



**TECHNICAL UNIVERSITY OF MOMBASA**  
**FACULTY OF APPLIED AND HEALTH SCIENCES**  
**DEPARTMENT OF MEDICAL SCIENCES**  
**UNIVERSITY EXAMINATION FOR:**  
**DIPLOMA IN PHARMACEUTICAL TECHNOLOGY**  
**APM2213: 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. A Cardiac glycoside with a six membered lactone ring is called a

- a) Cardenolide                      c) Hexanolide  
b) Bufadienolide                  d) Digitalis

2. Anthraquinone glycosides are mainly found in

- a) Leaf parenchyma of Aloe  
b) Dried leaf juice of Aloe  
c) Papaya latex  
d) Dried roots of Aloe

3. The right skeleton for atropine is

- a) Pyridine                      b) Indole                      c) Tropane                      d) Imidazole

4. Which of the following is not a constituent of Opium?

- a) Morphine                      b) Codeine                      c) Cocaine                      d) Papaverine

5. Red Squill is

- a) *Urginia indica*    b) *Urginia maritima*    c) *Eugenia cayophyllus*    d) none

6. Alliin and Alicin is contained in.

- a) Garlic                              b) Ginger                              c) Turmeric                              d) Clove

7. Chemical tests for carbohydrates include

- a) Molisch and Borntragers test  
b) Molisch and Fehlings test  
c) Mayers and Gold beaters  
d) Fehlings and Hagers test

8. Which of the following is not a use for Tragacanth

- a) Antitussive                      b) Suspending agent                      c) Emulsifier    d) Binding agent

9. Bitters are used therapeutically as

- a) Anti malaria                      b) Antifungals                      c) Laxatives                      d) Appetizers

10. *Astragalus gummifer* is the source for

- a) Tragacanth                      b) Acacia                      c) Gelatin                      d) Starch

11. Which of the following statements most accurately describes carbohydrates:-

- a. A group of compound composed of carbon, hydrogen and oxygen  
b. A group of compounds with sweet taste which are soluble in water.  
c. Polyhydroxy aldehydes or polyhydroxy ketones or compounds that on hydrolysis produce either of the above.  
d. None of the above

12. Which of the following is NOT a constituent of honey:-

- a. Glucose  
b. Fructose  
c. Sucrose  
d. Mannose

13. Which of the following describes the mechanism of laxative action exhibited by the husk of *Plantago ovata*:-
- Bulk laxative
  - Stimulant laxative
  - Osmotic laxative
  - None of the above
14. Therapeutic activity in glycosides is exhibited by:-
- Aglycone portion
  - Glycone portion
  - Both
  - None
15. Quinine is used in:-
- Treatment of severe malaria
  - Treatment of genital warts
  - Whooping cough
  - Amoebiasis
16. Sennosids A and B are found in senna whose biological source can be described as:-
- Dried leaves of *Cassia acutifolia*
  - Dried leaflets of *Cassia angustifolia*
  - Flowers of *Cassia acutifolia*
  - All of the above
17. A cardiac glycoside containing a five membered lactone ring is referred to as:-
- Cardenolide
  - Bufadienolide
  - Cardenolidone
  - Pseudo glycoside

18. Which of the following is a chemical test for cardiac glycosides:-
- a. Molisch's test
  - b. Born trager's test
  - c. Bromine test
  - d. Keller – killiani test
19. Which of the following does not have a carminative effect;-
- a. Cardamom
  - b. Fennel
  - c. Coriander
  - d. Neem
20. Senna and Isapgol can be grouped together as:-
- a. Carbohydrates
  - b. Glycoside
  - c. Bitter fonics
  - d. Laxatives
21. Which of the following is not a use for tragacanth:-
- a. Emulsifying agent
  - b. Suspending agent
  - c. Binding agent
  - d. Laxative
22. Opium consists of the .....of *Papavera somniferum*
- a. Dried sclerotium
  - b. Gummy exudates
  - c. Dried bare
  - d. Dried latex
23. Azaridachta indica is known locally:-
- a. Mitishamba
  - b. Mapera

- c. Muarobaini
- d. Muhamsini

24. Ergot is obtained from the .....of *clvriceps purpurea*:-

- a. Leaf
- b. Dried sclerotium
- c. Ascopore
- d. FilamentonsLyphae

25. Clove can be used therapeutically as:-

- a. Antimalarial
- b. Dental analgessic
- c. Anti-amoebic agent
- d. Appetizing agent

26. The right skeleton for ergot is:-

- a. Pyridine
- b. Isoquinoline
- c. Tropane
- d. Indole

27. The following are chemical constants useful in the evaluation of fixed oils except:-

- a. Haemolytic index
- b. Acid value
- c. Ester value
- d. Iodine value

28. Which of the following vitamins is found in cod liver oil:-

- I. Vitamin A
- II. Vitamin D

III. Vitamin E

- A. I only
- B. II only
- C. I & II only
- D. I, II & II

29. Identify the INCORRECT mater for alkaloid and its chemical classification:-

- a. Tropane – Atropine
- b. Indole – Ergometrine
- c. Isoquinoline – Cinchonine
- d. Alkylamine – Ephedrine

30. Silymarin is commercially derived from

- a) *Acitostaphylos uva-ursi*
- b) *Silybus marianum*
- c) *Galidium amansii*
- d) *Claviceps purpurea*

31. Choose the correct identification test for anthroquinones

- a) Froelide test
- b) Liebermann – Burchard test
- c) Borntragers test
- d) Muroxide test.

32. Which of the following is not a use for Starch

- a) Disintegrating agent
- b) Nutritive
- c) Emulsifier
- d) Binding agent

33. Sennosides are used therapeutically as

- a) Anti malaria
- b) Antifungals
- c) Laxatives
- d) Appetizers

34. Which of the following does not contain volatile oil

- a) Eucalyptus
- b) lanolin
- c) Clove
- d) Cinnamon

35. Which of the following techniques is not suitable for extraction of volatile oils

- a) Enfleurage
- b) Steam distillation
- c) Equelle e piqueur
- d) Infusion

36. Acacia is a:-

- a. Gummy exudate
- b. Dried extract
- c. Dried juice
- d. Dried latex

37. Chemical tests for alkaloids include:-

- a. Molisch test and bortragers test
- b. Molisch test and kellerkilani
- c. Mayers test and Hagers test
- d. None of the above

38. Which of the following is not a use for Acacia:-

- a. Emulsifying agent
- b. Suspending agent
- c. Binding agent
- d. Laxative

39. What is the use of podophyllotoxin

- a) Emetic
- b) antimalarial
- c) Treatment of Warts
- d) Suspending agent

40. What is the use of Vincristine

- a) Amoebiasis
- b) antimalarial
- c) Treatment of Warts
- d) anticancer

### Section B

- 41. List five pharmaceutical uses of starch (4 marks)
- 42. List five crude drugs containing volatile oil (4 marks)
- 43. List crude drugs containing Anthraquinone glycosides (4 marks)
- 44. List five fixed oils used in pharmacy. (4 marks)
- 45. List chemical constituents of cinchona bark(4 marks)
- 46. List chemical constituents of senna(4 marks)
- 47. Give the biological source and uses of digitalis(4 marks)
- 48. Give the biological source and uses of ephedrine(4 marks)
- 49. List any **FOUR** starches of pharmaceutical use. (4 marks)
- 50. Sketch the skeleton for tropane alkaloid and give **ONE** example of such alkaloid(4 marks)

### Section C

- 51. a) Describe the process of extraction of glycosides. (10 marks)
- b) Give the chemical constituents, biological source and uses of (10 marks)
  - a) Aloe
  - b) Stophanthus
- 52. Classify Alkaloids with examples. Give five classes with two examples each. (20 marks)
- 53. Give the chemical constituents, source and uses of the following (20 marks)
  - a) Clonidine
  - b) Opium
  - c) Castor oil
  - d) Pyrethrum
  - e) Buck wheat