



**SIMON MAZORODZE SCHOOL OF MEDICAL AND HEALTH SCIENCES**

**BACHELOR OF SCIENCE HONOURS DEGREE IN BIOMEDICAL SCIENCES**

**SIMON MAZORODZE SCHOOL OF MEDICAL AND HEALTH SCIENCES**

**BIOMEDICAL SCIENCES GENERAL DEGREE**

**INTRODUCTION TO TRADITIONAL MEDICINE AND HERBAL MEDICINE**

**PART 1.2 BMS 106**

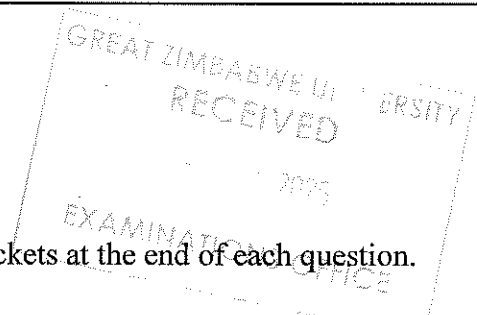
**PAPER 2 EXAMINATION**

**TIME ALLOWED: 3 HOURS**

**DATE: NOVEMBER 2024**

**Instructions to Candidates:**

1. Answer *all* questions.
2. The mark value for each question is shown in brackets at the end of each question.
3. Start answering each question on a fresh sheet of the examination answer script provided.
4. Write your answers clearly, neatly and legibly.
5. Illustrate your answer where applicable with clearly labelled diagrams.
6. Total number of **marks is 100**
7. The paper consists of **seven** pages including this one.



## SECTION ONE (1)

ANSWER *ALL* QUESTIONS

1. With the help of actual examples, discuss the clinical importance of polyketides.  
(20 Marks)
2. Describe adulteration of crude drugs. Give examples of actual adulteration of crude drugs  
(25 Marks)
3. Anthraquinones are an important group of secondary plant metabolites. To this end, state the medicinal uses of anthraquinones and their derivatives. (24 Marks)
4. State the medicinal uses of saponins and their derivatives. (10 Marks).

## SECTION TWO

ANSWER *ALL* QUESTIONS

*Each correct answer carries one mark*

5. How many carbon atoms make up the general structure of a flavonoid skeleton?  
A: 10  
B: 12  
C: 15  
D: 18
6. Which subgroup of flavonoids is characterized by the skeleton of a 2-phenylchromenylium ion?  
A: Anthoxanthins  
B: Anthocyanidins  
C: Flavanols  
D: Isoflavones
7. What subclass of flavonoids is hesperidin a glycoside of?  
A: Anthocyanins  
B: Flavonoids  
C: Flavonols  
D: Flavanones

**8. Which disease's origin has been implicated to involve inflammation, despite no clinical evidence of dietary flavonoid effects on it?**

- A: Diabetes mellitus
- B: Cardiovascular disease
- C: Cancer
- D: All of the above

**9. In the human diet, what do flavonoids contribute to aside from their low toxicity?**

- A: Vitamin supply
- B: Antioxidant activity
- C: Pigmentation
- D: Protein content

**10. 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

**11. Sesquiterpenes are formed of.....in the plants.**

- A) farnesyl-pyrophosphate
- B) stress compounds
- C) colouring material
- D) degraded products of triterpenes
- E) pathological products

**12. Codeine is:**

- A) monomethyl ether of morphine.
- B) amide of apomorphine.

- C) acetyl derivative of morphine.
- D) dimethyl ether of papaverine.
- E) diethyl ether of morphine.

**13. With regard to Anthraquinones, all the followings are incorrect except:**

- a. Dioctyl sodium sulphosuccinate is one of its members.
- b. It is a stimulant laxative.
- c. It is a neurokinine-1 receptor antagonist.
- d. It's a parasympatholytic agent.
- e. It is a parasympathomimetic drug.

**14. Which of the following drugs contains laxative compounds?**

- A) Sennae folium
- B) Hyperici herba
- C) Urticae radix
- D) Equiseti herba
- E) Agrimoniae herba

**15. Which of the following "mystic" plants contain alkaloids with a tropane skeleton?**

- A) Betel Palm
- B) Mandrake
- C) Hemlock
- D) Cannabis
- E) Iboga

**16. The main compound of Ephedrae herba is the analogue of the synthetic molecule...**

- A) Amphetamine
- B) Ketamine
- C) Phencyclidine
- D) Ethyl Morphine

E) Methadone

**17. Which of the following compounds is characteristic of Rauvolfia radix?**

A) Physostigmine

B) Quinidine

C) Reserpine

D) Cytisine

E) Capsaicin

**18. To which of the following types of compound does taxol belong?**

A) Diterpene alkaloid

B) Steroidal alkaloid

C) Sesquiterpene

D) Lignan

E) Triterpene

**19. Which of the following types of medicines was developed from the alkaloid camptothecin, isolated from *Camptotheca acuminata*?**

A) Antidiabetic

B) Anticancer

C) Hypotensive

D) Anti-inflammatory

E) Antiarrhythmic

**20. Which of the following groups of compounds consists of primary metabolites?**

A) Alkaloids

B) Lignans

C) Flavonoids

D) Iridoids

E) Carbohydrates

**21. 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.
- E) They are mineral salts of fatty acids.

**22. Flavonoids such as ... are able to decrease the permeability of the capillaries.**

- A) Liquiritin and Isoliquiritin
- B) Apigenin and Luteolin
- C) Genistein and Ononin
- D) Silybin and Silychristin
- E) Hesperidin and Rutin

**23. Which of the following is a C-glycoside)**

- A) Arbutin
- B) Gypsoside
- C) Gentiopikrin
- D) Aloin
- E) Hypericum

**24. Choose the drugs which contain no cardioactive compounds.**

- 1) Thorn apple leaf
- 2) Lily of the valley shoot
- 3) Oleandri folium
- 4) Foxglove leaf
- 5) Allii bulb

**25. The senna-emodin aglycones and senna-emodin glycosides are .....derivatives.**

- 1) Tetraterpenes
- 2) Monoterpenes with Labdane Structure

- 3) Anthraquinones
- 4) Pseudoguaianolides
- 5) Iridoids

***END OF PAPER***