

## FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, MARCH 2020

(CUCSS)

Zoology

ZO4 CT 10—BIOTECHNOLOGY AND MICROBIOLOGY

Time : Three Hours

Maximum : 36 Weightage

## Part A

I. Write short notes on all the *fourteen* questions. Each question carries 1 weightage :

- 1 Cosmid.
- 2 Real Time PCR.
- 3 RFLP.
- 4 VNTR.
- 5 Embryo transfer in humans.
- 6 Gene knockouts.
- 7 Biomonitoring.
- 8 Biopesticides.
- 9 Alexander Fleming's contributions to Microbiology.
- 10 Nucleoid.
- 11 Chemotrophs.
- 12 Swine Flu.
- 13 Heterolactic fermentation.
- 14 Candidiasis.

(14 × 1 = 14 weightage)

## Part B

II. Answer any *seven* of the following. Each question carries 2 weightage :

- 15 Explain the working and uses of biogas plant.
- 16 Describe the biochemical process of alcoholic fermentation and its applications.

Turn over

- 17 Explain the causes, symptoms and treatment of tuberculosis.
- 18 With suitable diagram, describe the structure of a typical DNA virus.
- 19 Describe the various methods employed for the measurement of microbial cell mass.
- 20 Explain the principle and methodology involved Gram's staining.
- 21 Give an account on transgenic crops and discuss the social acceptance of GM crops.
- 22 Give an account on the role of biotechnology in restoration of degraded lands.
- 23 Give an account on various culture methods used in a tissue culture laboratory.
- 24 Give an account on molecular probes.

(7 × 2 = 14 weightage)

### Part C

III. Answer any *two* of the following. Each question carries 4 weightage :

- 25 Give a detailed account on various types of cloning vectors used in Biotechnology laboratories.
- 26 Explain the various methods employed in DNA sequencing. Add a note on its advantages and disadvantages.
- 27 Discuss the major criteria used and the types of classification of micro-organisms.
- 28 What are disinfectants and explain the different types of disinfectants used for the control of micro-organisms.

(2 × 4 = 8 weightage)