



Original

Index no:.....

(16)

UNIVERSITY OF RUHUNA – FACULTY OF MEDICINE

ALLIED HEALTH SCIENCES DEGREE PROGRAMME

THIRD BPHARM PART I EXAMINATION –DECEMBER 2015

PH 3125 PHARMACOGNOSY II (SEQ)

TIME: THREE HOURS

INSTRUCTIONS

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

1. Answer **all** parts.

- 1.1. What are the problems encountered in the medicinal plant sector in Sri Lanka. (20 marks)
- 1.2. What do you mean by conservation and sustainable use of medicinal plants? (10 marks)
- 1.3. Explain briefly common methods used in the conservation of medicinal plants. (20 marks)
- 1.4. Discuss the good agricultural practices you have to consider when harvesting medicinal plants. (30 marks)
- 1.5. For the effective use of medicinal herbs for treatments, a particular part of the medicinal plant is important. Justify your answer by giving five examples. (20 marks)

2. Answer **all** parts.

- 2.1. Describe the classification of crude drugs. (16 marks)
- 2.2. Write the main methods for organoleptic evaluation of herbal drugs. (04 marks)
- 2.3. Describe the main methods of preparation of crude drugs for the commercial market. (16 marks)
- 2.4. Write the different ways of “drug adulteration”. (14 marks)
- 2.5.
 - 2.5.1. Describe briefly the term “reverse pharmacology of herbal drug development”. (10 marks)
 - 2.5.2. List main quality control parameters of standardization of raw herbal drug. (10 marks)
 - 2.5.3. Briefly describe, (30 marks)
 - a. Test for foreign matters in herbal drugs.
 - b. Main components according to International Conference for Harmonization (ICH) of technical requirements for registration of pharmaceuticals in human use.
 - c. Herbal medicines in systems and toxicity according to categorization of World Health Organization (WHO).

3. Answer **all** parts.
- 3.1. Define the term “biologics”. (10 marks)
 - 3.2. Name five types of biological products. (10 marks)
 - 3.3. State five differences between drugs and biological products. (10 marks)
 - 3.4. Give two advantages and two disadvantages of biological products. (20 marks)
 - 3.5. What is a hapten? (10 marks)
 - 3.6. Describe briefly the manufacturing procedure of one biological product. (40 marks)
4. Answer **all** parts.
- 4.1. What is an immunomodulator? (10 marks)
 - 4.2. Describe briefly three medicinal plants or part of the plants which are used for treating immune-disorders with the clinical indication. (30 marks)
 - 4.3. Explain briefly the importance of carrying out an immunoassay during the development of new immunotherapeutic agents? (10 marks)
 - 4.4.
 - 4.4.1. Giving examples for each, explain briefly the difference among three types of enzymes namely, digestive, metabolic and food enzymes. (30 marks)
 - 4.4.2. What do you mean by “Enzyme therapy”? (20 marks)
5. Answer **all** parts.
- 5.1. Giving examples, briefly explain what are considered as the “Natural products” in drug development process? (25 marks)
 - 5.2. Explain the reasons for growing interest in developing alternative therapies towards natural products? (25 marks)
 - 5.3. What are the difficulties in drug development process? (25 marks)
 - 5.4. Discuss the advantages and concerns of using ethno-pharmacological knowledge when selecting a plant for drug discovery. (25 marks)
6. Answer **all** parts.
- 6.1. Describe briefly the major steps in plant tissue culture? (30 marks)
 - 6.2. What are the advantages of hairy root culture over the plant cell suspension culture? (10 marks)
 - 6.3. List five different approaches which are essential to improve production of secondary metabolites. (10 marks)
 - 6.4. State the difference between primary metabolites and secondary metabolites. (8 marks)
 - 6.5. Explain briefly three primary metabolic processes. (6 marks)
 - 6.6. Describe briefly the importance of heterosides/ glycosides based on their pharmacological activity. (36 marks)