

**F. Y. B. SC. (BIOTECHNOLOGY) SEM – II (CBCS - 2015
COURSE) : WINTER - 2017**

SUBJECT: INTRODUCTION TO MICROBIOLOGY

Day: Friday
Date: 27/10/2017

W-2017-0935

Time: 10.00 AM TO 01.00 PM
Max Marks. 60

N.B.

- 1) Q. No. 1 and Q. No. 5 are **COMPULSORY**. Answer any **TWO** from questions 2, 3 & 4 and from 6, 7, & 8
 - 2) Both the sections should be written in **SEPARATE** answer books.
 - 3) Figures to the right indicate **FULL** marks.
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SECTION – I

- Q.1** Attempt **ANY FIVE** of the following (10)
- a) State two differences between SEM and TEM.
 - b) Mention Koch's postulates
 - c) What are different flagellar arrangements in bacteria?
 - d) Define the terms:
 - i) Microscope resolution
 - ii) Numerical aperture
 - e) What is the role of immersion oil in increasing resolution of microscope?
 - f) What is pure culture?
- Q.2** Attempt the following questions (10)
- a) Describe the structure of peptidoglycan.
 - b) Discuss the principle and working of phase contrast microscope.
- Q.3** Explain the following (10)
- a) Describe the structure and function of capsule and S layer.
 - b) Give an account on contributions of Robert Koch in developing pure culture technique.
- Q.4** Write short notes on **ANY TWO** of the following (10)
- a) Structure of flagella
 - b) Dark field microscope
 - c) Francisco Redi's experiment

SECTION - II

- Q.5** Attempt **ANY FIVE** of the following (10)
- a) What is differential media? Give example.

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- b) Define the term:
 - i) Pathovar
 - ii) Biovar
- c) What is complex media? Give example.
- d) What are Microelement?
- e) What are the different types of bacteria on the basis of their optimum pH?
- f) Name the biological indicator used in sterility checking. Mention its significance.

Q.6 Attempt the following questions (10)

- a) Give an account on ionizing radiations as a method of sterilization.
- b) Give salient features of Bergey's manual of systematic bacteriology.

Q.7 Write short notes on (10)

- a) Bacterial growth curve.
- b) Types of bacteria on the basis of source of nutrition.

Q.8 Give an account on **ANY TWO** (10)

- a) Mode of action of Quaternary ammonium compound & alcohol.
- b) Spread plate technique
- c) Filtration as method of control of microorganism.

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