GALGOTIAS UNIVERSITY

| ADMISSION NUMBER | | | | | | | | | | | | |
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# School of Biological and Life sciences

**Master of Science in Microbiology**
**Mid Term Examination - May 2024**

**Duration : 90 Minutes**
**Max Marks : 50**

## Sem II - P1PT202B - Medical and Pharmaceutical Microbiology

*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*

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| 1) | Explore the origins of microbial diseases and cite common examples of their sources. | K2 | (2) |
| 2) | Enumerate the primary transmission modes of infectious diseases and furnish instances 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**

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| | 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) |