



**TECHNICAL UNIVERSITY OF MOMBASA**  
**FACULTY OF APPLIED AND HEALTH SCIENCES**  
**DEPARTMENT OF MEDICAL SCIENCES**  
**UNIVERSITY EXAMINATION FOR:**  
**DIPLOMA IN PHARMACEUTICAL TECHNOLOGY**  
**APM 2213: PHARMACOGNOSY II**  
**END OF SEMESTER EXAMINATION**

**SERIES: APRIL 2016**

**TIME: 2 HOURS**

**DATE: Pick Date Apr 2016**

**Instructions to Candidates**

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **THREE** Section(s). Attempt All questions in section A and B and any two questions in section C.

**Circle the correct answer in section A.**

Section A

- 1) which of the following is not a constituent of honey
  - a) Glucose
  - b) Fructose
  - c) Galactose
  - d) Sucrose
  
- 2) Therapeutic activity in glycoside is exhibited by
  - a) Aglycone portion
  - b) Glycone portion
  - b) Both
  - d) None
  
- 3) Which of the following is NOT a source of starch used in pharmacy.
  - a) Corn starch
  - b) Rice starch
  - c) Aloe starch
  - c) Potato starch

4. Which of the following is a chemical test for cardiac glycosides

- a) Molisch test
- b) Bromine test
- c) Keller Killani test
- d) Mayers test

5. Which of the following is the geographical source of stropronthus

- a) Mombasa
- b) Nairobi
- c) Garissa
- d) Nyanza

6. Which of the following does not contain Saponins.

- a) Liqourice
- b) Ginseng
- c) Cascara
- d) Dioscorea

7. Which of the following is not a fixed oil?

- a) Castor oil
- b) Camphor oil
- c) Cod-liver oil
- d) Olive oil

8. Tragacanth and acacia are :-

- a) Dried extracts
- b) Dried latex
- c) Gummy exudates
- d) Dried juices

9. Fox glove leaves are a common none for

- a) Senna leaves
- b) Dioscorea
- c) Digitalis
- d) Papaya

10. Which of the following is not true about fixed oils?

- a) They are non- volatile
- b) They can be Saponified
- c) They are obtained from mineral source
- d) They turn rancid on storage

11. Turmeric, ginger and podophylium can be grouped as:-

- a) Rhizomes
- b) Anti cancer
- c) Carminatives
- d) Roots

12. Liqourice and Ipecac are both

- a) Expectorates
- b) Anti tussives
- c) Bronchodilators
- d) Laxative

13. Agar is commercially derived from

- a) *Aritostaphylos uvaursi*
- b) *Silybus marianum*
- c) *Galidium amansii*
- d) *Claviceps purpurea*

14. Balsams can be defined as:-

- a) Resins dissolved in volatile oils.
- b) A mixture of volatile oils with sesquiterpines
- c) Resign dissolved in water
- d) Polysaccharide mixed with volatile oil.

15. Identify the INCORRECT MATCH for alkaloid and its chemical classification.

- a) Quinine - Quinoline alkaloid
- b) Reserpine - Imidazole alkaloid
- c) Codeine - Isoquinoline alkaloid
- d) Atropine - Tropane alkaloid

16. Which of the following plant constituents can be used in the production of progesterone

- a) Ecgonine
- b) Diosgenin
- c) Catechin
- d) Cephaline

17. Artemisin is a rapidly acting antimalarial agent produced commercially from

- a) *Artemesia palmatum*
- b) *Antemesia annua*
- c) *Artemesia ovale*
- d) *Artemesia mutual.*

18. Carminic acid is used as:-

- a) Colouring agent
- b) Rubeficient
- c) Carminative
- d) Appetizer

19. *Catharanthus roseus* is the source for

- a) Vincristine and Vinblastine
- b) Ecgonine and Cocaine
- c) Quinine and Cinchonine
- d) Atropine and Homotropine

20. Which of the following vitamins is found in shark liver oil?

- i. Vitamin A
  - ii. Vitamin D
  - iii. Vitamin E
- a) 1 only                      b) II only                      c) 1 & II only    d) I, II & III

21. Which of the following synonyms of crude drugs is matched IN correctly.

- a) Ephedra - Ma Huang
- b) Belladonna - Deadly night shade
- c) Vinca - Periwinkle
- d) Datura - Lahsun

22. Which property (ies) are characteristic for starches?

- (a) They can be dissolved in cold water very well
- (b) Starches form a jelly on boiling water
- (c) Starches give blue or green product on mineral acids
- (d) Starches contain amino acids in a large amount

23. Choose the property below that characterize saponins:

- (a) They give a precipitate by shaking with water
- (b) They cause haemolysis on erythrocytes
- (c) They give positive keller-Kiliani test
- (d) They 'usually have acetic acid in their molecules

24. Galenicals prepared from Cinchona bark are used as:

- a) Abortive
- b) Stomachic
- c) Cough reliever
- d) Emetic

25. Which compound makes model for the synthesis of pethidine?

- a) Cocaine
- b) Hyoscyamine
- c) Morphine
- d) Physostigmine

26. Bitters are used therapeutically as:

- a) Antimalarial agents
- b) Antifungal agents

- c) Antiamoebic agents  
d) Appetizing agents
27. The right skeleton for atropine is:  
a) Pyridine  
b) Isoquinoline  
c) Tropane  
d) Indole
28. The alkaloids of Ipecacuanha roots have which pharmacological effect?  
a) Antipyretic  
b) Emetic  
c) Sedative  
d) Analgesic
29. Which of the following drugs is derived from mineral source?  
a) Penicillin  
b) Quinine  
c) Potassium chloride  
d) Cod-liver oil
30. Choose the correct identification test for anthraquinones:  
a) Froelide test  
b) Liebermann-Burchard test  
c) Borntrager's test  
d) Murexide test
31. The which statement best describes the term aglycone:  
(a) It is the sugar part yielded on hydrolysis  
(b) It is the non-sugar substance yielded on hydrolysis  
(c) It is also referred to as genin  
(d) Both B & C are correct .
32. Ginkgo from dried leaves of *Ginkgo biloba* contains several flavonol glycosides. Which of the following statements is TRUE?  
(a) It belongs to the same class as Vanilla and henna  
(b) It is useful in treatment of microcirculatory problems of old age like memory loss  
(c) It is mainly used as a laxative or purgative  
(d) It is a very useful flavouring agent
33. The following are chemical constants useful in evaluation of fixed oils EXCEPT:  
(a) Haemolytic index  
(b) Acid value  
(c) Ester value  
(d) Iodine value
34. Which of the following is the source for azaridactin?  
a) Neem                      b) Black mustard              c) Bitter almond              d) Clove

35. Muarobaini is the local name for

- a) Pyrethrum                      b) Lemon – grass                      c) Olosukii                      d) Neem

36. Deadly night shade is a synonym for

- a) Belladonna  
b) Datura  
c) Digitalis  
d) Podophyllum

37. Which of the following is not from a plant source

- a) Carminic acid  
b) Citric acid  
c) Tartaric acid  
d) Chenopodium

38. Which of the following does not contain volatile oil

- a) Castor oil  
b) Cinnamon oil  
c) Clove oil  
d) Eucalyptus oil

39. Barbaloin produces laxative effect by which mechanism

- a) Bulk laxative  
b) Stimulant laxative  
c) Osmotic laxative  
d) none

40. Quinine is an antimalarial agent that can be obtained from

- a) *Cinchona succirubra*  
b) *Cinchona calisaya*  
c) *Cinchona officinale*

d) All of the above

### Section B

- 41) List uses of tragacanth (4 MARKS)
- 42) Give the biological source and uses of carminic acid (4 MARKS)
- 43) Give the biological source of cinchona bark. (4 MARKS)
- 44) Draw the structure of digoxin. (4 MARKS)
- 45) List give to biological source and chemical constituents of opium. (4 MARKS)
- 46) Give the biological source and uses of Turpentine(4 MARKS)
- 47) Give the biological source and uses of honey. (4 MARKS)
- 48) Write a note on the current situation of herbal medicine in Kenya. (4 MARKS)
- 49) Give the biological source and uses of ephedrine(4 MARKS)
- 50) Differentiate between Aloe leaf parenchyma and leaf juice. (4 MARKS)

### Section C

51. Briefly describe the stass.otto method of extraction of glycosides and give the biological source, chemical constituents and uses of ( 20 marks )
  - a. Aloe
  - b. Strophanthus
52. Define and classify alkaloids giving TWO examples for each class, give at least SIX classes.( 20 marks)
53. Classify glycosides according to the nature of Aglycone portion with examples.(20mks)