



(University of Choice)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY

(MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

2018/2019 ACADEMIC YEAR

SECOND YEAR SECOND SEMESTER EXAMINATIONS

FOR THE DEGREE

OF

BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES

COURSE CODE: BML 325

COURSE TITLE: PHARMACOGNOSY

EXAM: **SPECIAL/SUPPLEMENTARY**

DATE:

TIME:

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#### INSTRUCTIONS TO CANDIDATES

This paper is divided into three sections, A, B and C, carrying respectively: Multiple Choice Questions (MCQ), short answered Questions (SAQs) and Long Answer (LAQs). Answer ANY TWO Questions.

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating.

This paper consists of 5 printed pages. Please Turn Over

**SECTION A: ANSWER ALL QUESTIONS (MCQs) [20 MARKS]**

1. Which of the following statements relating to the traditional herbal medicinal products is false?
  - A. .Attributing a preventive or curative effect to these products is forbidden
  - B. They contain one or more herbal substances, preparations or their combination as active agents.
  - C. The products may also contain vitamins and minerals
  - D. Their authorization is possible via abridged registration
  - E. They can be distributed in pharmacies
2. Which of the following is the advantage of collecting medical herbs from their natural habitat?
  - A. The whole process (culturing, harvesting, etc.) can be controlled
  - B. The appropriate harvesting and quality can be guaranteed
  - C. The stock is homogeneous
  - D. No culturing costs are involved
  - E. The properties of the plants can be modified by cross-breeding
3. Choose the correct answer in the following question: Which is false:
  - A. The alphabetical system of classification is popular in the pharmacopoeias.
  - B. An advantage of the taxonomical system of classification is that it is devoid of ambiguities
  - C. The pharmacological classification is decreasing in use
  - D. Leaves and seeds are examples of organized drugs.
4. True alkaloids are always present in plants as
  - A. Salts of organic acid
  - B. Salts of inorganic acid
  - C. Salts of meconic acid
  - D. Salts of benzoic acid
5. Drug is not under the class of organized drug :
  - A. Leaves
  - B. flowers
  - C. Fruits
  - D. Gums
6. Drug which does not belong to leaves class
  - A. Senna
  - B. Digitalis
  - C. Eucalyptus
  - D. turmeric

7. Drug not belonging to volatile oil class:
- A. Peppermint
  - B. Clove
  - C. Castor oil
  - D. Garlic
8. Which of the following methods is used to get alkaloids in base form from plant material?
- A. Adding ammonium hydroxide and water to the pulverized drug
  - B. Making an extract with mineral acid and organic solvent
  - C. Making an extract with base and organic solvent
  - D. Adding mineral acid and water to the powdered drug
9. Which of the following factors does not influence the effectiveness of extraction?
- A. Temperature
  - B. The polarity of the solvent
  - C. The particle size of the grounded drug
  - D. The refractive index of the compounds to be extracted
10. Plants growing in their native countries are said to be :Salts of organic acid
- A. naturalized
  - B. geographical source.
  - C. original source.
  - D. indigenous
11. Which of the following is the assay for determination of the volatile oil contents of herbal drugs?
- A. Steam distillation
  - B. Extraction with light petrol
  - C. Distillation by Marcusson's method
  - D. Determination of the loss on drying
12. Which of the following groups of compounds consists of primary metabolites?
- A. Alkaloids
  - B. Lignans
  - C. Flavonoids
  - D. Carbohydrates
13. Which of the following structural features is characteristic of saponins?
- A. Their skeleton may be built up from 10, 15, 20 or 30 carbon atoms
  - B. They are triterpene glycosides

- C. They are glycosides with aromatic rings
  - D. They are heterocyclic molecules containing sulphur.
14. Pharmacognosy means:
- A. study of physical and chemical of drug
  - B. study of drug substance or drug substances of natural origins
  - C. the search for new drug from natural sources
  - D. All of the above
15. All of crude drugs used in Ancient Egyptian period except :
- A. myrrh.
  - B. poppy
  - C. taxol
  - D. pomegranate
16. Ethnobotany is:
- A. the process by which animals self-medicate, by selecting and using plants, soils, and insects to treat and prevent disease.
  - B. the study of the traditional use of plants for medicinal purposes
  - C. the study of the pharmacological qualities of traditional medicinal substances;
  - D. the study of chemicals derived from marine organisms.
17. Crude drugs means :
- A. collection
  - B. extraction
  - C. drying
  - D. A and C
18. Plant material obtained in the tropics is normally dried by :
- A. sun-dried
  - B. oven dried.
  - C. lyophilization
  - D. garbiling
19. Soxhlet is:
- A. chemical tests
  - B. type of plant classification
  - C. method for extracting material from plant d- morphological test
  - D. All the above

20. infusion :

- A. drug stood in cold water
- B. drug boiled with water
- C. drug stood in hot water
- D. A and C

**SECTION B: ANSWER ALL QUESTIONS [40 MARKS]**

21. Define: [6 Marks]

- i. Crude drugs
- ii. Pharmacognosy
- iii. Drugs of natural origin (DONO)

22. Define the adulteration of crude drugs and state the types of adulterants [6 Marks]

23. Briefly differentiate between pharmacognosy and pharmacy [6 Marks]

24. State the factors influencing the cultivation of medicinal plants [5 Marks]

24. With specific examples, differentiate between organized and unorganised drugs [6marks]

25. Define the term pharmacognosy and state its importance in medicine [6 Marks]

26. Outline the importance of natural drug substances in the modern system of medicine [5 Marks]

**SECTION C: Answer Both Questions [40 MARKS]**

27. Discuss the methods of crude drug evaluation [20 Marks]

28. i. Comment on various methods that cause crude drug deterioration. [15 Marks]

ii. Highlight the features of proper storage of crude drugs [5 Marks]