

B.Sc. Semester - 4 (CBCS) Examination
April/May -2022 [OLD COURSE]
MICRO-BIOLOGY (CORE)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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- Q.1 (A). Answer the following (any One out of two)** **7**
1. Explain the beneficial interaction among the soil microorganism.
 2. Explain the nitrogen cycle.
- Q.1(B). Answer in brief (any One out of two)** **4**
1. Explain the physical properties of soil.
 2. Define term “commensalism” and explain in brief with suitable example.
- Q.1 (C). Answer in detail (Any three out of five)** **3**
1. Contribution of Sergei Winogradsky in soil microbiology.
 2. What is parasitism?
 3. What is PGPR?
 4. Explain the role of *Azotobacter* sp. in agricultural microbiology.
 5. What is antagonisms ?
- Q.2 (A). Answer the following (any One out of two)** **7**
1. What is SCP? Explain in details with application.
 2. Discuss the microbial spoilage of food.
- Q.2 (B). Answer in brief (any One out of two)** **4**
1. Explain the method of food preservation.
 2. Write a note on fermented food.
- Q.2 (C). Answer in detail (Any three out of five)** **3**
1. Explain role of mushroom in food.
 2. What is sauerkraut?
 3. Explain the infection caused by *Salmonella* sp.
 4. Give two examples of microbial flora of fresh food.
 5. What is AGMARK ?
- Q.3 (A). Answer the following (Any one out of two)** **7**
1. Discuss preservation of milk.
 2. Explain MBRT and resazurin test in detail.
- Q.3 (B). Answer in brief (Any one out of two)** **4**
1. Explain grading of milk.
 2. Discuss kefir.
- Q.3 (C). Answer in detail (Any three out of five)** **3**
1. What is SPC?
 2. Role of microorganism in making of cheese.
 3. Explain composition of normal milk.
 4. What is acidophilus milk.
 5. Enlist the pathogenic microorganism present in milk.

- Q.4 (A). Answer the following (Any one out of two)** **7**
1. Write a note on trickling filter.
 2. Explain municipal waste water treatments.
- Q.4 (B). Answer in brief (Any one out of two)** **4**
1. Explain anaerobic sludge.
 2. What is BOD explain in brief.
- Q.4 (C). Answer in detail (Any three out of five)** **3**
1. What is coliforms?
 2. Give an example of disinfectant agent used in water purification.
 3. Define primary treatments.
 4. Define term sedimentation.
 5. What is sanitary survey ?
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- Q.5 (A). Answer the following (Any one out of two)** **7**
1. Explain the role of GMP and GLP in pharma industries.
 2. Discuss the sterility test of pharmaceutical products.
- Q.5 (B). Answer in brief (Any one out of two)** **4**
1. What is quality management? define.
 2. Explain ISO in detail.
- Q.5 (C). Answer in detail (Any three out of five)** **3**
1. What is full form of WHO?
 2. Define pharmacopoeia.
 3. What is quality assurance?
 4. What is pharmaceutical microbiology?
 5. Define QC.
