

UNIVERSITY OF JAFFNA
BACHELOR OF PHARMACY
FOURTH YEAR FIRST SEMESTER EXAMINATION
PHABT4103 PHARMACEUTICAL BIOTECHNOLOGY



Date: 25 /01/2016

Time: 2 Hours

PAPER II

Answer all 8 questions.

1. 1.1 Define “batch culture” and “continuous culture”. (20 Marks)
1.2 Describe the advantages and disadvantages of batch and continuous culture. (40 Marks)
1.3 Draw and explain the graph of time against concentration for the batch culture. (40 Marks)

2. Describe the processes of the following fermentation products.
2.1 Penicillin (60 Marks)
2.2 Streptomycin (40 Marks)

3. 3.1 Define DNA recombinant technology. (10 Marks)
3.2 List six products that are produced by DNA recombinant technology. (30 Marks)
3.3 Describe the DNA recombinant technology procedure adopted for the above mentioned products. (60 Marks)

4. 4.1 What are the common properties of vectors? (20 Marks)
4.2 Describe two methods that can be used for transformation process of vectors. (50 Marks)
4.3 Draw the structure of a plasmid vector and identify its main features. (30 Marks)

5. 5.1 Describe the procedure of sample preparation for Western blotting. (60 Marks)
5.2 Why nitrocellulose membrane is blocked? (20 Marks)
5.3 How the nitrocellulose membrane is blocked? (20 Marks)

6. 6.1 List the applications of papain? (20 Marks)
6.2 Describe the collection of papaya latex and steps used in the isolation of papain from latex. (50 Marks)
6.3 Give the principle and describe an experimental method to estimate the activity of papain. (30 Marks)

7. 7.1 Briefly describe direct fluorescent antibody test. (50 Marks)
- 7.2 Briefly explain hybridoma technique, which is used to produce monoclonal antibodies. (50 Marks)
8. To detect the deletion of nucleotides in RAS gene, a control sample and a test sample are given. Design an experimental protocol to detect the deletion and explain the concept of PCR (100 Marks)