



UNIVERSITY OF RUHUNA – FACULTY OF MEDICINE

ALLIED HEALTH SCIENCES DEGREE PROGRAMME

SECOND BPHARM PART II EXAMINATION – J UNE/JULY 2016

PH 2254: PHARMACOGNOSY IB (SEQ)

TIME: THREE HOURS

INSTRUCTIONS

- Answer **all** questions.
- Do not use any correction fluid.
- Answer questions in the given answer book.

- Write short notes on following.
 - 1.1. Classification of glycosides. (25 marks)
 - 1.2. Medicinal uses of tannins. (25 marks)
 - 1.3. Natural hallucinogens. (25 marks)
 - 1.4. Application of carbohydrates in pharmaceutical industry. (25 marks)

- 2.1. Explain the involvement of isopentenyl diphosphate (IPP) in the biosynthesis of different terpenes. (40 marks)
 - 2.2. Complete the table. (20 marks)

Type of terpene	No of isoprene units	Constituents (one example)	Available sources	uses
Monoterpenes	two	iv.	v.	viii.
Diterpenoids	i.	Retinol	vi.	ix.
Triterpenoid	ii.	squaline	Olive/oil palm	Anticancer compound
Tetra terpenoid	iii.	lycopene	vii. ?	x. ?

- 2.3. Parthinium (*Tanacetum parthenium*) is regarded as an exotic weed in Sri Lanka. With your understanding, briefly explain the medicinal value of this plant and its scope to utilize for medical applications in Sri Lanka? (40 marks)

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- 3.
- 3.1. Briefly explain the reasons why most of the ayurvedic preparations contain whole extracts of plants? (25 marks)
- 3.2. Line up the whole steps needed in drug development process based on traditional knowledge. (25 marks)
- 3.3. Discuss the advantages, disadvantages and limitations between ayurvedic and western medicine. (50 marks)
- 4.
- 4.1. Explain briefly the chemical classification of alkaloids using flow charts. (20 marks)
- 4.2. Write short notes on following
- 4.2.1. Tobacco alkaloids. (20 marks)
- 4.2.2. Nux-vomica alkaloids. (20 marks)
- 4.2.3. Alkaloidal amines. (20 marks)
- 4.2.4. Pepper alkaloids. (20 marks)
- 5.
- 5.1. Discuss briefly Tropane alkaloid and the relevant extraction method. (20 marks)
- 5.2. Name the major alkaloid and group/type of the alkaloid it belongs in following plants/parts of the plant. (20 marks)
- 5.2.1. *Gloriosa superba* (Niyangala)
- 5.2.2. *Catharantus roseas* (Minimal)
- 5.2.3. *Areca* nut
- 5.2.4. *Kurchi* bark
- 5.3. List three (03) qualitative identification tests for alkaloids. (10 marks)
- 5.4. Draw the chemical structure and the relevant source of volatile oil of following compounds. (40 marks)
- 5.4.1. Eugenol
- 5.4.2. Cinnamaldehyde
- 5.4.3. Menthol
- 5.4.4. Anethole
- 5.5. List five (05) different methods to prepare volatile oils from a plant material. (10 marks)
- 6.
- 6.1. Describe four (04) main constituents present in oil of ginger. (The chemical structures should be drawn each subconstituent where required) (40 marks)
- 6.2. State four (04) pharmaceutical uses of ginger oil. (16 marks)
- 6.3. Name three (03) cannabinoids present in cannabis plant. (20 marks)
- 6.4. Give the name and the chemical structure of psychoactive substance present in cannabis plant. (14 marks)
- 6.5. List the main constituents and two pharmaceutical uses of Italian variety of olive oil. (10 marks)