



MAY-003-1014016 Seat No. \_\_\_\_\_

**B. Sc. (Sem. IV) (CBCS) Examination**  
**March/April - 2018**  
**MB-401 : Applied Microbiology**  
*(New Course)*

**Faculty Code : 003**  
**Subject Code : 1014016**

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) What is mineralization ?
  - (2) Give two examples of Denitrifying bacteria.
  - (3) Exchange of nutrients between two species, a phenomenon called \_\_\_\_\_.
  - (4) What is necrotic lesion?
- (b) Answer in brief : (Any one) 2
- (1) Define biopesticide
  - (2) What is Winogradsky column?
- (c) Answer in detail : (Any one) 3
- (1) Describe physical characteristics of soil
  - (2) Discuss strategies to control plant diseases.
- (d) Write a note on : (Any one) 5
- (1) Nitrogen fixation
  - (2) Explain Interactions among soil microorganisms.
- 2 (a) Objective questions : 4
- (1) What is putrefaction ?
  - (2) Central AGMARK laboratory is at \_\_\_\_\_.
  - (3) Define functional foods.
  - (4) What are perishable foods ?

- (b) Answer in brief : (Any one) 2
- (1) Define Sauerkraut.
  - (2) What is the concept of Fresh food ?
- (c) Answer in detail : (Any one) 3
- (1) Explain single cell protein.
  - (2) Describe role of Clostridium botulinum in food poisoning.
- (d) Write a note on : (Any one) 5
- (1) Describe methods of food preservation
  - (2) Microbial spoilage of foods.
- 3 (a) Objective questions : 4
- (1) Write the name of cultures use in yogurt preparation.
  - (2) High temperature short time (HTST) method expose milk to \_\_\_\_\_.
  - (3) \_\_\_\_\_ sugar is mainly present in milk.
  - (4) Which enzyme is used for coagulation of milk during cheese manufacturing ?
- (b) Answer in brief : (Any one) 2
- (1) Define Kefir.
  - (2) What is MBRT ?
- (c) Answer in detail : (Any one) 3
- (1) Explain grading of milk.
  - (2) Describe spoilage of milk and milk products.
- (d) Write a note on : (Any one) 5
- (1) Types of microorganisms in milk
  - (2) Microbial analysis of milk.
- 4 (a) Objective questions : 4
- (1) Define potable water.
  - (2) What do you mean by oxidation ponds ?
  - (3) Sanitary sewers carry \_\_\_\_\_.
  - (4) What is the purpose of final treatment of waste water ?

- (b) Answer in brief : (Any one) 2
- (1) What are nuisance microbes of aquatic system ?
  - (2) Define BOD, COD.
- (c) Answer in detail : (Any one) 3
- (1) Discuss the procedure of water purification at municipal level with flow diagram.
  - (2) Explain Trickling filter.
- (d) Write a note on : (Any one) 5
- (1) Solid waste processing
  - (2) Describe methods used for Bacteriological analysis of water.
- 5 (a) Objective questions : 4
- (1) Write full name of GLP.
  - (2) What is WHO ?
  - (3) What is Pharmacopoeia ?
  - (4) ISO founded on \_\_\_\_\_ and headquartered in \_\_\_\_\_.
- (b) Answer in brief : (Any one) 2
- (1) Define pharmaceutical microbiology.
  - (2) What is Quality assurance ?
- (c) Answer in detail : (Any one) 3
- (1) Discuss Total Quality Management
  - (2) Explain GMP in detail.
- (d) Write a note on : (Any one) 5
- (1) Explain strategies for certifications of quality assurance and management in pharmaceuticals
  - (2) Methods of sterility testing of pharmaceutical products.