



HDS-003-0011011

Seat No. _____

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

November / December - 2017

MB - 101 : Basic Aspects of Microbiology

(New Course)

Faculty Code : 003

Subject Code : 0011011

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

[Total Marks : 70

Instructions :

- (1) All Questions are Compulsory.
- (2) Figures on right side indicates marks.
- (3) Draw the figure wherever necessary.
- (4) Write answers of all the questions in main answer sheet.

- 1 (a) Objective questions : 4
- (1) The term "virus" was coined by _____.
 - (2) The cell wall of archeobacteria is composed of _____.
 - (3) Who discovered streptomycin ?
 - (4) Who gives the classification in biology ?
- (b) Answer in brief : (Any one) 2
- (1) How bacteria were classified in bergey's manual of systemic classification ?
 - (2) Define viruses with proper diagram.
- (c) Answer in detail : (Any one) 3
- (1) Difference between prokaryotic and eukaryotic cells.
 - (2) Explain the experiments that gives proof of biogenesis.
- (d) Write a note on : (Any one) 5
- (1) Discuss applied areas of microbiology.
 - (2) Explain in detail germ theory of diseases.

- 2** (a) Objective questions : **4**
- (1) Who postulated that diseases are produced by invisible living creatures ?
 - (2) What is absorption ?
 - (3) Define : mordant.
 - (4) Give two name of decolorizing agents.
- (b) Answer in brief (Any one) **2**
- (1) Limitation of electron microscopy.
 - (2) Define : shadow casting & ultrathin sectioning method.
- (c) Answer in detail : (Any one) **3**
- (1) What is N.A. & how it works ?
 - (2) Discuss phase-contrast microscopy ?
- (d) Write a note on : (Any one) **5**
- (1) Explain electron microscopy.
 - (2) What are the preparation steps for light microscopic examination ?
- 3** (a) Objective questions : **4**
- (1) Define : cyst.
 - (2) Define : Sulphur Inclusions.
 - (3) Capsule is made of _____.
 - (4) Which bacteria undergoes the magnetotaxis movement ?
- (b) Answer in brief : (Any one) **2**
- (1) Functions of capsules.
 - (2) Define prosthecae and stalks.
- (c) Answer in detail : (Any one) **3**
- (1) What are the bacterial arrangements of flagella ?
 - (2) Difference between spheroplast and protoplast.
- (d) Write a note on : (Any one) **5**
- (1) Define : flagella. Its composition and mechanism.
 - (2) Discuss Cell wall of gram neaative bacteria.

- 4 (a) Objective questions : 4
- (1) Which microbes were found at great ocean depths ?
 - (2) Define : facultative anaerobes.
 - (3) $O_2 + e^- \rightarrow$ _____.
 - (4) Give full form of MTCC.
- (b) Answer in brief : (Any one) 2
- (1) Define : cryopreservation and lyophilization.
 - (2) Define : photolithotrophs and photoorganotrophs.
- (c) Answer in detail : (Any one) 3
- (1) What is the role of carbon, nitrogen and other elements for nutritional requirements of bacteria ?
 - (2) What are the colony characteristics of bacteria ?
- (d) Write a note on : (Any one) 5
- (1) Methods of isolating pure culture of bacteria.
 - (2) How can bacteria classified on the basis of nutrition requirement ?
- 5 (a) Objective questions : 4
- (1) $N_t =$ _____.
 - (2) What is turbidostat ?
 - (3) Define : chemostat.
 - (4) Septum formation is observed in _____ organism.
- (b) Answer in brief : (Any one) 2
- (1) Derive the equation that is used to calculate the number of generations.
 - (2) Define : synchronous growth. What type of graph is obtain in synchronous culture ?
- (c) Answer in detail : (Any one) 3
- (1) What is breed method by petnoff- houses counting chamber ?
 - (2) Discuss cell mass technique for measurement of bacterial arowth.
- (d) Write a note on : (Any one) 5
- (1) Explain asexual reproduction of bacteria.
 - (2) Continuous culture of bacteria.