

MZ-103

December-2016

B.Sc., Sem.-I

**CC-3-101 : Microbiology
(Introduction to Microbial World)****Time : 3 Hours]****[Max. Marks : 70]**

- Instructions :**
- (1) All questions carry equal marks.
 - (2) All questions are compulsory.
 - (3) Figures on right indicates marks.
 - (4) Draw neat and clean diagrams wherever necessary.

1. Answer the following (any two) : 14
 - (a) Describe any two experiments that supported the theory of biogenesis.
 - (b) Write a note on the discovery and development of vaccines.
 - (c) What are Koch's postulates ? Discuss the experiment of Robert Koch to prove the aetiology of Anthrax.
 - (d) Explain the developments in pure culture techniques.
2. Answer the following (any two) : 14
 - (a) Discuss the natural and hostile habitats of microbes.
 - (b) Compare various features of prokaryotes and eukaryotes in detail.
 - (c) Describe the distinctive features of bacteria.
 - (d) Write a note on algae.
3. Answer the following (any two) 14
 - (a) Discuss the applied areas of microbiology.
 - (b) Explain the role of microorganisms in the economic growth.
 - (c) Discuss the pour plate method for isolation of pure culture.
 - (d) Enlist various methods for the preservation of pure culture. Discuss lyophilization in detail. P.T

4. Answer the following (any two) :

- (a) Write a note on the principle, working and significance of phase contrast microscopy.
- (b) How does an electron microscope differ from light microscope ?
- (c) Enlist different types of staining techniques. Discuss any one in detail.
- (d) Describe the applications of dyes and stains in microbiology.

5. Answer in one word/one or two lines.

- (1) What is tyndalization ?
- (2) Who discovered the causative agent of mosaic disease of tobacco ?
- (3) Which kind of flask was used by Louis Pasteur in disproving abiogenesis ?
- (4) Who is known as the father of chemotherapy ?
- (5) Write any two significances of protozoa.
- (6) What are viroids ?
- (7) What do you mean by a "Psychrophile" ?
- (8) Write down any two applications of rDNA technique.
- (9) What is mycology ?
- (10) Write down the full form of ATCC.
- (11) Name any two chemical fixatives.
- (12) Write the formula of Numerical Aperture (NA).
- (13) What are leuco dyes ?
- (14) Give any two examples of acidic stain.