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Reg. No.....

Name.....

M.Sc. DEGREE (C.S.S.) EXAMINATION, NOVEMBER 2018

Third Semester

Faculty of Science

Branch VIII : Zoology

ZY 3C T13—MICROBIOLOGY AND BIOTECHNOLOGY

(2012 Admission onwards)

Time : Three Hours Maximum Weight : 30

Section A (Short Answer Type Questions)

Answer any **ten** *out of twelve.*
Weight 1 *each.*

1. Louis Pasteur.
2. Pili and Fimbriae.
3. Fermentation.
4. Antagonism.
5. DNA Virus.
6. Bio-terrorism.
7. Electroporation.
8. DNA Vaccines.
9. Organic acids.
10. Bio-insecticides.
11. IPR.
12. Bio-ethics.

(10 × 1 = 10)

Section B (Short Essay Type Questions)

Answer any **five** *out of eight.*
Weight 2 *each.*

13. Main group of micro-organisms.
14. Slime layers and S-layers.
15. Energy acquisition by Chemotrophs and Phototrophs.
16. Reproduction and Exponential growth.

Turn over

17. Enzyme engineering and applications.

18. Transgenics and Environment.

19. Types of Patents.

20. Ethics in Post Genomic Era.

(5 × 2 = 10)

Section C (Long Essay Type Questions)

Answer any **two** *out of three.*
Weight 5 *each.*

21. Microbial population on Human Body.

22. Solid waste management.

23. History of GATT, WTO, WIPO and TRIPS.

(2 × 5 = 10)