



|   |   |                              |                                  |   |
|---|---|------------------------------|----------------------------------|---|
|  | <b>TANTA UNIVERSITY</b><br><b>FACULTY OF PHARMACY</b><br><b>DEPARTMENT OF PHARMACOGNOSY</b> |                              |                                  |  |
|   | <b>FINAL EXAM FOR SECOND LEVEL CLINICAL STUDENTS</b>  |                              |                                  |   |
| <b>COURSE TITLE:</b>  | <b>Pharmacognosy 2</b>  |                              | <b>COURSE CODE: PG 303</b>       |   |
| <b>DATE:</b>  | <b>22/01/2020</b>   | <b>TERM:</b><br><b>FIRST</b> | <b>TOTAL ASSESMENT MARKS: 50</b> | <b>TIME ALLOWED:</b><br><b>2 HOURS</b>  |

The exam consists of 4 questions in 9 pages

Question 1 .....(11 marks, 26 minutes).

Question 2:.....(11 marks, 26 minutes).

Question 3: Consists of two parts (A and B).....(16 marks, 40 minutes).

Question 4: Consists of two parts (A and B).....(12 marks, 28 minutes).

- All questions must be answered in the specified places.
- In MCQs, mark the correct answer in the answer sheet provided.
- Use blue pen only. Answers using pencils will not be accepted.

**Q2:** (11 marks, 26 minutes).

You are provided with 22 MCQs. Select only one answer and mark your choice in the answer sheet provided in page 3.

**1- Embryo is developed from the fertilized ovum of:**

- a) Nucleus      b) Embryo sac      c) Integuments      d) Egg apparatus

**2- All the tissues enclosed within the testa:**

- a) Micropyle      b) Kernel      c) Chalaza      d) Raphe

**3- A fleshy membranous covering arising from the hilum:**

- a) Arillus      b) Arillude      c) Wing      d) Plume

**4- It is the position at the base of the nucellus where the vascular strand of the stalk branches into different parts of the ovule:**

- a) Micropyle      b) Hilum      c) Chalza      d) Raphe

**5- In linseed, a compound tested by Guignard's:**

- a) Omega fatty acid      b) Linamarin      c) Protein      d) Mucilage

**6- Mustard seeds are:**

- a) Fleshy      b) Reticulate      c) Albuminous      d) Exalbuminous

**7- Colchicum gives yellow color with HCl due to its content of:**

- a) Fats      b) Flavonoid      c) Pigments      d) Alkaloid

**8- Amygdalin is a cyanogenic glycoside present in:**

- a) Strophanthus      b) Linseed      c) Bitter Almond      d) Sweet almond

**9- The toxicity of castor is more likely by:**

- a) Chewing the whole seed      b) Chewing the seed kernel  
c) Swallowing the whole seed      d) Swallowing the seed kernel

**10- A powerful irritant and purgative seed containing fixed oil, proteins and resin:**

- a) Castor      b) Croton      c) Nux vomica      d) Cardamom

**11- A seed used in diabetes, rheumatic pain and asthma and contains fixed and volatile oils, proteins and alkaloids:**

- a) Strophanthus      b) Cocoa      c) Nux vomica      d) *Nigella sativa*

**12- Nutritive, stimulant seed used as a source of butter and contains fats, traces of volatile oils and alkaloids:**

- a) Strophanthus      b) Cocoa      c) Calabar bean      d) *Nigella sativa*

**13- A seed containing an alkaloid used to combat the effect of atropine:**

- a) Strophanthus      b) Cocoa      c) Calabar bean      d) *Nigella sativa*

**14- A counter irritant and rubefacient seed which gives red color with Millon's reagent:**

- a) Whit mustard      b) Black mustard      c) Sweet almond      d) Bitter almond

For 15-18, choose from:

- a) Diosgenin    b) Trigonelline    c) Saponins and fibers    d) A non-essential amino acid

15- May inhibit the absorption of cholesterol as well as decrease the amount of cholesterol manufactured by the liver.

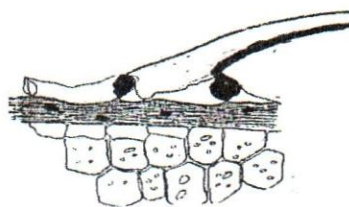
16- Possess insulin stimulating properties, anti-diabetic, cholesterol-lowering, anti-ulcer and anti-cancer properties.

17- helps to lower blood sugar and reduce the need for insulin. It may also improve glucose tolerance and excretion.

18- Increases milk production and stimulates breast tissue growth.



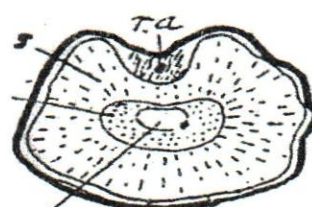
19



20



21



22

- For (19-22), choose from:

This is a T.S for:

- a) Strophanthus    b) Foenugreek    c) Linseed    d) Cardamom

**MCQ answer sheet**

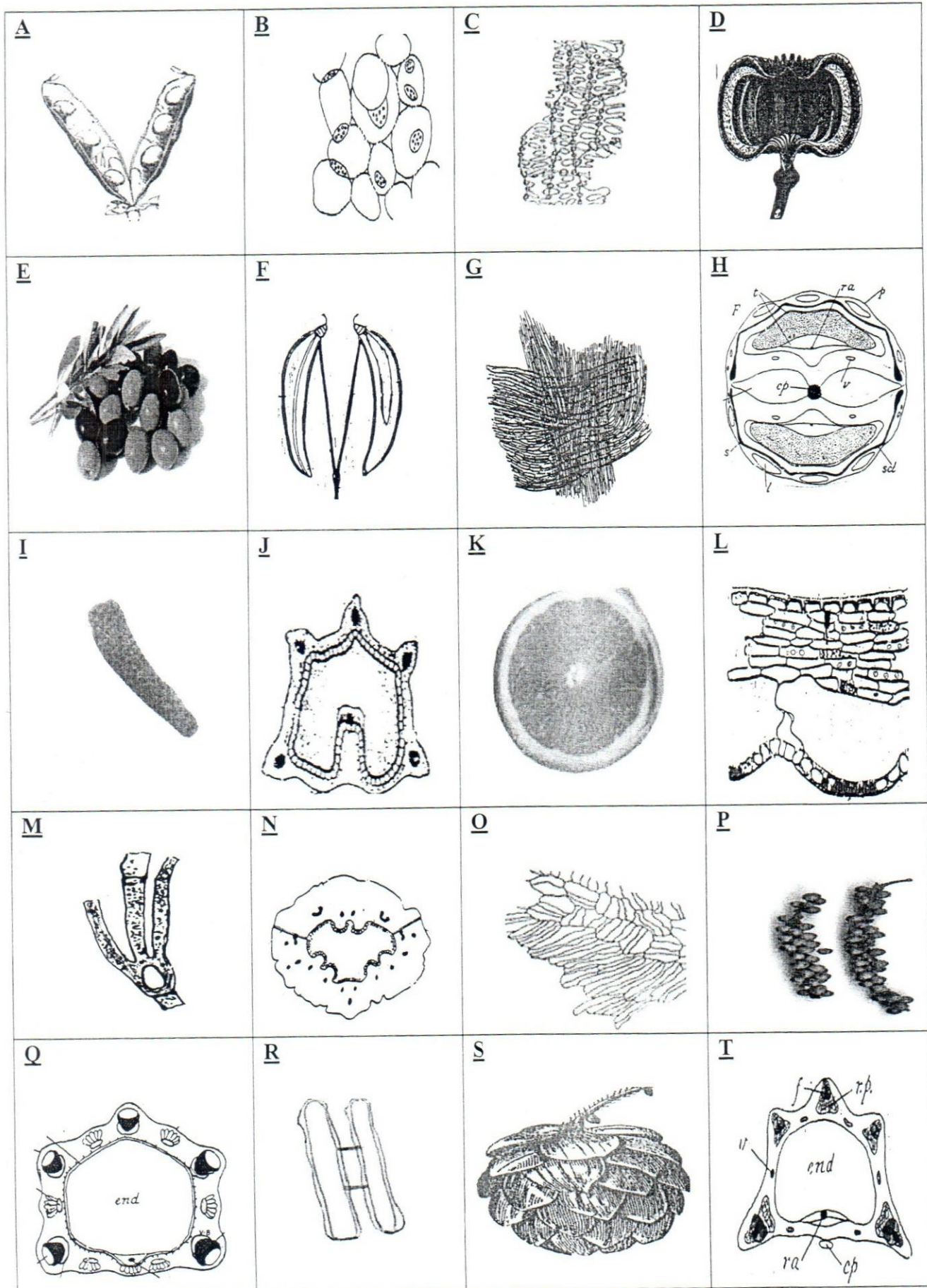
| No | a | b | c | d | No | a | b | c | d |
|----|---|---|---|---|----|---|---|---|---|
| 1  |   |   |   |   | 12 |   |   |   |   |
| 2  |   |   |   |   | 13 |   |   |   |   |
| 3  |   |   |   |   | 14 |   |   |   |   |
| 4  |   |   |   |   | 15 |   |   |   |   |
| 5  |   |   |   |   | 16 |   |   |   |   |
| 6  |   |   |   |   | 17 |   |   |   |   |
| 7  |   |   |   |   | 18 |   |   |   |   |
| 8  |   |   |   |   | 19 |   |   |   |   |
| 9  |   |   |   |   | 20 |   |   |   |   |
| 10 |   |   |   |   | 21 |   |   |   |   |
| 11 |   |   |   |   | 22 |   |   |   |   |

**Q 2 (Introduction of Fruit and Medicinal Fruits)**

You are provided with 11 sentences, correct the underline word at each sentence by a suitable term **AND/ OR** match it by a corresponding figure titled (A- T). Please put your answers at the following table.

(0.5×22= 11 marks, 26 minutes)

| Sentences  | Correction word | Figure |
|--|-----------------|--------|
| 1. Succulent type fruits are sub classified into berry and <u>carcerulus</u> .   |                 |        |
| 2. Porous capsule split by pores e.g. <u>stramonium</u> .  |                 |        |
| 3. Wheat grain contains a <u>parquetry</u> type endocarp.  |                 |        |
| 4. Hemlock extract treated with solution of KOH developed a strong mouse like odor owing to liberation of <u>piperine</u> .              |                 |        |
| 5. Vanilla fruit is unilocular, tricarpollary, dehises by two unigual <u>pores</u> .   |                 |        |
| 6. Capsicum hypodermal endocarp consists of <u>reticulated parenchymal</u> cell situated below islands of sclerenchyma.                  |                 |        |
| 7. Microscopical examination of colocynth powdered drug showed <u>crossed fiber</u> mesocarp and endocarp.                               |                 |        |
| 8. <i>Ammi majus</i> fruit contains <u>Furanochromone</u> type active constituents, which is used to treat <u>renal colic</u>            |                 |        |
| 9. Anise fruit has a <u>coleospermous</u> type seed.   |                 |        |
| 10. <u>Dissepiment</u> layer is formed of groups of narrow parallel cells originated form a single mother cell in different orientation. |                 |        |
| 11. The pungent principle in <u>Dill</u> fruit; a member of Family <i>Solanaceae</i> ; is secreted by the <u>hair like endocarp</u> .    |                 |        |

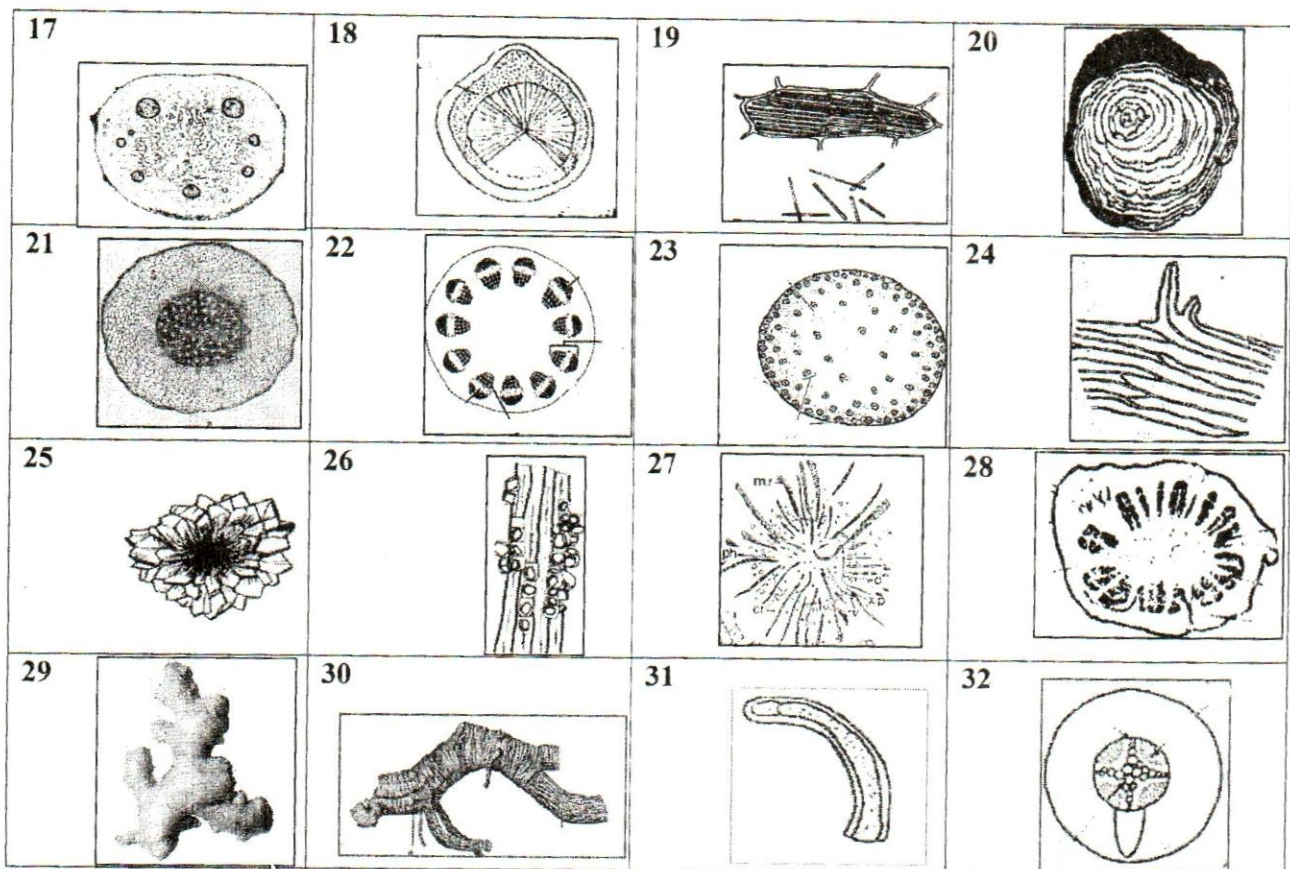


**Q 3) Subterranean Drugs** **16 marks**  
**Q A) Match between C and D** **16x0.5 = 8 marks**  
**Write your answers in the Answer Table at page 7**

(C)

- 1-Abnormal vascular bundle of amphivasal type.
- 2-A trichome belongs to senega rootstalks.
- 3-This element causes gritty sensation during chewing powder of *Rheum palmatum*
- 4-This is root of a plant contains gentiopicrin
- 5-Tertiary cambia are found in this T. S.
- 6-T. S. of liquorice root with exarch xylem
- 7-T. S. of frond base of a plant contains filmarone
- 8-This is the rhizome of a plant belongs to family Zingiberaceae
- 9-T. S. with large wing shape medullary ray of a plant contains senegin
- 10-This is a part of ramentum in powder of a rhizome with vermifuge effect
- 11-T. S. of a root is used to treat amoebic dysentery
- 12-This is the key element of Rio ipecacuanha
- 13-T. S. of monocot rhizomes
- 14-This is a type of calcium oxalate crystals present in *Glycyrrhiza glabra*
- 15-T. S. contains collateral vascular bundle with endarch xylem
- 16-T. S. of *Podophyllum hexandrum*

(D)





**Question IV .....(12 Marks, 28 min.)**

**A. Give reasons for the following statements**

(6 sentences, 1 mark each = 6 Marks, 15 min.)

1. Calumba roots are used as stomachic and bitter tonic

.....  
.....

2. Presence of a large parenchymatous tissue at the center of old aconite roots

.....  
.....

3. The bitterness of gentian taste is decreased after fermentation process

.....  
.....

4. Alcoholic extract of pale catechu could be differentiated from black catechu

.....  
.....

5. Agar-agar is used for preparation, while gelatin as a nutrient for bacterial cultures

.....  
.....

6. Several incisions should be made in the wall of full grown poppy capsules

.....  
.....



**B. Give one or two words describing the following sentences and write your answers in the same table**

(12 x ½ mark each = 6 Marks, 13 min.)

| Sentence   | Answer |
|--|--------|
| - An example of unorganized crude drugs that is produced pathologically  |        |
| - A chemical test for aloe dried juices (except Socotrine type) that gives wine red color                            |        |
| - The water-insoluble part of gum tragacanth   |        |
| - The major mechanism of manna mild laxative activity  |        |
| - The principal constituent present in cod liver oil that cures and prevents rickets disease                         |        |
| - The chemical nature of flammable part of candles   |        |
| - An element that could be examined under the microscope in honey  |        |
| - The tissue that is responsible for the abnormal secondary thickening in jalap roots                                |        |
| - The effect of large doses of jalap roots   |        |
| - The major reason for death in case of aconite toxicity   |        |
| - The characteristic shape of cambium in aconite roots T. cut  |        |
| - A preferred treatment for anorexia especially in case of combination with Fe <sup>+2</sup> -containing medicaments |        |

☺ Good Luck ☺