

22PHD009
Nov-2023

BLDE (DEEMED TO BE UNIVERSITY)

Duration: 1 ½ Hrs.

Max Marks: 50

Pre – Ph.D. Course Work Examination

Paper II: BACKGROUND PAPER (Microbiology)

QP CODE - 6011

I. Answer ANY TWO of the following

2 x 10 = 20 Marks

1. Give an account of cell culture techniques in detail.
2. Explain the role of microbes and different microbial enzymes in the different sectors of industry.
3. Describe the principle of PCR, types of PCR and its application.

II. Answer ANY FOUR of the following

4 x 5 = 20 Marks

4. Enumerate the principals involved in food preservation and contamination
5. What is microscopy? Explain different types of microscopic techniques
6. Write a note on antibody engineering
7. Explain briefly about the sterilization techniques
8. Enumerate the differences between cell line, cell strain and cell type

III. Answer the following

5 x 2 = 10 Marks

9. Define the following terms
 - a. Immunofluorescence
 - b. Monoclonal antibodies
10. What is PCR? Mention the types of PCR
11. Enlist the applications of Hybridoma technology
12. What are the major applications of cell culture?
13. What are the significances of immunological techniques?

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1. Describe the pathogenesis of *Acinetobacter baumannii*.
2. Explain the mechanisms of drug resistance in *Acinetobacter*.
3. Describe the identification protocol of gram negative bacilli.

II. Answer ANY FOUR of the following **4 x 5 = 20 Marks**

4. Genes coding for drug resistance in *Acinetobacter*.
5. Predisposing factors for *Acinetobacter* infections.
6. Nosocomial infections.
7. Antimicrobial susceptibility testing methods.
8. Infection control practices followed in hospital.

III. Answer the following **5 x 2 = 10 Marks**

9. Enumerate non fermenting gram negative bacilli.
10. Mention the culture media used to grow non-fermenters.
11. Enumerate the virulence factors of *Acinetobacter*.
12. Mention the differences between *Pseudomonas* and *Acinetobacter*.
13. Define biofilm.