Index Number.....

UNIVERSITY OF RUHUNA – FACULTY OF MEDICINE

ALLIED HEALTH SCIENCES DEGREE PROGRAMME

THIRD B PHARM PART I EXAMINATION- NOVEMBER 2014

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.

1.

1.1.

1.1.1. List three immunostimulatory plants identified in Sri Lanka. ***(10 marks)***

1.1.2. State immunnomodulatory effects of omega 3 fatty acids. ***(20 marks)***

1.1.3. Discuss the relationship of omega 3 and omega 6 with inflammation. ***(20 marks)***

1.1.4. State the importance of considering flavanoids in immunopharmacognosy giving examples. ***(20 marks)***

1.2. State steps in producing a dendritic cell vaccine. ***(10 marks)***

1.3. State how the stem cell therapy is beneficial in malignancies. ***(20 marks)***

2.

2.1. List the different types of biologics used in clinical practice. ***(10 marks)***

2.2. State different recombinant biologics used in clinical practice giving examples for each group. ***(20 marks)***

2.3. Compare a drug with a biologic. ***(25 marks)***

2.4. State intracellular and extracellular targeted biologics used in clinical practice. ***(20 marks)***

2.5. Briefly describe the method of antivenom production in a laboratory. ***(25 marks)***

Index Number.....

3.

3.1. State **five** justifications for the improvement of medicinal plant sector in Sri Lanka. ***(20 marks)***

3.2.

3.2.1. Briefly describe the meaning of sustainable use of medicinal plants ***(10 marks)***

3.2.2. State the reasons for the exploitation/unsustainable use of medicinal plants in Sri Lanka. ***(20 marks)***

3.3. Briefly explain common methods used in the conservation of medicinal plants. ***(30 marks)***

3.4. Briefly describe the relationship of the effective use of medicinal herbs for treatments

3.4.1. with the particular part of the plant

3.4.2. with the time of harvesting.

(20 marks)

4.

4.1.

4.1.1 Define the term "**crude drug**". ***(10 marks)***

4.1.2. Name **five** methods use for the preparation of crude drugs for the commercial market. ***(15 marks)***

4.1.3. Write **five** different ways of drug adulteration. ***(25 marks)***

4.2.

4.2.1. Briefly describe the term "**good manufacturing practice (GMP)**" in herbal drug development. ***(15 marks)***

4.2.2. List **five** main parameters for quality assurance of a raw herbal drug. ***(15 marks)***

4.2.3. Briefly describe the term herbal drug authentication. ***(20 marks)***

5.

5.1. Briefly explain the terms "Plasticity" and "Totipotency". ***(10 marks)***

5.2. Using diagrams, describe the different methods used for the production of plant secondary metabolites. ***(40 marks)***

5.3.

5.3.1 Briefly describe the term "elicitation". ***(05 marks)***

5.3.2 Classify elicitors by giving examples. ***(20 marks)***

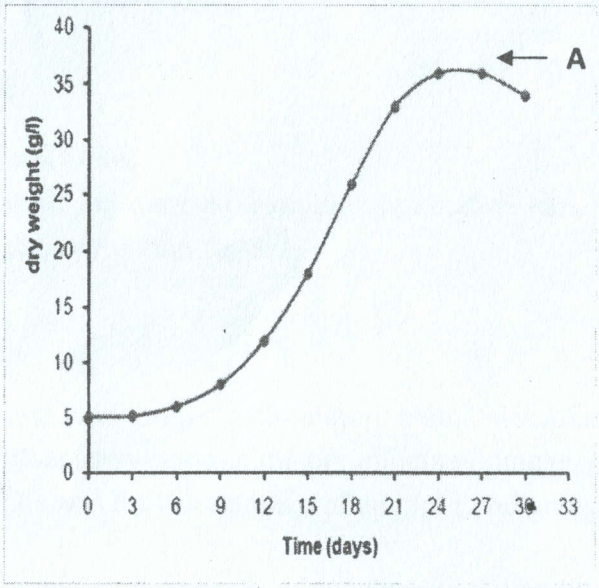
5. 4. Following graph illustrates the typical growth curve of a plant cell suspension.

5.4.1 Label the major phases of growth of a plant cell in the following graph.

(20 marks)

5.4.2 State the reason to decrease the dry weight at point **A** shown in the diagram.

(05 marks)



6.

6.1. Name two drugs based on marine sponge nucleosides. ***(10 marks)***

6.2. Draw the chemical structures of above named two drugs. ***(10 marks)***

6.3. Name one disease that can be treated by each of the above. ***(10 marks)***

6.4. State **one example** of an enzyme and **one source** it is obtained from, in each of the following.

6.4.1. Digestants

6.4.2. Debridements

6.4.3. Anti-blood clotting agents

(30 marks)

6.5. Name **seven** steps (in the order) which can be carried out in the development of a novel drug from natural sources. ***(14 marks)***

6.6. List **three** advantages of systematic screening of published literature on traditional medicinal plant use. ***(06 marks)***

6.7. Isolation of bioactive compounds is not possible without bioassay guided fractionation. Name **four factors** to be considered to select the correct bioassay.

(20 marks)

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