

# School of Biological and Life sciences

Department of Biological and Life Sciences

Mid Term Examination

Exam Date: 26 Sep 2023

Time : 90 Minutes

Marks : 50

## Sem III - MSDB6002 - Medical and Pharmaceutical Microbiology

*Your answer should be specific to the question asked*

*Draw neat labeled diagrams wherever necessary*

- 1) Explain the sources of microbial diseases and provide examples of common sources. K2 (2)
- 2) Show the main modes of transmission for infectious diseases and provide examples for each mode. K1 (3)
- 3) Illustrate the common sources of microbial diseases in a community setting, including examples of contaminated food or water. K2 (4)
- 4) Outline the common sources of microbial diseases and provide examples for each source. K2 (6)
- 5) Construct a diagram illustrating the steps of pathogenesis for microbial diseases, including the initial exposure, invasion, colonization, and damage to host tissues. K3 (6)
- 6) Identify the common sites of infection for human mycotic infections and explain how they may vary depending on the causative fungal species. K3 (9)
- 7) In the context of preliminary processing of clinical samples, classify the different preservatives used for various sample types. Analyze how the choice of preservative can affect downstream analysis accuracy and interpretability. K4 (8)
- 8) Examine the principles underlying MALDI-TOF mass spectrometry in modern microbial diagnosis. How does this technique enable the rapid and accurate identification of microbial pathogens? K4 (12)

**OR**

With a focus on metagenomics, examine how the shotgun sequencing approach is used to identify diverse microbial communities in clinical samples. What challenges might arise when interpreting complex metagenomic data? K4 (12)