

Reg No:.....

K24FY1478(C)

Name :.....

First Semester FYUGP Microbiology Examination
November 2024 (2024 Admission onwards)
KU1DSCMBG102 (MIGHTY WORLD OF MICROBES)
(EXAM DATE : 06-12-2024)

Time : 90 min

Maximum Marks : 50

Part A (Answer any 6 questions. Each carries 2 marks)

1. How did Pasteur's experiment with Swan neck flask contribute to our understanding of Microbial life. 2
2. What is the significance of penicillin, and who discovered it? 2
3. What is medical microbiology, and what does it study? 2
4. What is the purpose of using a negative staining technique? 2
5. What is a spheroplast and how does it differ from a protoplast? 2
6. Why are protoplasts and spheroplasts used in laboratory studies? 2
7. What are plasmids? 2
8. What role do vacuoles play in bacterial cells? 2

Part B (Answer any 4 questions. Each carries 6 marks)

9. Trace the history and development of microbiology from the discovery of microorganisms to the establishment of the germ theory of disease 6
10. Explain the significance of Alexander Fleming's discovery of penicillin and its impact on the field of microbiology and medicine. 6
11. What is the role of microbiology in biotechnology? Discuss how microbes are used in genetic engineering, industrial processes, and medical research. 6
12. Formulate the principles, methodology and applications of negative staining. 6
13. Illustrate the fluid- mosaic model of plasma membrane with its chemical architecture 6
14. Describe the structure of a bacterial endospore, highlighting the functions of each layer. 6

Part C (Answer any 1 question(s). Each carries 14 marks)

15. (a) Defend the scope and applications of fluorescent microscopy. 7
- (b) Distinguish between TEM and SEM. Summarize the steps involved in the preparation of the specimens for TEM 7
16. What do you mean by differential staining? Design suitable differential staining methods to classify the bacteria based on their cell wall composition. 14