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JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS 2023/2024
EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN PHARMACY

TPS 3112: METHODS IN ADVANCED PHARMACOGNOSY

DATE: AUGUST, 2024

TIME: 3 HOURS

INSTRUCTIONS: Answer Any FOUR Questions (25 Marks each)

1. Harvesting and collecting morphologically similar plants may result in adulterated herbal products in the market.
 - a. What is the difference between harvesting and collecting of medicinal plants? (5 marks)
 - b. Discuss how good collection and good harvesting practices for medicinal plants can be used to resolve this problem. (20 marks).
2. Processed herbal materials may be in the form of organized (e.g. leaf) or unorganized (e.g. extract).
 - a. Using ten examples, justify the extraction of herbal drugs as a processing technique. (5 marks)
 - b. Discuss any ten methods used for Extraction of Herbal Drugs. (20 marks)
3. With respect to Biopiracy and Biotrade, answer questions a-d: (25 marks)
 - a. Define Biopiracy (3 marks)
 - b. Define Biotrade (3 marks)
 - c. Evaluate the three categories of Biopiracy (9 marks)
 - d. Propose reasons for existence of Biopiracy and Biotrade in many biodiversity rich countries today (10 marks)
4. Kiprongeny received 16 crude herbal drugs for evaluation and obtained the overlaid chromatograms against a reference herbal drug as shown in Figure 1. (25 marks)
 - a. Using six examples, explain why evaluation of crude herbal drugs is necessary. (12 marks)
 - b. State four reasons why processed medicinal plant materials should be packaged as quickly as possible. (8 marks)
 - c. Study Fig. 1 carefully and explain why Kiprongeny concluded that the quality of the 16 crude herbal drugs was acceptable. (5 marks)

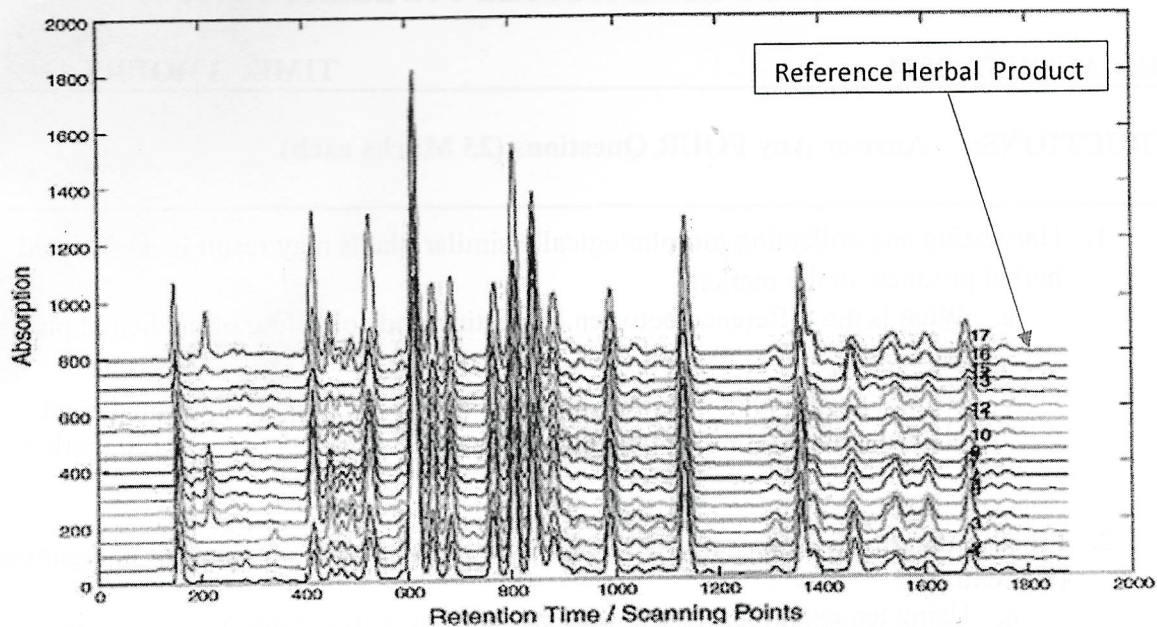


Figure 1. Overlaid chromatograms of 16 herbal drugs against a reference drug

5. Plant Crude drugs are classified according to alphabetical, taxonomical, morphological, chemical and pharmacological characters. Clarify each classification giving its merits and demerits. (25 marks)
6. The IUCN Red List of Threatened Species is the best conservation status listing of medicinal plants. (25 marks)
 - a. Define conservation status as applicable to medicinal plants. (4 marks)
 - b. Give the fifteen most significant threats to medicinal plants. (7.5 marks)
 - c. Explain how species are classified by the IUCN Red List into nine groups. (13.5 marks)
 - d. (13.5 marks)