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UNIVERSITY OF JAFFNA
BACHELOR OF PHARMACY
FOURTH YEAR FIRST SEMESTER EXAMINATION – FEBRUARY 2018
PHABT4144 PHARMACEUTICAL BIOTECHNOLOGY

Date: 26 /02/2018

Time: 2 Hours

PAPER II

Answer all six questions.

1. 1.1 What are the common properties of cloning vectors? (20 Marks)
- 1.2 Describe two (02) cloning vectors that are used to produce proteins (40 Marks)
- 1.3 Describe the common problems encountered in a bacterial expression system. (40 Marks)

2. 2.1 Describe the procedure of sample preparation for Western blotting. (50 Marks)
- 2.2 Describe the procedures used to visualise proteins in gels. (30 Marks)
- 2.3 Explain the reason to block the nitrocellulose membrane with non-fat milk? (20 Marks)

3. 3.1 List the advantages and disadvantages of live vaccines. (20 Marks)
- 3.2 Briefly explain hybridoma technique, which is used to produce monoclonal antibodies. (40 Marks)
- 3.3 Describe the fluorescent antibody test used to determine the immunity level in a patient. (40 Marks)

4. Describe the processes of the following fermentation products.
 - 4.1 Penicillin (60 Marks)
 - 4.2 Streptomycin (40 Marks)

5. 5.1 Define the term polymerase chain reaction (PCR). (20 Marks)
- 5.2 Explain how PCR technique is used to amplify a small piece of DNA, recovered from a crime scene. (80 Marks)

6. 6.1 Define DNA recombinant technology. (20 Marks)
- 6.2 Explain the human insulin production by the DNA recombinant technology. (80 Marks)