THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF PHARMACY
THE ACADEMIC YEAR 2023/2024 – SEMESTER II

**BACHELOR OF PHARMACY HONOURS**
**FMU4302 – PHARMACOGNOSY II – LEVEL 4**
**FINAL EXAMINATION**
**DURATION: THREE (03) HOURS**

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**DATE: 25TH OCTOBER 2024** **TIME: 9.30 A.M. – 12.30 P.M.**

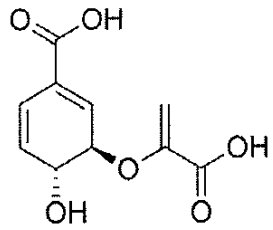
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**Index No.....**

**Part B – Short Answer Questions (20 Marks)**

1.

1.1 Identify "Compound A". (02 marks)




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1.2 Name the biosynthetic pathway where compound A is produced. (01 mark)

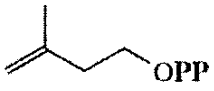
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1.3 Name the biosynthetic pathway of each of the following secondary metabolites. (02 marks)

I. Limonene:.....

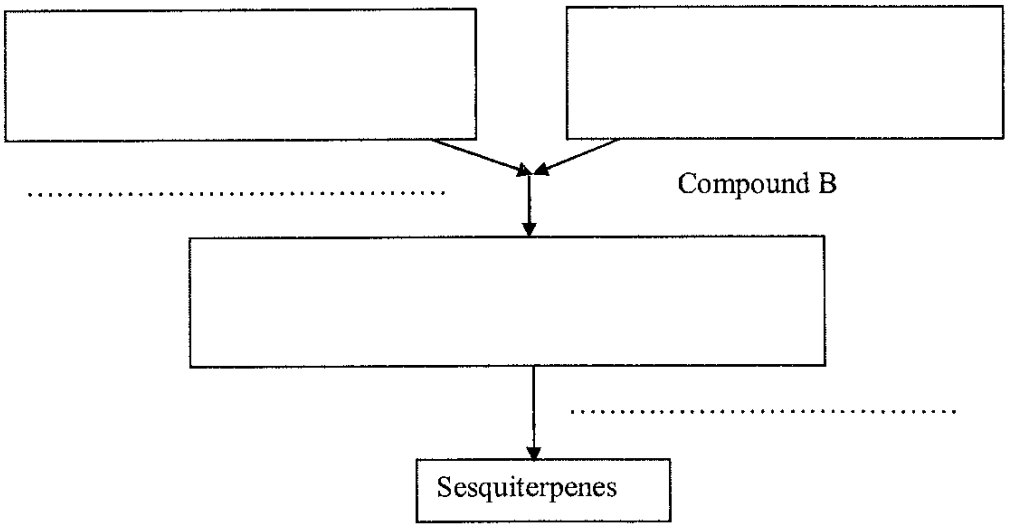
II. Cinnamic acid:.....

1.4 Identify "Compound B" (01 mark)




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1.5 Draw the relevant chemical structures to show the biosynthesis of sesquiterpenes starting from "Compound B" stated in 1.4. Label the structures properly. (04 marks)



2.

2.1 Write two (02) underlying mechanisms of synergy and other interactions in multicomponent herbal mixtures. (02 marks)

I.....

II.....

2.2 State three (03) evidence for synergy in herbal medicine. (03 marks)

I.....

II.....

III.....

2.3 Define the term "Nutraceutical". (02 marks)

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.....

.....

2.4 List three (03) dietary sources of nutraceuticals including their plant source. (03 marks)

I.....

II.....

III.....

Index No.....

**Part C – Structured Essay Questions (60 Marks)**

1.

1.1 What is meant by "Adulteration of crude drugs in herbal medicine"? (02 marks)

1.2 Write one (01) example for each of the following methods of intentional adulteration.

I. Adulteration using manufactured substances. (01 mark)

II. Adulteration of powders. (01 mark)

III. Substitution of superficially similar inferior natural substances. (01 mark)

1.3 Briefly explain the chemical methods used for the evaluation of herbal medicines. (10 marks)

2.

2.1 State two (02) properties that an anticancer compound derived from plant material should possess. (02 marks)

2.2 State the mechanism of action of taxols as an anticancer agent. (05 marks)

2.3 Briefly explain the injectant allergens. (08 marks)

3.

3.1 List two (02) advantages of harvesting wild resources versus cultivated medicinal plant species. (02 marks)

3.2 State three (03) common problems and constraints associated with the Sri Lankan medicinal plant sector. (03 marks)

3.3 Briefly explain how the biosynthesis of unsaturated fatty acids differs from the biosynthesis of saturated fatty acids. (10 marks)

4.

4.1 List two (02) parameters checked in the finished product standardization of herbal medicines. (02 marks)

4.2 Write the general classification of major contaminants and residues in herbal medicines according to the World Health Organization (WHO) guidelines for assessing the quality of herbal medicines. (05 marks)

4.3 Briefly explain the international trade restrictions in medicinal plants. (08 marks)