PART C — (3 × 10 = 30 marks)

Answer any THREE of the questions.

16. Bring out the contributions of Alexander Fleming, Jenner and Metchnikoff in the development of microbiology.

17. Discuss the principle and working mechanism of phase contrast and fluorescence microscopy and their applications.

18. Elucidate the structure and functions of cyanobacteria.

19. Elaborate in detail the wet and dry sterilization techniques.

20. Explain the different antibacterial agent's mode of action with respect to their cellular targets. Give some examples of each.

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S.No. 1761 **12UBT03**

(For the candidates admitted from 2012 – 2013 onwards)

B.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

Third Semester

Biotechnology

FUNDAMENTALS OF MICROBIOLOGY

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Contribution of Anton van Leeuwenhoek

2. Define enrichment media.

3. Numerical aperture.

4. Difference between SEM and TEM.

5. List the functions of plasma membrane.

6. Magnetosomes.

7. How gases are used as sterilizing agent?

8. Differentiate between Obligate anaerobes and Facultative anaerobes.

9. Microbial sources of antibiotics.

10. Mode of action of any one antifungal drug.

PART B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Write short notes on selective and differential media with examples.

Or

(b) Explain how Louis Pasteur disproved the spontaneous generation method?

12. (a) Draw a diagram of bright field microscope and mention the different parts with their functions.

Or

(b) Explain how will you carry out the staining of spore?

13. (a) Illustrate the general characters of eukaryotic cell.

Or

(b) Differentiate Gram positive and Gram negative bacterial cell wall.

14. (a) Mention the different phases of bacterial growth curve with a neat diagram and mention the process occurring in each phase.

Or

(b) Describe major nutritional types of microorganisms.

15. (a) Explain the mode of action of any two antiviral drugs.

Or

(b) Elucidate the mechanism of antimicrobial resistance.