



## **October University for Modern Sciences & Arts Midterm Exam**

<b>Faculty</b>	<b>Pharmacy</b>
<b>Department</b>	<b>Pharmacognosy</b>
<b>Module Code</b>	<b>PHG 112</b>
<b>Module Title</b>	<b>Pharmacognosy</b>
<b>Semester</b>	<b>Fall 2022 (78)</b>
<b>Date</b>	
<b>Time Allowed</b>	<b>1 hour</b>
<b>Total Mark</b>	<b>30 Marks</b>
<b>No. of Pages</b>	<b>4</b>
<b>Material provided</b>	<b>-</b>
<b>Equipment permitted</b>	<b>-</b>
<b>Additional Instructions</b>	<b>All Answers must be in English otherwise it will not be considered.</b>

**No books, paper or electronic devices are permitted to be brought into the examination room other than those specified above.**

All questions should be answered. Illustrate your answer with a drawing whenever required.  
 The exam contains four pages. 30 Marks

Question 1: (15 marks)

Complete the given table, then answer the following questions: (11.5 marks/0.5 mark each)

	Plant name	origin	Main active constituent	One use	Type of out growth	One key element	Type of embryo
A			Thioglycoside (glucosinolate) sinigrin				
B				Lactagogue			
C					awn		
D		It is dried ripe seeds of <i>Myristica fragrans</i> F. Myristicaceae					
E	Colchicum						
F				Safe as a laxative in pregnancy			

- Referring to plants from (A to F), answer the following questions: (3.5 marks)

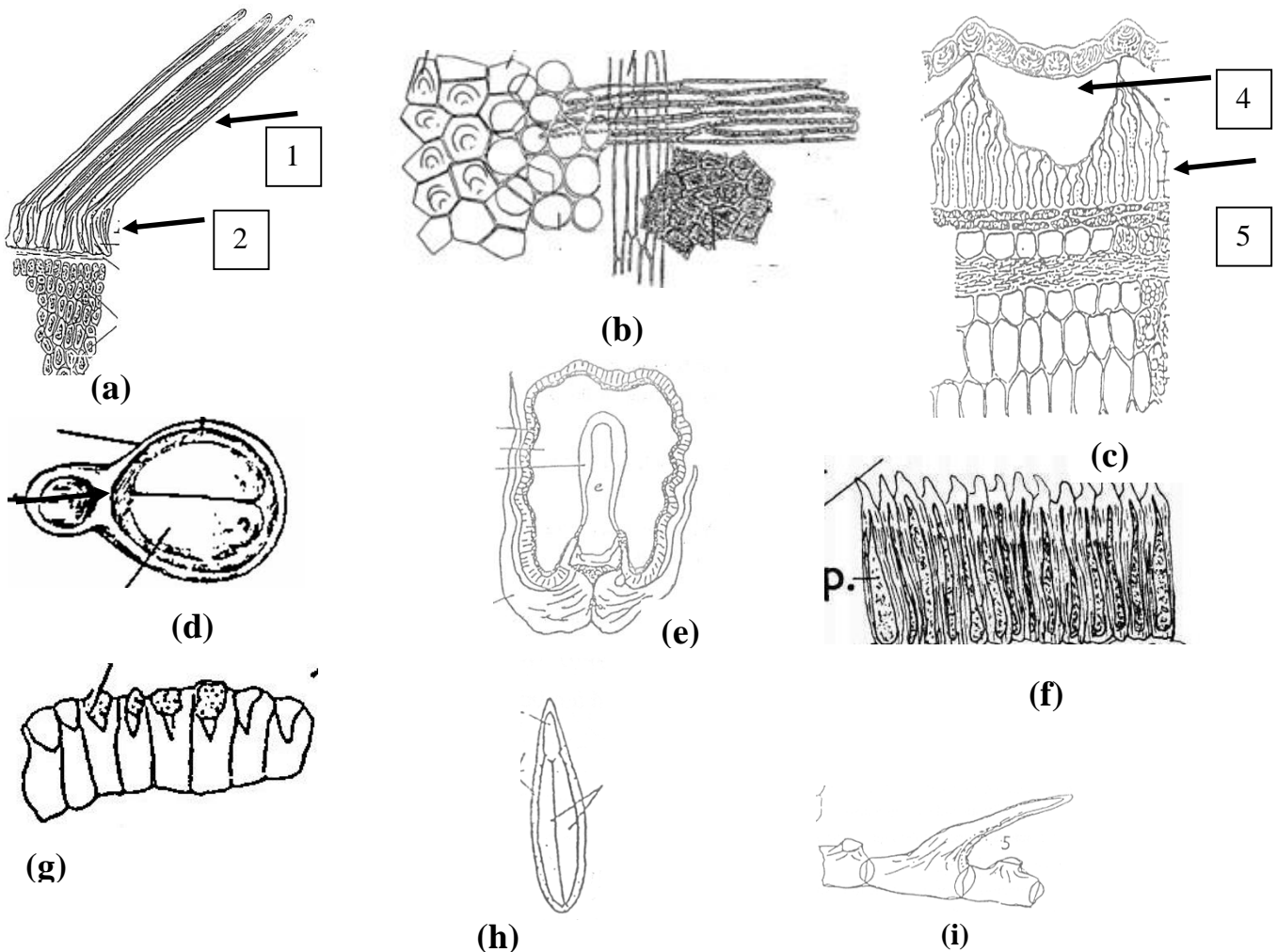
- 1- Explain a special chemical test for drug (A). (0.5 mark)
- 2- As a community pharmacist what are the contraindications that should be explained to the patient before using drug A? (0.5 mark)
- 3- The quality control unit of the herbal factory is searching for confirmatory evidence to differentiate between drug A and its other species microscopically. How could you help them? (0.75 marks)
- 4- State the point of view of using drug (B) in the semi-synthesis of steroid drugs. (0.5 mark)
- 5- State in your own words the reason for using a species of drug C as a biological standard for assay of cardiotonic drugs. (0.75 mark)
- 6- What would happen if a patient consumed a high dose of plant D? (0.5 mark)

Question 2: Suggest the appropriate term (words) used to indicate each of the following:  
 (1.5 marks/0.25 mark each)

Sentences	Term
1- A type of ovule in which the body is bent(90) so that the micropyle and chalaza are on a line at a right angle to the free funicle or hilum	
2- The basal swollen part of the nucellus from which arise the integuments	
3- It is the stem growing point	
4- A seed contains an irritant substance named ricin that poisons the blood	
5- A seed used to treat dementia in Alzheimer disease	
6- A seed used as anti-inflammatory, antiviral, analgesic in urinary disorders	

Question 3: (12 marks)

Identify each of the following figures and their labels (whenever stated) (2.75 marks/0.25 mark each), then answer the given cases. (9.25 marks)



**Case 1: A 21 years old male presents to the clinic as he has developed recurrent infections in the form of repeated ear infections as well as pneumonia requiring hospitalization. (1.75 marks)**

- 1- What is the most likely diagnosis for this patient? (0.5 mark)
- 2-Suggest the name of a drug that is likely to be needed in the treatment regimen? (0.25 mark)
- 3-What is the main active constituent of this drug? (0.5 mark)
- 4-How can you test for this drug? (0.25 mark)
- 5- State a common name for this drug in the market. (0.25 mark)

**Case 2: A 54-years-old man complains of recurrent heartburn for the past six weeks. He has been experiencing nausea and vomiting with a loss of appetite. The physical examination is unremarkable except for some slight epigastric tenderness. (2 marks)**

- 1-what is the name and the main active constituent of a drug that could be helpful in his case? (0.75 mark)
- 2-Using figures from (a-i), can you correlate any of them to your chosen drug. (0.5 mark)
- 3- Before using this drug in the pharmaceutical industry, its seeds should be recently separated from the fruit. Critically discuss this statement. (0.75 mark)

**Case 3: A 22-years-old male presented with severe myalgias and backache of acute onset, as well as one episode of opisthotonus, upon repeated questioning, he admitted to having consumed the decoction of a seed with suicidal intent. He was treated conservatively and made a complete recovery. This case demonstrates the potent toxicity of this seed as well as the effectiveness of therapy when initiated early. (2.5 marks)**

- 1-What expectations are there for the reason for his toxicity? (0.25 mark)
- 2-What is the class and name of the main active constituents present in this seed? (0.75 mark)
- 3- How can this patient be conservatively treated and made a complete recovery? (0.5 mark)
- 4-Predict what would happen if the therapy was not initiated early. (0.5 mark)
- 5-A sample of these seeds has been sent to the forensic lab. Explain how the forensic lab can confirm the identity of this toxic seed. (0.5 mark)

**Case 4: A 50-years-old white male with an unknown medical history presented to the hospital with chief complaints of 2 weeks of progressively worsening pain and swelling of his right wrist and left ankle joints. (3 marks)**

- 1- What is your preliminary diagnosis for this patient? (0.25 mark)
- 2- Suggest the name of a medicinal seed to treat his case. (0.25 mark)
- 3- Make a distinction for this drug by choosing two letters from (a-i). (0.5 mark)
- 4- Identify the class of active constituent in this drug that represents the treatment of choice for this patient. Why? (0.75 marks)
- 5- What advice can be given to the patient regarding the side effect of this seed? (0.5 mark)
- 6- Explain a chemical test for the identification of a toxic glycoside present in this plant and state the name of this glycoside. (0.75 mark)

**Question 4: You are provided with 6 sentences in each one choose the odd word that coordinates with the corresponding mentioned parameter. (1.5 marks/0.25 mark each)**

- 1- Linseed- cardamom- Black mustard
- 2- Black mustard -Nux vomica- Foenugreek
- 3- Psyllium-white mustard-Pumpkin seed
- 4- Linseed-Colchicum- Nux vomica
- 5- Testa-Endosperm-Embryo
- 6- Nux vomica- Calabar beans-Colchicum

- (Glycosides)  
(Sclerides)  
(Diabetes)  
(Raphe)  
(kernal)  
(Hemicellulosic endosperm)

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End of questions