



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Applied and Health Sciences

DEPARTMENT OF MEDICAL SCIENCES

DIPLOMA IN PHARMACEUTICAL TECHNOLOGY

(DPT 11M)

APM 2213: PHARMACOGNOSY II

SUPPLEMENTARY/SPECIAL EXAMINATIONS

SERIES: FEBRUARY 2013

TIME: 2 HOURS

INSTRUCTIONS:

- This paper consists of **THREE** sections
- Section **A**: Multiple answer questions. Answer all
- Section **B**: Short answer questions. Answer all
- Section **C**: has essay questions. Answer any TWO questions

This paper consists of Six printed pages.

SECTION A (40 MARKS) Answer All questions

1. A patient suffering from haemorrhoids would best benefit from:
 - A. Starch
 - B. Tannic acid
 - C. Tragacanth
 - D. Cellulose

2. Ginger belongs to which family
 - A. Leguminosae
 - B. Zingiberaceae
 - C. Graminae
 - D. Solanaceae

3. The source of ergotamine is:
 - A. *Papaver somniferum*
 - B. *Catharanthus roseus*
 - C. *Claviceps purpurea*
 - D. *Thea sinensis*

4. The following drugs are obtained from barks EXCEPT:
 - A. Cascara
 - B. Cinchona
 - C. Artemisia
 - D. Frangular

5. An oil suitable for formulation of vaginal gels is:
 - A. Bees wax
 - B. Castor oil
 - C. Kino juice
 - D. Cod-liver oil

6. The sugar moiety of a glycoside is known as:
 - A. Genin
 - B. Aglycone
 - C. Glycone
 - D. Steroid

7. Benzoin and storax belongs to which group of resin
 - A. Ester resins
 - B. Resin alcohol
 - C. Aldehyde resin
 - D. Acid resin

8. Volatile oils are the complex mixture of:
 - A. Mono- and sesquiterpenes as well as phenyl-propane as well as
 - B. Mono- and diterpene alcohols and ethers
 - C. Sesquiterpenes and other aromatic compounds, acids and lactones
 - D. Monoterpene ethers and aldehydes

9. What are balsams?
- A. Resins dissolved in volatile oil
 - B. A mixture of volatile oils with sesquiterpenes
 - C. Resins dissolved in water
 - D. Polysaccharide mixed with volatile oil
10. Saponin containing drugs are used as:
- A. Laxatives
 - B. Bitter tonics
 - C. Expectorants
 - D. Emetics
11. The hemolytic index shows:
- A. The di- and sesquiterpene content of the volatile oils
 - B. The saponin content of the drugs
 - C. The steroid content of the drugs
 - D. The tannin content of the drugs
12. Choose the right test for identification of anthraquinones
- A. Froehde test
 - B. Liebermann-Burchard test
 - C. Borntraeger's Test
 - D. Murexide test
13. Which compound makes model for the synthesis of pethidine
- A. Cocaine
 - B. Hyoscyamine
 - C. Morphine
 - D. Physostigmine
14. What is opium?
- A. Latex exudates of the unripe incised capsules after air dried
 - B. Dried alcoholic extract of the unripe capsules
 - C. Concentrated alcoholic extract of the poppy straw
 - D. Watery extract of the ripen seeds
15. Choose the right chemical skeleton for Atropine
- A. Phridine
 - B. Isoquinoline
 - C. Tropane
 - D. Indole
16. One of the following pairs is incorrectly matched. Which one?
- A. Caramel..... colouring agent
 - B. Starch Disintegrant
 - C. Dextran 40 blood volume expander

D. None of the above

17. Chemical tests for carbohydrate include:

- A. Molisch's test & Fehling's solution
- B. Molisch's test & keller-killan test
- C. Fehling's solution & keller-killan test
- D. Hemolytic index test

18. Ginko from dried leaves of Ginko biloba contains several flavonol glycosides. Which of the following statements about it is true?

- A. It belongs to the same class as vanilla and henna
- B. It's useful in treatment of microcirculatory
- C. Its mainly used as a laxative/purgative
- D. It's a very useful flavouring agent

19. Which drug is obtained from the plant species (*Cassia angustifolia*)?

- A. Aloe
- B. Senna
- C. Digoxin
- D. Rhubarb

20. One reason why classification of glycosides presents a problem is because:

- A. Most of them are insoluble in alcohol
- B. The sugar part makes some glycosides highly soluble in water
- C. Some glycosides contain very rare sugars whose structure have not been elucidated
- D. All of the above

SECTION B (40 MARKS)

1. State **FOUR** properties of fixed oils. (4 marks)
2. Describe **FOUR** uses of gums in pharmacy. (4 marks)
3. Describe the following:
 - A. Hydrolysable tannins (2 marks)
 - B. Condensed tanning (2 marks)
4. List **FOUR** uses of starch in pharmacy. (4 marks)
5. List **FOUR** natural sources of starch. (4 marks)
6. Discuss briefly **FOUR** general uses of volatile oils. (4 marks)
7. Distinguish between resins and resin combinations with suitable example. (4 marks)
8. Differentiate between borntragers and modified borntreger's test. (4 marks)

9. Explain briefly **FOUR** methods of pest control. **(4 marks)**
10. Match the plants in Column A with the products (obtained from the plant) in column B. **(4 marks)**

Plant	Answer	Product
i) Papever somniferum	?	A. Tallow
ii) Ricinus communis	?	B. Castor oil
iii) Eugenia cariphyllus	?	C. Opium
iv) Bos Taurus	?	D. Clove oil

SECTION C (Answer any TWO questions) 40 marks)

1. Discuss alkaloids under the following subheadings:
- A. The classification of alkaloids based on the chemical nature. (indicate the basic nucleus). **(12 marks)**
- B. Role of alkaloids in plants. **(5 marks)**
- C. Three chemical tests for alkaloids. **(3 marks)**
2. Discuss the fat soluble (liposoluble) and water soluble (hdrosoluble) vitamins
- i) taking into account
- A. The sources of vitamins
- B. Functions of the vitamins in the human body
- C. Deficiency symptoms **(15 marks)**
- ii) write short notes on hypervitamins indicating the vitamins implicated. **(5 marks)**
3. a) Discuss any **FOUR** methods of extraction of essential oils. **(12 marks)**
- b) Briefly explain **FOUR** major uses of essential oils in pharmacy and other industries with relevant examples. **(8 marks)**