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(Pages : 2)

Name.....

Reg. No.....

FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2019

(CUCSS—PG)

Zoology

ZO 4CT 10—BIOTECHNOLOGY AND MICROBIOLOGY

(2016 Admissions)

Time : Three Hours

Maximum : 36 Weightage

Part A

I. Write short notes on. All the *fourteen* questions :

- | | |
|---|------------------------|
| 1 Phagemid. | 2 Slot blot. |
| 3 AFLP. | 4 Dolly. |
| 5 IVF. | 6 RNAi. |
| 7 Knockout mouse. | 8 Superbugs. |
| 9 Jenner's contribution to vaccination. | 10 Numerical taxonomy. |
| 11 Heterotrophs. | 12 Bird flu. |
| 13 Homolactic acid fermentation. | 14 MPN index. |

(14 × 1 = 14 weightage)

Part B

II. Answer any *seven* of the following :

- 15 Give an account on bacteriological water analysis.
- 16 Give an account on antibiotics and the mode of action of penicillin and chloramphenicol.
- 17 Explain the signs and symptoms, transmission and diagnosis of AIDS.
- 18 Give an account on different types of viruses based on the genome and structure.
- 19 Give an account on bacterial motility and transport of nutrients.
- 20 Discuss the ethical and social impacts of genetic engineering.
- 21 With suitable example explain the characteristics of a typical plasmid.
- 22 Discuss the types, advantages and consequences of gene therapy.

Turn over

- 23 Give an account on various methods involved in the construction of chimeric DNA.
- 24 Give an account on various types of artificial chromosomes used as vectors.

(7 × 2 = 14 weightage)

Part C

III. Answer any *two* of the following :

- 25 Explain the methodology, types and applications of polymerase chain reaction.
- 26 Write an essay on intellectual property rights.
- 27 Give an account on nutritional requirements and nutritional types of microbes.
- 28 Explain microbial growth curve and explain the various methods used for the measurement of cell numbers.

(2 × 4 = 8 weightage)