


Name:			
Enrolment No:			
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES End Semester (Odd) Examination, December 2024.			
Course: Food Microbiology		Semester: V	
Program: B.Sc. FND and Int. B.Sc.M.Sc Microbiology		Time : 03 hrs.	
Course Code: HSMB3029		Max. Marks: 100	
Instructions:			
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
	Statement of question		
Q 1	Write Three non-thermal and two thermal processing methods of eggs.	4	CO1
Q 2	Explain the impact of endolysin on controlling gram positive bacteria in food.	4	CO4
Q 3	How will you differentiate food intoxication and infection. Explain with examples.	4	CO3
Q 4	Write short notes on two important intrinsic factors that impact food spoilage.	4	CO1
Q 5	What types of microbes can spoil high acid foods? Explain why.	4	CO2
SECTION B (4Qx10M= 40 Marks)			
	Statement of question		
Q7	a) What are the different factors that contribute to the spoilage of dairy products? b) Discuss ways to reduce spoilage in dairy products. c) How does temperature affect food spoilage?	3+3+4=10	CO1
Q 8	a) How do bacteria, molds, and yeasts contribute to meat deterioration with specific microbial example? b) Describe the biochemical processes involved in the spoilage of meat.	5+5=10	CO2
Q 9	a) How will you evaluate the spoiling of eggs? b) Discuss egg preservation methods.	5+5=10	CO2
Q 10	a) Write the name of the microbe that produces <i>staph</i> enterotoxin. b) Write examples of foods contaminated by such bacteria. c) Which media you will be using to grow them? d) Write a short note on <i>staph</i> enterotoxin.	2+2+2+4=10	CO1
SECTION-C (2Qx20M=40 Marks)			
	Statement of question		
Q 11	a) Compare emerging technologies with the conventional technologies	5+2+4+6+3=20	CO3

	<ul style="list-style-type: none"> b) What is bio-preservation? c) What are the ideal properties of bacteriocin? d) Write name of one example of bacteriocin from archaea, gram negative, and gram-positive bacteria. e) Write example of three commercially available bacteriocin. 		
Q 12	<ul style="list-style-type: none"> a) What is the HACCP? b) Why HACCP is needed in food processing? c) How many principles are there for HACCP? d) Discuss the principle I of HACCP? e) Why auditing and record keeping is essential for an effective HACCP? 	2+4+4+5+5 =20	