

2018

M.Sc. 4th Semester Examination

MICROBIOLOGY

PAPER—MCB-401

Subject Code—31

Full Marks : 40

Time : 2 Hours

The figures in the 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

[20 Marks]

Answer any *two* questions.

1. (a) What is biodiversity hotspot ? Write the name of two biodiversity hotspot of India. 2+1
- (b) Explain umbrella and flagship species. 2

(Turn Over)

- (c) Define biome. 2
- (d) Differ between k- and r- selected population. 3
2. (a) Define co-evolution with example. 2
- (b) Write a short note on bioserve. 2
- (c) State the significance of Y shaped energy flow model. 2
- (d) What is IUCN red list ? 2
- (e) What are edaphic factors ? 2
3. (a) Distinguish between production and productivity. Define secondary production. 2
- (b) Make a brief explanatory note about density independent population regulation. 3
- (c) Write a short note on survivorship curve. 3
- (d) What is edge effect ? Explain with examples. 2

Group-B

[20 Marks]

Answer any *two* questions.

4. (a) How do the microbes adapt in extreme climates? Elucidate the mechanism of adaptation in high-temp. habitats including hot-water springs.

(b) How do the microbes tolerate the heavy metal Hg?

(c) Define biomagnification.

2+5+2+1

5. (a) Define biodegradation. How do the microbes degrade PCB, elucidate the mechanism of degradation with suitable example.

(b) Name any two microbes involved in the bioleaching of copper.

(c) What is tertiary recovery.

1+2+3+2+2

6. Write brief notes on :

- (a) Test for portability of water ;
- (b) Biosafety ;
- (c) Composting.

4+3+3