



**TANTA UNIVERSITY
FACULTY OF PHARMACY
DEPARTMENT OF PHARMACOGNOSY**



FINAL EXAM FOR FIRST YEAR CLINICAL STUDENTS

COURSE TITLE:	Pharmacognosy 1	COURSE CODE: PG-202
DATE:	9/6/2019	TERM: SECOND
	TOTAL ASSESSMENT MARKS: 50	TIME ALLOWED: 120 MINUTES

This exam consists of 2 parts in 7 pages. Use only blue pen.

Answers using pencils will not be accepted.

Part (1) Question (1): Define the following terms then answer the question below. (12 marks, 30 minutes)

a- Strobile inflorescence.....
.....

b- Syngenesious stamens
.....

b- i) Glycoside
.....

ii) Enumerate 6 types of it and give the name of one chemical test used for the identity of each

Name of	
Glycoside	Chemical test
1-	
2-	
3-	
4-	
5-	
6-	

Question (2)

**1-Write the common name of the following herbal drugs which containing alkaloids
(13 marks, 30 minutes)**

- a- A fungal drug (.....)
- b- Anti-asthmatic drug (.....)
- c- A drug related to Solanaceae family (.....)

2-Identify them by:

a-Chemical tests for (a)

- 1-.....
.....
- 2-.....
.....
- 3-.....
.....

b-Microscopically three key elements for b & c (name and drawing)

b- Anti-asthmatic drug (key elements)

c- A drug related to Solanaceae family (key elements)

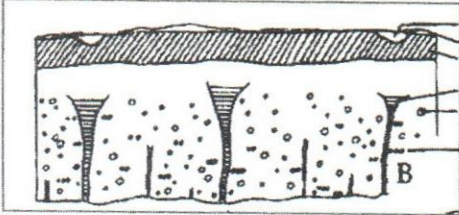
Part (2) Question (3)**(50 x 0.5 = 25 marks, 60 minutes)**

Please select only one answer from the following questions and mark your answers in the Answer Table

<p>1-Quinine and quinidine are: a-stereoisomer alkaloids b- used as anti-malarial drug c-extremely toxic d-isolated from cascara bark e-the major constituents in frangula bark</p>	<p>2-Saffron could be adulterated by: a-using exhausted ginger b-adding a lot of chamomile powder c-adding marigold or safflower d-using flower buds of clove e-using the tincture of arnica</p>
<p>3-Jamaica quassia contains: a-saponins so used as expectorant b-bitter principles so used as tonic c-helenalin so used as anti-inflammatory d-safrole so used as stimulant e-turpentine oil so used in perfumary</p>	<p>4-Natural quinine: a-is not effective as resistance was developed b-is isolated from cinchona inner bark only c-could not be synthesized in the lab d-has bitter stomachic effect e-is used mainly as anti-arrhythmic drug</p>
<p>5-We could use these plants to treat insomnia: a-lavander and red rose petals b-chamomile and pomegranate bark c-German and Roman chamomile d-sandal and guaiacum wood e-cascarilla and canella bark</p>	<p>6-Tannins are not found in: a-red rose petals & galls b-Cinchona & Cinnamon c-Quassia wood and canella bark d-galls & cinchona e-clove & quassia</p>
<p>7-Both Fresh Cascara and frangula: a-belong to F. Rubiaceae with purgative effect b-belong to F. Rhamnaceae with nauseating taste c-have barbaloin glycosides d-have sedative effect e-have stone cells</p>	<p>8-This plant could be used as fumigating agent: a-canella bark b-pyrethrum powder c-marigold legulate florets d-cascarilla bark e-cinnamon bark</p>
<p>9-We use the inner bark of: a-<i>Cinnamomum cassia</i> b-cascarilla c-pomegranate d-cinchona e-quillaia</p>	<p>10-Medullary rays: a-are horizontal collenchymatous cells b-are cells extends from pith to cortex c-they are parallel to all other elements of xylem d-they are only uniseriate in Jamaica quassia e-they almost contain a lot of volatile oil</p>
<p>11-<i>Cinnamomum cassia</i> powder contains a-eugenol b-traces of cinnamic aldehyde c-very narrow phloem fibers d-very small starch granules e-cork and cortex cells</p>	<p>12-Pomegranate bark and santonica are used as: a-analgesic b-anxiolytic c-anthelmintic d-antispasmodic e-expectorant</p>

<p>13-German chamomile contains: a- triangular pollen grains b-peltate trichomes c- biasbolol & chamazulene d-esters of tiglic acid e-eugenol</p>	<p>14-Santalol: a-is one of flavonoids found in sandal wood b-has anxiolytic effect c-has emetic effect d-is produced after hydrolysis of picrocrocin e-is the major constituent in sandal wood</p>
<p>15-Galls as pathological outgrowth: a-always cause death to the oak tree b-are produced due to effect of corrosive matter c-may be produced as result of larvae secretions d-protect the larvae e-both c & d</p>	<p>16-Picrocrocin is hydrolyzed to: a-crocin and gentiobiose b-crocetin and glucose c-crocin and safrone d-safranal and glucose e-carotin and cyanin</p>
<p>17- Frangula bark: a-contains free anthraquinones in fresh bark b-should be stored and dried to overcome its bad effects c-contains chrysophanol d-has more lenticels than cascara bark e-both b & d</p>	<p>18-Guaiaconic acid is used to identify: a-oxidase enzyme b-resin c-proteins d-tannins e-saponins</p>
<p>19-Helenalin: a-has bitter stomachic effect b- is toxic so it must be used in low doses c-is found in calendula marigold d-is a type of flavonoids e- has anti-microbial effect</p>	<p>20-Galls powder contains: a-catechol tannin b-phloem fibers c-starch granules d-unicellular trichomes e-both a & d</p>
<p>21-Marigold contains: a-Labiata trichomes b-calendulin triterpenes c-canella dialdehyde d-clusters of calcium oxalate e-a lot of starch granules</p>	<p>22-Prunasin is..... & found in a-cyanogenic glycoside, cascarilla bark b-cyanogenic glycoside, wild cherry bark c-alkaloid, pomegranate bark d-anthraquinones glycosides, cascara bark e-saponin glycosides, quillaia bark</p>
<p>23-Regarding Guignard's test: a-is used to identify prunasin b-is for identifying barbaloin c-sodium picrate is converted to sodium isopurpurate d-the red color is converted to yellow color e-both a & c</p>	<p>24-To treat wounds we could use diluted tincture of: a-buds of marigold b- corollas of ligulate florets of marigold c-dried ray florets of safflower d-red petals of papaver e-stigmas & top of styles of saffron</p>

<p>25-Lignified sclereids of cork cells are found in: a- cascarilla bark with prisms of calcium oxalate b-<i>Cinnamomum zeylanicum</i> c- sassafras root bark d-cascara bark with anthraquinones e-cinchona stem bark</p>	<p>26-Phloem fibers could be used to distinguish between: a-<i>Cinnamomum cassia</i> & <i>C. zeylanicum</i> b-Cinnamon & cinchona c-quassia & quillaia d-canella & <i>Cinnamomum cassia</i> e-both a & b</p>
<p>27-Concerning Roman & German chamomile: a-they are both single flower head b-they have hollow receptacle c-they have palea d-they have antispasmodic effect e-they contain tannins as major constituent</p>	<p>28-Which is true about tannins: a- are antidote for heavy metals toxicity b- gives deep color with Mg Cl₂ c- are found in tubes in cinchona root & stem barks d-have low molecular weight e-have no anti-oxidant effect</p>
<p>29-These plants have expectorant effect: a-canella & pomegranate barks b-guaiacum & sandal woods c-deal & sassafras woods d-wild cherry & quillaia barks e-arneca & calendula flowers</p>	<p>30-These plants improve digestion & appetite: a-cinnamon & quinine b-quassia & cascarilla c-canella & cloves d-lavander & quassia e-galls & wild cherry bark</p>
<p>31-Straight grained wood: a-contains metatracheal medullary rays b-has phloem fibers cross medullary rays c-has fibers arranged parallel to each other d-has parenchymatous cells crossing fibers e-is found in guaiacum wood</p>	<p>32-Clove buds have: a-five united sepals b-tricarpelary ovary c-didelphous androecium d-long receptacle below calyx & ovary e-superior ovary</p>
<p>33-Wood vasicentric parenchyma are: a-companion cells of phloem b-cells surround large vessels completely c- cells connect pith with cortex d-cells permit sap transportation horizontally e-not lignified</p>	<p>34-Colophony resin is found in: a-deal wood b-quillaia bark c-quassia wood d-saffron e-guaiacum heart-wood</p>
<p>35-Admenstration of high doses of cinchona decoction causes: a-blindness b-loss of hearing c-blood & heart disorders d-hypertonia e-both b & c</p>	<p>36-Eugenol is separated from caryophyllene of clove oil by: a-adding solution of 5% KOH b-solution of FeCl₃ c-extraction with ethanol d-adding excess NaCl e-both a & d</p>

<p>37-Wood annual rings: a-may be large rings as in dry season b-small rings as in rainy season c-false rings as in quaiacum d-are perpendicular to other tissues e-are affected with seasonal variations</p>	<p>38-Family Asteraceae includes: a-arneca with antimicrobial effect b-calendula with biseriate multicellular trichomes c-chamomile which is used as anthelmintic d-pyrethrum with warty pollen grains e-santonica with ray florets</p>												
<p>39-Mother cloves: a-are fruits of clove b-contains fibers, sclereids & calcium oxalate c-contains starch of seeds d-have more stronger effect than clove buds e-both a & c</p>	<p>40-Clove stalks are identified in clove buds powder by presence of: a-clusters of calcium oxalate b-tannins plates c-peltate trichomes d-fibers & sclereids e-resin cells</p>												
<p>41- This T.S. is for a plant:</p>  <p>a-its part used is the inner and middle bark b-has bigger starch and phloem fibers than cinchona c-contains cinnamaldehyde which has antimicrobial effect d- has oil cells with phloem fibers which are found in the phelloderm e-both c & d</p>	<p>42-Carthamin is: a-saponin glycoside found in quillaia b-cyanogenic glycoside of wild cherry bark c-red coloring matter of safflower d- flavonoid of Roman chamomile e-alkaloid of pomegranate</p>												
<p>43-Anthemic acid is found in</p> <table border="0"> <tr> <td>a-santonica</td> <td>b-saffron</td> </tr> <tr> <td>c-Roman chamomile</td> <td>d-pyrethrum</td> </tr> <tr> <td>e- German chamomile</td> <td></td> </tr> </table>	a-santonica	b-saffron	c-Roman chamomile	d-pyrethrum	e- German chamomile		<p>44-Canellal has effect</p> <table border="0"> <tr> <td>a-antimicrobial</td> <td>b-sedative</td> </tr> <tr> <td>c-counter-irritant</td> <td>d-expectorant</td> </tr> <tr> <td>e-anti-tussive</td> <td></td> </tr> </table>	a-antimicrobial	b-sedative	c-counter-irritant	d-expectorant	e-anti-tussive	
a-santonica	b-saffron												
c-Roman chamomile	d-pyrethrum												
e- German chamomile													
a-antimicrobial	b-sedative												
c-counter-irritant	d-expectorant												
e-anti-tussive													
<p>45-Weight maintenance without loss of appetite is achieved with:</p> <table border="0"> <tr> <td>a-cascarillin</td> <td>b-carthamin</td> <td>c-safranal</td> </tr> <tr> <td>d-quinine</td> <td>e-cinchonidine</td> <td></td> </tr> </table>	a-cascarillin	b-carthamin	c-safranal	d-quinine	e-cinchonidine		<p>46-oil infusion is better than aqueous infusion of:</p> <p>a- arnica because oleic acid increase absorption b-calendula due to higher content of calendulin c- arnica due to presence of esters d-chamomile as it has more antiseptic effect e-saffron as it prevent adulteration</p>						
a-cascarillin	b-carthamin	c-safranal											
d-quinine	e-cinchonidine												

47- This oil is used in dentistry as anaesthetic and antiseptic:

- a-chamazulene
- c-eugenol
- e-farnesene

- b-bisabolol
- d-cinnamaldehyde

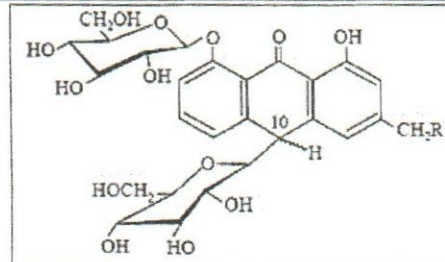
48-Warty pollen grains with lignified bracts are found in plant which contains:

- a- artemisin
- c- pyrethrins
- e-apigenin

- b-anthemic acid
- d-chamazulene

49-This compound is:

- a-found in cascara root wood
- b-a type of anthraquinones found in fresh frangula
- c-found in cinchona bark
- d-as a type of dianthrone
- e-found in bark with stone cells in phelloderm



50-This compound has effect

- a-laxative
- d-anti-cough

- b-anti-depressant
- e-anti-spasmodic

- c-anti-septic

The Answer Table

	a	b	c	d	e		a	b	c	d	e
1						26					
2						27					
3						28					
4						29					
5						30					
6						31					
7						32					
8						33					
9						34					
10						35					
11						36					
12						37					
13						38					
14						39					
15						40					
16						41					
17						42					
18						43					
19						44					
20						45					
21						46					
22						47					
23						48					
24						49					
25						50					