



UNIVERSITY OF RUHUNA – FACULTY OF MEDICINE
ALLIED HEALTH SCIENCES DEGREE PROGRAMME
THIRD BPHARM PART I EXAMINATION – JUNE/JULY 2017
PH 3125 PHARMACOGNOSY II (SEQ)

TIME: THREE HOURS

INSTRUCTIONS

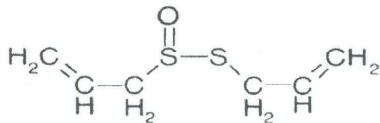
- Answer **all** questions
- No paper should be removed from the examination hall.
- Do not use any correction fluid.
- Use illustrations where necessary.

1.

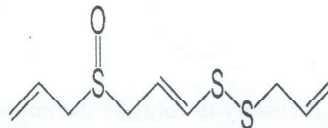
- 1.1. Define the term “monoclonal antibodies”. (10 marks)
- 1.2. List the precautions those can be followed to minimize degradation of monoclonal antibody formulations? (10 marks)
- 1.3. Briefly describe the production process of monoclonal antibodies. (40 marks)
- 1.4. List **five** factors affect on the efficacy or performance of vaccines. (10 marks)
- 1.5. Briefly explain methods of attenuation of microorganisms for production of live attenuated vaccines with relevant examples. (30 marks)

2.

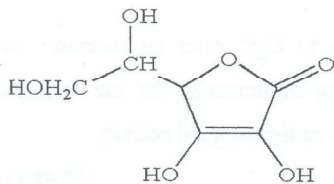
- 2.1. Name the active ingredients shown below. (20 marks)



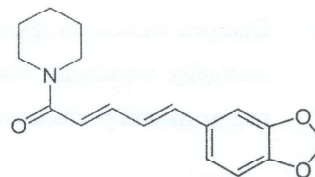
2.1.1.



2.1.2.



2.1.3.



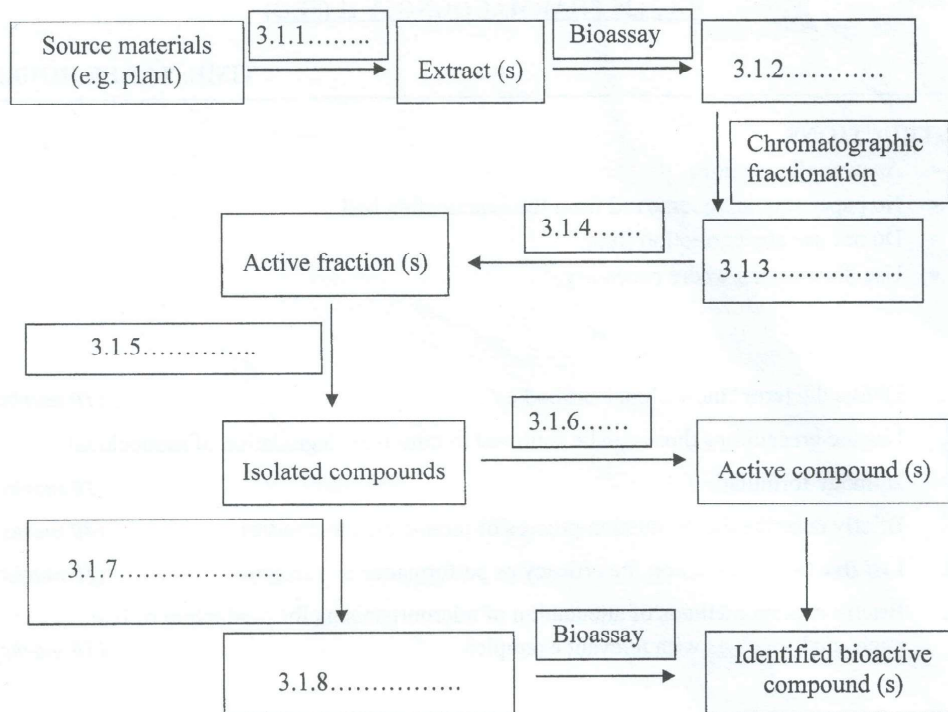
2.1.4.

- 2.2. Briefly describe the importance of clinical pharmacognosy. (30 marks)
- 2.3. What is an immunoassay? (04 marks)
- 2.4. List how immunoassay contributes to the development of new immunotherapeutic agents. (16 marks)
- 2.5. Briefly describe **five** issues in the new drug discovery from herbal plants. (30 marks)

3.

3.1 The following schematic diagram represents an overview of a bioassay-guided traditional natural product drug discovery process. Complete the process by filling the blanks.

(40 marks)



3.2 Discuss the phases involved in the clinical stage of drug development process.

(60 marks)

4.

4.1 It is necessary to consider the important hygienic and economic methods to detect, prevent and eradicate the pest during storing of crude drugs. List the main procedures which should be considered in controlling insect infestation.

(40 marks)

4.2

4.2.1 Diseases caused by protozoan parasites lead to high rates of mortality and morbidity worldwide. Name the corresponding organism(s) for the following marine natural products/compounds which show anti-protozoal activity.

(30 marks)

- Kalihinol A
- Sigmosceptrellin-B
- Cyclic peroxides of *Plakortis aff angulospiculatus*
- Ascosalipyrrolidinone A
- Plakortolide
- (-)-8-hydroxymanzamine A

4.2.2 What are the limiting factors in marine drug development?

(30 marks)

- 5.
- 5.1 Define the term Cell-totipotency. (10 marks)
- 5.2
- 5.2.1 What is a cryoprotectant? (05 marks)
- 5.2.2 Name **two** compounds that can be used as cryoprotectants. (10 marks)
- 5.3 List **three** applications of callus culture in plant tissue culture. (15 marks)
- 5.4 Name **four** advantages of cell suspension cultures. (20 marks)
- 5.5 What is the uniqueness of parasexual hybridization/ somatic cell hybridization technique? (40 marks)

- 6.
- 6.1 Briefly explain the following; (32 marks)
- 6.1.1 Conservation methods for medicinal plants.
- 6.1.2 Sustainable use of medicinal plants.
- 6.1.3 The constraints associated with medicinal plant industry in Sri Lanka.

- 6.2 Fill in the blanks given in the table as indicated in the example. (18 marks)

Common Name	Botanical Name	Parts used	Aurvedic uses
1. <i>Inguru</i>	<i>Zingiber officinale</i>	<i>Rhizome</i>	<i>Cough and Cold</i>
2. Komarika			
3. Minimal			
4. Vel penela			
5. Kurundu			
6. Sadikka			

- 6.3 Briefly describe
- 6.3.1 Parameters of standardization and quality evaluation of herbal drugs. (10 marks)
- 6.3.2 Novel herbal drug development process. (15 marks)
- 6.4
- 6.4.1 Describe briefly the methods of value addition of crude drugs. (15 marks)
- 6.4.2 Write different procedures of extraction methods for crude drugs. (10 marks)

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