

C 22615

(Pages : 2)

Name.....

Reg. No.....

**FOURTH SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY)
EXAMINATION, APRIL 2022**

(CBCSS)

Zoology

ZOL 4C 10—BIOTECHNOLOGY AND MICROBIOLOGY

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

General Instructions

1. In cases where choices are provided, students can attend **all** questions in each section.
2. The minimum number of questions to be attended from the Section / Part shall remain the same.
3. The instruction if any, to attend a minimum number of questions from each sub section / sub part / sub division may be ignored.
4. There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.

Part A

I. Answer any *four* of the following. Each question carries 2 weightage :

- 1 Southern blotting.
- 2 PCR technique.
- 3 RAPD.
- 4 Nutritional types.
- 5 Antisense RNA.
- 6 RNA viruses.
- 7 Alcoholic fermentation.

(4 × 2 = 8 weightage)

Turn over

Part B

C2

- II. Answer any *four* of the following. Each question carries 3 weightage :
- 8 Write a note on international obligations on intellectual property rights.
 - 9 Differentiate gram positive and negative bacteria. Explain the mechanism of gram stain.
 - 10 Write on the methods used in the study of microbial growth.
 - 11 Explain the methods used in microbial analysis of drinking water. Add a note on the bioremediation in ensuring the safety of drinking water.
 - 12 Give an account on social acceptance issues of transgenic products.
 - 13 Explain the various methods in animal tissue culture.
 - 14 Write an account on the construction of cDNA library.

 $(4 \times 3 = 12 \text{ wei})$

Part C

- III. Answer any *two* of the following. Each question carries 5 weightage :
- 15 Write an essay on the different methods used to control microorganisms.
 - 16 Give an account on DNA sequencing techniques.
 - 17 Explain different cloning procedures adopted in genetic engineering. Add a note on shortcomings of these techniques.
 - 18 Write an account on different types of molecular markers. Add a note on their applications in different fields.

 $(2 \times 5 = 10 \text{ wei})$