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School of Biological and Life sciences

Master of Science in Microbiology
Semester End Examination - Nov 2023

Duration : 180 Minutes
Max Marks : 100

Sem III - MSDB6002 - 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

- 1) Relate the key characteristics of bacterial diseases, including their ability to reproduce independently and their diverse range of symptoms. K1 (2)
- 2) Illustrate the importance of government regulatory practices and policies in the pharmaceutical industry, examining their role in safeguarding public health, ensuring product quality, and facilitating market access. K2 (4)
- 3) Outline the routes of transmission for microbial diseases and explain how each route contributes to the spread of infections. K2 (6)
- 4) Identify the key steps involved in the pathogenesis of microbial diseases, from initial exposure to the manifestation of signs and symptoms. K3 (9)
- 5) Identify the challenges associated with identifying and characterizing microbial enzymes for pharmaceutical applications, and discuss strategies to overcome them. K3 (9)
- 6) Determine the role of antibiotics and synthetic antimicrobial agents in the treatment of bacterial infections, evaluating their efficacy and potential for resistance development. K5 (10)
- 7) Examine the life cycles of common parasites, analyzing the stages of development and the modes of transmission for each parasite. K4 (12)
- 8) Interpret the difference between innate immunity and adaptive immunity in the context of microbial diseases and evaluate their respective roles in host defense. K5 (15)
- 9) Interpret the impact of antibiotic resistance on the effectiveness of antimicrobial agents, evaluating the factors that contribute to the development and spread of resistance. K5 (15)
- 10) Elaborate on the principles and applications of polymerase chain reaction (PCR) in microbial diagnosis, highlighting its advantages over traditional diagnostic methods. K6 (18)