First Semester FYUGP Degree Examination November 2024

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| **University of Kerala** | | |
| Discipline |  | **Microbiology** |
| Course Code |  | **UK1DSCMBY102** |
| Course Title |  | **Introduction and Scope of Microbiology** |
| Type of Course |  | **DSC** |
| Semester |  | **1** |
| Academic Level |  | **100-199** |
| Total Credit |  | **Total Credit: 4, Theory: 3 credit** |

**Time: 1 Hr 30 Min Total : 42 Marks**

**Part A.**

**Objective Type Questions. Answer All Questions. 1 Mark Each.**

**6 Marks. Time: 6 Minutes**

**(Cognitive Level: Remember/Understand)**

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| **Qn.**  **No.** | **Question** | **Cognitive Level** | **Course**  **Outcome**  **(CO)** | **Module** |
| 1. | Name two types of culture media. | Remember | CO2 | 2 |
| 2. | Name the two key theories in the evolution of microbiology. | Remember | CO1 | 1 |
| 3. | Which is the instrument used to count the number of colonies on a culture plate | Understand | CO2 | 2 |
| 4. | Which is the instrument that used to detect biological substances using microorganisms or their components for the monitoring of environmental and health-related parameters | Understand | CO4 | 4 |
| 5. | Who prosed theory of biogenesis. | Understand | CO1 | 1 |
| 6. | Name the scientist who proposed re the five kingdoms Whittaker’s system | Understand | CO3 | 3 |

**Part B.**

**Short Answer Questions. Answer All Questions. 2 Marks Each.**

**8 Marks. Time: 24 Minutes**

**(Cognitive Level: Remember/Understand)**

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| **Qn.**  **No.** | **Question** | **Cognitive Level** | **Course**  **Outcome**  **(CO)** | **Module** |
| **7.** | Explain the contributions of Robert Koch to microbiology. | Understand | CO1 | 1 |
| 8. | Compare Simple media from complex media. | Understand | CO2 | 2 |
| 9. | Summarize is the role of biopesticides in pest management ? | Understand | CO4 | 4 |
| 10. | List out any three asexual mode of reproduction in fungi | Remember | CO3 | 4 |

**Part C.**

**Long Answer Questions. Answer All Questions. 7 Marks Each.**

**28 Marks. Time: 60 Minutes**

**Choosing among options within each question**

**(Cognitive Level: Remember/Understand/Create)**

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| **Qn.**  **No.** | **Question** | **Cognitive Level** | **Course**  **Outcome**  **(CO)** | **Module** |
| 11. | A)Compare and contrast the principles, uses, and effectiveness of an autoclave and a hot air oven in sterilization processes in microbiological laboratories | Remember | CO2 | 2 |
| OR | | | |
| B)Discuss the differences between enriched, enrichment, and selective media in microbiological culture techniques. Explain their specific purposes, types of microorganisms they target, and the role they play in isolating and identifying microbial species in laboratory settings | Understand | CO2 | 2 |
| 12. | A)Discuss the economic importance of algae in various industries. | Understand | CO3 | 3 |
| **OR** | | | |
| B)Contrast the morphology and reproduction modes of bacteria and fungi. | Understand | CO3 | 3 |
| 13 | A)How did the pioneering work of Paul Ehrlich and Elie Metchnikoff contribute to the establishment of medical microbiology and immunology, and what were their key discoveries that shaped the understanding of immune response and microbial diseases? | Understand | CO1 | 1 |
| **OR** | | | |
| B)Describe the contribution of Anton van Leeuwenhoek and Louis Pasteur, | Understand | CO1 | 1 |
| 14 | A)Develop a quality control checklist for assessing food safety in a dairy processing plant using microbiological methods. | Create | CO4 | 4 |
| **OR** | | | |
| B)Design an awareness campaign to promote the use of biosensors in detecting foodborne pathogens. | Create | CO4 | 4 |