

2017

M.Sc. 2nd Semester Examination

MICROBIOLOGY

PAPER—MCB-204

(CBCS)

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.

1. Answer any ten questions : 10×2

- (a) Mention two contributions of Louis Pasteur.
- (b) What are the limitations of electron microscopy ?
- (c) What is carboxysome and what is its function ?
- (d) Write the composition of cellwall of fungi.

(Turn Over)

- (e) What is flagella ? State its functions.
- (f) Differ between sterilization and disinfection.
- (g) Write the name of two nitrogen fixing bacteria.
- (h) What is Xenobiotics ?
- (i) What is mordant and decolorizing agent in Gram staining ?
- (j) Define autotroph.
- (k) What is HEPA ? Mention the mode of action of UV ray.
- (l) Why the killing of microorganisms by moist heat is more effective than dry heat ?
- (m) What is the basic difference between eubacteria and archaea ?
- (n) What do you mean by enrichment medium ? Why will you use it ?
- (o) Mention any three bacterial diseases of human and write their causative agents.
- (p) What is a superbug ? Give example.
- (q) What is biogeochemical cycle ?

2. Answer any *two* questions : 2×10
- (a) Briefly describe the composition of cell wall of Gram positive bacteria. 4
- What components constitutes the outer membrane of Gram negative bacteria ? 3
- What is dipicolinic acid and where is it found ? State its function. 3
- (b) Schematically represent the path of N_2 -cycle. 3
- How microorganisms can be used to ameliorate environmental degradation. 3
- Write a note on the significant role of microbes in food industry. 4
- (c) What is pure culture ? 2
- Mention the therapeutic value of fermented food. 2
- What is Agar ? Mention its source. 2
- What is Pasteurization ? Write the merits and demerits of the technique. 1+3

(d) Write a short note on algae biofuel. 4

What do you know about microbial toxins. Give two examples. 2+1

Write the merits and demerits of electron microscopy in microbial research. 3
