



**DAA-003-001525**      Seat No. \_\_\_\_\_

**Third Year B. Sc. (Sem. V) Examination**

**April / May – 2015**

**Microbiology : MB - 501**

**(Applied Microbiology)**

**Faculty Code : 003**

**Subject Code : 001525**

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

[Total Marks :

- Instructions :** (1) All questions are compulsory.  
(2) The right side figure indicates the marks of the question.  
(3) Draw figure wherever required.

**SECTION - I**

**1 M.C.Q. 20**

- (1) The following is nitrifying bacteria ....  
(A) Pseudomonas      (B) E-coli  
(C) Nitrobacter      (D) None
- (2) The region where the soil and roots make contact is called as ....  
(A) Rhizosphere      (B) Rhizomorph  
(C) Mesosphere      (D) None

- (3) The conversion of organic nitrogenous compound into ammonia is called...
- (A) Denitrification      (B) Ammonification  
(C) Proteolysis      (D) None
- (4) An association where one partner inhibits other organism and gains the advantage from the association is ....
- (A) Parasitism      (B) Predation  
(C) Antagonism      (D) None
- (5) Which of the following is causative agent for food borne infection and intoxication ?
- (A) *S. aureus*  
(B) *C. botulinum*  
(C) *Salmonella* spp  
(D) All of above
- (6) Which of the following factor restricts growth of bacteria on fruits ?
- (A) pH of fruit      (B) Components in fruit  
(C) Temperature      (D) None
- (7) Which of the following is type of food spoilage ?
- (A) Putrefaction      (B) Fermentation  
(C) Rancidity      (D) All of above

- (8) In the preparation of Bread, which of the following is used ?
- (A) Yeast and Bacteria (B) Yeast and Viruses  
(C) Protozoa (D) Algae
- (9) Which of the following is the example of thermophilic bacteria, which resist process of pasteurization ?
- (A) B. megaterium (B) B. Subtilis  
(C) S. Thermophilus (D) (B) and (C) both
- (10) Which of the following is type of milk spoilage ?
- (A) Souring (B) Proteolysis  
(C) Ropiness (D) All of above
- (11) Soft cheese has moisture content in range of....
- (A) 40-50% (B) 55-80%  
(C) 50-60% (D) 80-90%
- (12) 'Yoghurt' is prepared with.....
- (A) E-coli  
(B) Bacillus subtilis  
(C) S. thermophilus and Lactobacillus bulgaricus  
(D) None
- (13) In aquatic microbiology SPC is
- (A) Single protein cell (B) Standard plate count  
(C) Single plate count (D) None

- (14) Which of the following tests are used in water analysis ?
- (A) MPN
  - (B) Presumptive test
  - (C) Confirmed and completed test
  - (D) All of above
- (15) Which methods are used for water purification ?
- (A) Sedimentation      (B) Filtration
  - (C) Disinfection      (D) All of above
- (16) BOD in aquatic microbiology is -
- (A) Bacterial oxygen demand
  - (B) Biological oxygen demand
  - (C) Biooxidation
  - (D) None
- (17) Example of persistent organic pollutants....
- (A) Pesticides      (B) Polyaromatic hydrocarbon
  - (C) (A) and (B) both      (D) None
- (18) Increase in concentration of a chemical in biological organism compared to its concentration in environment is known as :
- (A) Biobeneficiation      (B) Biomagnification
  - (C) Bioangmentation      (D) None

(19) Which of the following is anionic surfactant ?

- (A) Sodium lauryl sulphate
- (B) Alkyl benzyulsulfonate
- (C) (A) and (B) both
- (D) None

(20) Recovery of valuable mineral from low grade ore with microbial process is known as

- (A) Bioleaching
- (B) Biomagnification
- (C) Biofuel
- (D) None

## SECTION - II

**2** (a) Answer in short : (any three) **6**

- (1) What is immobilization of elements ?
- (2) What is "Functional food" ?
- (3) Define "Starter culture".
- (4) What is natural water ?
- (5) What is MEOR ?
- (6) What is Biofuel ?

(b) Answer briefly : (any three) **9**

- (1) What is Humus ?
- (2) What is SCP ?

- (3) How cheese is manufactured ?
  - (4) Describe process for purification of water.
  - (5) Define Pollutants.
  - (6) Write role of biosurfactant in reduction of pollution.
- (c) Write short notes on : (any two) **10**
- (1) Sulfur cycle
  - (2) Preservation of foods
  - (3) MBRT
  - (4) Bacteriological analysis of water
  - (5) Bioleaching.
- 3** (a) Answer in short : (any three) **6**
- (1) Enlist biochemical conversions in Nitrogen cycle.
  - (2) What is the concept of fresh food ?
  - (3) What is Kefir ?
  - (4) What is MPN, BOD and COD ?
  - (5) What is Bioaugmentation ?
  - (6) What is Bioplastics ?
- (b) Answer briefly : (any three) **9**
- (1) Write beneficial interaction among soil microbes.
  - (2) Describe AG Mark.
  - (3) How spoilage of milk and milk products occur ?

- (4) Write factors affecting aquatic environment.
- (5) Enlist persistent organic pollutants.
- (6) Write : Biotechnology as interdisciplinary science.

(c) Write short notes on : (any two) **10**

- (1) Winogradsky column
- (2) Food poisoning
- (3) Microbial analysis of milk
- (4) Water purification
- (5) Bioremediation.

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