non-ribosomal peptide synthesis in fungi. 2 + 6

(*b*) Write short notes on : 3 + 3 + 2

(*i*) Hydrophobins

(*ii*) FAME

(*iii*)Mass culture of VAM.

GROUP – B

[Marks : 20]

4. Answer any *two* questions : 2 × 2

(*a*) What is holdfast ? Mention its utility in algal members. 1 + 1

(*b*) What is coenobium in algal community ? Give an example. 1 + 1

(*c*) What is the role of multilayered structure (MLS) in algal reproduction ? 1 + 1

(*d*) Name the pigments present in brown algal. 2

5. Answer any *two* questions : 4 × 2

(*a*) Elucidate the freatures of Diplo-biontic life cycle in algae with suitable example. 4

(*b*) Describe the uses of the common kelps. 4

(*c*) Mention the significant features of Red algae and its midicinal value. 2 + 2

(*d*) Give the features of toxin producing two algal members, mentioning the group to which they belong. 4

6. Answer any *one* question : 8 × 1

(*a*) Describe the biotechnological importance of diatom with special reference to carbon concentrating mechanism (CCM) in diatoms. 5 + 3

(*b*) Describe the life cycle of the protozoa *Leishmania donovani* with suitable diagram and point out its effective pathogenic stage. 8