

Name:  
Enrolment No:



**UPES**  
**End Semester Examination, May 2024**

**Course: Probiotics**

**Semester : VI**

**Program: B.Sc. Microbiology**

**Duration : 3 Hours**

**Course Code: HSMB3008**

**Max. Marks : 100**

**Instructions: The Assessment consists of 4 sections.**

- **Part A contains 20 questions of 1.5 marks each and all questions are compulsory.**
- **Part B consists of 4 questions of 5 marks each and all questions are compulsory.**
- **Part C consists of 2 questions of 15 marks each and all questions are compulsory.**
- **Part D consists of 2 questions of 10 marks each and all questions are compulsory.**

S. No.	Section A Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	Marks	Cos
Q 1	Mention that probiotics help regulate the immune response? a. By increasing inflammation b. By suppressing immune cell activity c. By reducing inflammation d. By promoting allergies	1.5	CO1
Q 2	Diets high in fibre have been proposed to protect against colorectal cancer by which one of the following mechanisms? a. Antioxidant effect, which quenches free radicals b. Increased repair of damaged DNA c. Increased induction of detoxifying enzymes d. More rapid removal of potential carcinogens	1.5	CO2
Q 3	State active non-nutrient is a common component of yoghurt? a. Fibre b. Probiotics c. Antioxidants d. Phytochemicals	1.5	CO1
Q 4	Identify which of the following enhances gut functioning? a. Phytoestrogens b. Probiotics c. Antioxidants d. Omega 3 fatty acids	1.5	CO2
Q 5	<i>Candida albicans</i> is a normal part of the human microbiota: True or False	1.5	CO2
Q 6	Is kimchi an effective probiotic? True or False	1.5	CO4
Q 7	A product that contains a single strain of probiotics can be just as effective as one that contains multiple strains: True or False	1.5	CO3
Q 8	The more CFUs a probiotic product contains, the more potent it is: True or False	1.5	CO3
Q 9	When taking a probiotic product, you should begin to see the benefits right away. If you don't, you should switch to another product. True or False?	1.5	CO4

<b>Q 10</b>	Identify which of the following can destroy the normal bacteria found in our gut lining? a. Antibiotics b. Infectious diseases c. Prolonged use of ibuprofen d. All of the above	<b>1.5</b>	<b>CO1</b>
<b>Q 11</b>	Mention which one of the following foods is a good source of probiotics? a. Apples b. Chicken breast c. Whole wheat bread d. Yogurt	<b>1.5</b>	<b>CO2</b>
<b>Q 12</b>	State the primary role of prebiotics in the gut? a. Killing harmful bacteria b. Nourishing beneficial gut bacteria c. Providing energy for the host d. Preventing nutrient absorption	<b>1.5</b>	<b>CO2</b>
<b>Q 13</b>	Mention the following as an example of the best probiotic strain? a. Chicory root b. Beetroot c. Lactobacillus acidophilus d. Lemons	<b>1.5</b>	<b>CO3</b>
<b>Q 14</b>	In addition to probiotics, what other lifestyle factors are important for supporting immune health? a. Isolation from all potential pathogens b. High doses of antibiotics c. Regular exercise, adequate sleep, and a balanced diet d. None	<b>1.5</b>	<b>CO2</b>
<b>Q 15</b>	The essential source of prebiotics in a diet.....?	<b>1.5</b>	<b>CO1</b>
<b>Q 16</b>	Probiotics are often recommended to improve gastrointestinal conditions....?	<b>1.5</b>	<b>CO2</b>
<b>Q 17</b>	..... a part of the body where probiotics produce antimicrobial substances that inhibit the growth of harmful bacteria?	<b>1.5</b>	<b>CO2</b>
<b>Q 18</b>	Probiotics are harmless ----- to promote the health of other organisms?	<b>1.5</b>	<b>CO3</b>
<b>Q 19</b>	The term probiotics comes from the Greek word “pro” and “ bios” meaning .....	<b>1.5</b>	<b>CO4</b>
<b>Q 20</b>	The greatest number of probiotics live in the.....?	<b>1.5</b>	<b>CO1</b>
<b>Section B</b> <b>(4Qx5M=20 Marks)</b>			
<b>Q 1</b>	Consider the following statements in respect of probiotics: 1.Probiotics are made of both bacteria and yeast. 2. The organisms in probiotics are found in foods we ingest but they do not naturally occur in our gut. 3. Probiotics help in the digestion of milk sugars. Justify which of the statements given above is/are correct? a. 1 only b. 2 only c. 1 and 3 d. 2 and 3	<b>5</b>	<b>CO2</b>

<b>Q 2</b>	Justify whether probiotics are only useful for gut health issue or not?	<b>5</b>	<b>CO1</b>
<b>Q 3</b>	Clarify the term "microbiome." How can we maintain a healthy microbiome?	<b>5</b>	<b>CO3</b>
<b>Q 4</b>	Explain whether probiotics speed up or slow down digestion?	<b>5</b>	<b>CO4</b>
<b>Section C</b> <b>(2Qx15M=30 Marks)</b>			
<b>Q 1</b>	Describe how probiotic bacteria influence the composition and function of the intestinal microbiota? Discuss the factors that can influence the gut microbiota? Explain why the gut microbiota is important?	<b>15</b>	<b>CO1</b>
<b>Q 2</b>	Describe the mechanism of action of probiotics in the body? Where on a healthy human is the microbiome located? Is <i>Lactobacillus</i> used as a probiotic?	<b>15</b>	<b>CO4</b>
<b>Section D</b> <b>(2Qx10M=20 Marks)</b>			
<b>Q 1</b>	Discuss some alternatives to probiotics for microbiome balance? Explain the factors that affect probiotics?	<b>10</b>	<b>CO2</b>
<b>Q 2</b>	Describe the important steps in the probiotic manufacturing process in the laboratory? Discuss the steps that are crucial and influence the viability and applicability of probiotic species?	<b>10</b>	<b>CO3</b>