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Department of Genetic Engineering and Biotechnology

Daffodil International University

Genetic Engineering and Biotechnology

Basic Microbiology Lab Final, Spring 2026

Course Code: 0512-1204

Time: 2 Hours

Marks: 40

1. Write down the procedure of spread plate technique. 20

2. You are working in a food safety lab. A local coffee shop is worried their cold brew might have a high bacterial load. You take 1 mL of the coffee and perform a serial dilution. 20

The Procedure:

1. Tube A: You add 1 mL of the coffee to 9 mL of sterile saline.
2. Tube B: You take 1 mL from Tube A and add it to 9 mL of sterile saline.
3. Tube C: You take 1 mL from Tube B and add it to 9 mL of sterile saline.
4. Plating: You take 0.1 mL from Tube C and spread it onto a nutrient agar plate.

The Results:

After 24 hours of incubation at 37°C, you count 142 colonies on the plate.

The Problem:

Calculate the number of CFU per mL (CFU/mL) in the original cold brew sample.