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M.Sc. DEGREE EXAMINATION, APRIL 2018.

Microbiology

SECOND SEMESTER

Paper V– FUNDAMENTALS OF MICROBIOLOGY

(Non Core Subject)

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 3 = 15 marks)

Answer any FIVE questions.

Each question carries 3 marks.

Each answer should not exceed 1 page.

1. Louis Pasteur contributions to the field of Microbiology.
2. Preservation and maintenance of microorganisms.
3. Acid fast staining.
4. Applications of electron microscopy.
5. 16S rDNA bacterial identification.
6. Methanogens.
7. Sterilization.
8. Significance of microbes in agriculture.

PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. Briefly write the contribution and achievements of the following Scientists:
 - (a) Edward Jenner.
 - (b) Robert Koch.
 - (c) Hargobind Khorana.

Or

10. Briefly write about the following :

- (a) Pour Plate Method.
- (b) Golden age of Microbiology.

11. Describe the salient features of Fluorescent Microscopy and briefly write about its applications.

Or

12. Briefly write about the following :

- (a) Gram Staining.
- (b) Phase contrast Microscopy.

13. Write in brief about the major characteristics used in identification and classification of microbes.

14. Briefly write about the following :

- (a) Halophiles.
- (b) Whittakers - Five kingdom System.

15. Write briefly about the following in control of microbes :

- (a) Tyndallization.
- (b) Pasteurization.
- (c) Chemical agents.

16. Write in detail the significance of microbes to food, dairy and to human health.