

School of Biomedical Science**Bachelor of Science in Medical Biotechnology
Semester End Examination - Jun 2024****Duration : 180 Minutes
Max Marks : 100****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) Define doubling time. K1(2)
- 2) Give examples of four lactic acid fermenting bacteria from at least two different genus. K2(4)
- 3) Compare between batch and continuous sterilisation and comment on which one is more suitable for enzyme fermentation under solid state fermentation conditions. K2(6)
- 4) Illustrate with examples different categories of industries which utilize enzyme and mention the names of responsible microbes. K3(9)
- 5) Explain along with proper examples why particularly microbes are being used in enzyme fermentation processes despite the fact that all living organisms produce enzymes. K3(9)
- 6) Represent working protocols in two separate flowsheets to depict ideal fermentation processes for any two biotransformed products. K5(10)
- 7) Discuss the general construction of an industrially used batch fermentor. K4(12)
- 8) Establish a relationship between Thermal death time (TDT) and decimal reduction time (DRT) K5(15)
- 9) Formulate a kinetic expression to establish substrate utilisation kinetics during cell growth and propose the effects of shear forces on growth. K5(15)
- 10) Formulate three recombinant DNA technology assisted strategies for improving the quality and yield of lactic acid in a yogurt fermentation industry. K6(18)