



BBE-003-001111

Seat No. _____

B. Sc. (Sem. I) (CBCS) Examination

July - 2021

MB-101 : Fundamentals of Microbiology
(Old Course)

Faculty Code : 003

Subject Code : 001111

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :** (1) All Questions are Compulsory
(2) Figures on right side indicate total marks
(3) Draw the figure wherever necessary

- 1** Answer the following : **20**
- (1) What is mycology?
 - (2) Vaccines term was derived from a latin word "vacca!" meaning _____
 - (3) The third Kingdom proposed by haeckel was _____
 - (4) Pseudomurein is found in cell wall of _____
 - (5) Enlist the types of light microscopy.
 - (6) Magnification power of oil immersion lens is _____
 - (7) Define : refraction
 - (8) Which microscopy is used to study antigen-antibody reactions?
 - (9) Define : stain
 - (10) Give example of two basic stains.
 - (11) Define : chromophore group
 - (12) Give example of natural stains.
 - (13) Moist heat sterilization by autoclave is carried out at _____ temperature.

- (14) Give an example of gaseous agents used as antimicrobial agent.
- (15) Who discovered antibiotic penicillin?
- (16) Define : chemotherapeutic agent
- (17) Define : flagella
- (18) What is magnetotaxis?
- (19) _____ Granule is a source of polyphosphate.
- (20) Bacterial cells that exhibit a variety of shapes are known as _____

- 2 (A) Answer Specifically : (Any Three) 6**
- (1) Describe Kingdom monera.
 - (2) Define : numerical aperture
 - (3) What are fixatives? Give two examples.
 - (4) What is fractional serialization?
 - (5) Define : mesosomes
 - (6) Differentiate between bactericidal and bacteriostatic.
- (B) Answer in brief : (Any Three) 9**
- (1) Highlight major differences between prokaryotic and eukaryotic cell.
 - (2) Describe principle and uses of dark field microscopy.
 - (3) General applications of stains.
 - (4) Describe phenol as antimicrobial agent.
 - (5) Write about structure of flagella.
 - (6) Bacterial cytoplasmic membrane.
- (C) Write Short Notes on : (Any Two) 10**
- (1) Spontaneous generation versus biogenesis.
 - (2) Describe principle and working of fluorescence microscopy.

- (3) Explain Gram's, staining.
- (4) Give characteristic of an ideal antimicrobial chemical agent
- (5) Capsule of bacteria.

3 (A) Answer Specifically : (Any Three) 6

- (1) Write about fungi.
- (2) Define : Resolving power
- (3) Write about Leuco compounds.
- (4) Define : sterilization.
- (5) What is chemotaxis?
- (6) Enlist name of antibiotics which causes damage to cell membrane.

(B) Answer in brief : (Any Three) 9

- (1) Write about Bergey's manual.
- (2) Write a note on Phase contrast microscopy.
- (3) Write about principle of acid fast staining.
- (4) Explain antibiotics inhibiting protein synthesis.
- (5) Give mode of action of halogens used to control growth of microorganisms.
- (6) Write about protoplast and spheroplast.

(C) Write Short notes on : (Any Two) 10

- (1) Write contribution of Louis Pasteur in the field of microbiology.
- (2) Discuss in detail: electron microscopy.
- (3) Classification of biological stains.
- (4) Describe high temperature as physical agent of microbial control.
- (5) Cell wall of bacteria.