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UNIVERSITY OF JAFFNA
BACHELOR OF PHARMACY
FOURTH YEAR FIRST SEMESTER EXAMINATION – SEPTEMBER 2018
PHABT 4144 PHARMACEUTICAL BIOTECHNOLOGY - PAPER II

Date: 25.09.2018 **Time: 2 Hours**

Answer all 6 questions.

1. 1.1 Define batch culture and continuous culture. (20 Marks)
   1.2 Describe both advantages and disadvantages of batch and continuous culture. (40 Marks)
   1.3 Draw and describe a graph of biomass concentration against time for batch culture. (25 Marks)
   1.4 List five products that are produced during idiophase. (15 Marks)

2. 2.1 Define DNA recombinant technology. (10 Marks)
   2.2 List six products that are produced by DNA recombinant technology. (30 Marks)
   2.3 Describe the DNA recombinant technology procedure adopted for the above mentioned products. (60 Marks)

3. 3.1 List the applications of papain. (20 Marks)
   3.2 Describe the collection of papaya latex and the steps used in the isolation of papain from latex. (50 Marks)
   3.3 Give the principle and describe an experimental method to estimate the activity of papain. (30 Marks)

4. 4.1 Describe the preparation of cell lysate from animal cell culture. (30 Marks)
   4.2 Describe a method used to determine the protein concentration in a cell lysate. (30 Marks)
   4.3 List four (04) loading controls that are used in western blotting. (20 Marks)
   4.4 Describe the reason for using loading control in the western blotting. (20 Marks)

5. 5.1 Define the term "Southern Blotting" and give the principle of same blotting (20 Marks)

5.2 Describe the steps involved in the Southern Blotting. (60 Marks)

5.3 List four (04) applications of the Southern Blotting. (20 Marks)

6. 6.1 Explain the term "attenuation" in vaccine. (20 Marks)

6.2 List the advantages and disadvantages of attenuated vaccine. (40 Marks)

6.3 Briefly describe the hybridoma technique that is used to produce monoclonal antibodies. (40 Marks)