

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
M.Sc. Winter 2019-20 Examination

Semester: 1
Subject Code: 11213103
Subject Name: Food Microbiology

Date: 04/12/2019
Time: 10:30 am to 01:00 pm
Total Marks 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1. A) Essay type/ Brief note (4x2) (Each of 04 marks) (08)**
 (a) Describe the spoilage of Milk & its products.
 (b) Factors affecting growth & survival of micro-organisms in food.
- Q.1. B) Answer the following questions (Any two) (04)**
 (a) Short note/ Brief note (2x2)/ Schematically label the figures (2x2) (Each of 02 marks)
 1. Define log & lag phase
 2. Define probiotic bacteria with examples.
 (b) Short note on spoilage of fruits (04)
 (c) Short note on spoilage of eggs (04)
- Q.2. A) Answer the following questions. (04)**
 (a) Short note/ Brief note (2x2)/ Fill in the blanks. (Each of 02 marks)
 1. What is food poisoning & eplian ?
 2. What is microbiological criteria for foods >
 (b) Short note on spoilage of cereals. (04)
- Q.2. B) Answer the following questions (Any two) (03)**
 (a) Short note/ Multiple choice questions. (Each of 01 marks)
 1. What is food danger zone?
 2. A study of algae is known as-----
 3. ----- is known as father of canning?
 (A) Louis paste (B) Robert Koch (C) Appert (D) John Tndall
 (b) Short note on reproduction & growth of micro-organisms. (03)
 (c) Short note on molds & yeasts (03)
- Q.3. A) Essay type/ Brief note (4x2) (Each of 04 marks) (08)**
 (a) Explain gram negative & positive bacteria with their other characteristics
 (b) Explain changes in foods due to micro-organisms.
- Q.3. B) Answer the following questions (Any two) (04)**
 (a) Short note/ Brief note (2x2)/ Schematically label the figures (2x2) (Each of 02 marks)
 1. What are food borne illness & diseases?
 2. Effects of bacteria while food poisoning Explain
 (b) Short note on microbial culture (04)
 (c) Short note on relation of food micro biology with public health (04)
- Q.4. A) Answer the following questions. (04)**
 (a) Short note/ Brief note (2x2)/ Fill in the blanks. (Each of 02 marks)
 1. What is food microbiology?
 2. List down the gram negative & gram positive bacteria's.
 (b) Short note on spoilage of meat (04)

Q.4. B) Answer the following questions (Any two)

(a) Short note/ Multiple choice questions. (Each of 01 marks)

(03)

1. Which one of the following is not a probiotic strain?

- (A) *Lactobacillus bulgaricus* (B) *Bifidobacterinbifidum*
(C) *Lactococcuslactis* (D) None of the above

2. Bacteria can grow well in the saline solution with-----% of salt.

- (A) 0.5-6% (B) 0.8-0.9% (C) 01-0.2% (D) 1.0-2.0%

3. Which of the following statement is not correct?

- (A) All of the micro-organisms can grow well if moisture availability is good
(B) All the micro-organisms need nutrients for their growth
(C) All the micro-organisms need oxygen for their growth
(D) Different micro-organisms need different temperature for their growth.

(b) Short note on spoilage of pulses

(03)

(c) Short note on spoilage of milk & milk products

(03)