

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**School of Biomedical Science**  
Bachelor of Science in Medical Biotechnology  
Mid Term Examination - May 2024

Duration : 90 Minutes  
Max Marks : 50

**Sem IV - Q1UG404T - Fermentation technology**

General Instructions

*Answer to the specific question asked*

*Draw neat, labelled diagrams wherever necessary*

*Approved data hand books are allowed subject to verification by the Invigilator*

- 1) Contrast the end products of respiration and fermentation. K2 (2)
- 2) Identify the differences between fermentation and respiration in terms of NAD<sup>+</sup> regeneration K1 (3)
- 3) Explain the utilities of the enzyme lipase in detergent and fuel industries. K2 (4)
- 4) Describe the 'Crabtree effect' in yeast. K2 (6)
- 5) Exemplify a fermentation process where an actinomycetes is being used. K3 (6)
- 6) Illustrate the differences between solid state and submerged fermentation. K3 (9)
- 7) Illustrate different subcategories of lactic acid fermentation with suitable examples of representative bacteria. K4 (8)
- 8) Categorize with examples the five major clusters of fermentation product and list the names of responsible microbes for each case. K4 (12)

**OR**

Explain the utilisations of substrates in mass and energy flow using a pie chart while channelising the mass and energy into product and biomass formation. K4 (12)