



Seat No. _____

HN-003-1014016

B. Sc. (Microbiology) (Sem. IV) (CBCS) (W.E.F. 2016)

Examination

April - 2023

**MB - 401 : Applied Microbiology
(Old Course)**

Faculty Code : 003

Subject Code : 1014016

Time : 2½ / Total Marks : 70

Instructions :

- (1) All questions are compulsory.
- (2) Figures on the right indicates total marks of the question.
- (3) Draw neat diagrams whenever necessary.

- 1 (a) Answer the following : 4
- (1) _____ is the relationship in which both the organisms are benefitted by the relation.
 - (2) _____ bacteria are capable to oxidize sulfur into sulphates.
 - (3) Which enzyme is responsible for Nitrogen fixation ?
 - (4) What is humus ?
- (b) Answer in brief : (any one) 2
- (1) What is biogeochemical cycle ? Give any two examples.
 - (2) Enlist bacteria and fungi found in soil.
- (c) Answer in brief : (any one) 3
- (1) Write a note on physical properties of soil.
 - (2) Discuss phosphorus cycle.
- (d) Write a note on : (any one) 5
- (1) Explain in detail Sulphur cycle and Winogradsky column.
 - (2) Write a note on symptoms and signs of plant diseases.
- 2 (a) Answer the following : 4
- (1) Give classification of foods by ease of spoilage.
 - (2) What is AGMARK ?

- (3) The a_w for pure water is _____
- (4) Name any two preservatives added in food for long preservation.
- (b) Answer in brief : (any one) 2
- (1) Write a note on causes of spoilage in canned food.
- (2) Enlist various methods used for microbial examination of food.
- (c) Answer in brief : (any one) 3
- (1) Write a note on spoilage of meat.
- (2) How to prepare fermented food sausages.
- (d) Write a note on : (any one) 5
- (1) Explain the role of high temperature in food preservation.
- (2) Write a role of staphylococcus aureus in food poisoning.
- 3** (a) Answer the following : 4
- (1) Name any one bacteria producing gas in milk.
- (2) What is MBRT ?
- (3) Define : Kefir
- (4) What is SPC ?
- (b) Answer in brief : (any one) 2
- (1) Write a note on Yogurt.
- (2) Sources of spoilage of milk.
- (c) Answer in brief : (any one) 3
- (1) How to prepare cheese ?
- (2) Write a note on use of low temperature for milk preservation.
- (d) Write a note on : (any one) 5
- (1) Explain in detail Gradation in milk.
- (2) Write a note on starter culture.
- 4** (a) Answer the following : 4
- (1) For the purpose of disinfection, the addition of chlorine in water is called _____
- (2) The process of settling down of suspended particles depending on their size and weight at the bottom of the storage tank is called _____
- (3) Enlist name of methods which are used to check water contamination.
- (4) Give name of any two inorganic pollutants in water.

- (b) Answer in brief : (any one) 2
 (1) Discuss importance of indicator organisms in drinking water.
 (2) Write a note on biological characteristics of water.
- (c) Answer in brief : (any one) 3
 (1) Explain in brief MPN.
 (2) Write a note on Filtration of water.
- (d) Write a note on : (any one) 5
 (1) Explain in detail waste water treatment.
 (2) Explain in detail anaerobic sludge digestion.
- 5** (a) Answer the following : 4
 (1) Define : Pharmacopeia.
 (2) Define : WHO
 (3) Enlist methods of sterility testing.
 (4) _____ media is suitable for the growth of Anaerobic bacteria.
- (b) Answer in brief : (any one) 2
 (1) Write a note on Good laboratory practice.
 (2) Explain pharmaceutical microbiology.
- (c) Answer in brief : (any one) 3
 (1) What is GMP ?
 (2) What is Total Quality Management ?
- (d) Write a note on : (any one) 5
 (1) Explain in detail the work of WHO and ISO.
 (2) Write a note on methods of sterility testing.
-