
	<b>TANTA UNIVERSITY</b> <b>FACULTY OF PHARMACY</b> <b>DEPARTMENT OF PHARMACOGNOSY</b>				
	<b>FINAL EXAM FOR PRE-PHARMACY YEAR STUDENTS</b>				
	<b>COURSE TITLE:</b>	<b>Medicinal Plants</b>		<b>COURSE CODE: 1035</b>	
<b>DATE:</b>	<b>18/1/2016</b>	<b>TERM: FIRST</b>	<b>TOTAL ASSESSMENT MARKS: 150</b>	<b>TIME ALLOWED: 120 MINUTES</b>	

**The exam consists of 8 pages. All questions must be answered in the specified places using blue pen only.**

**Part I: (60 marks) (50 minutes)**

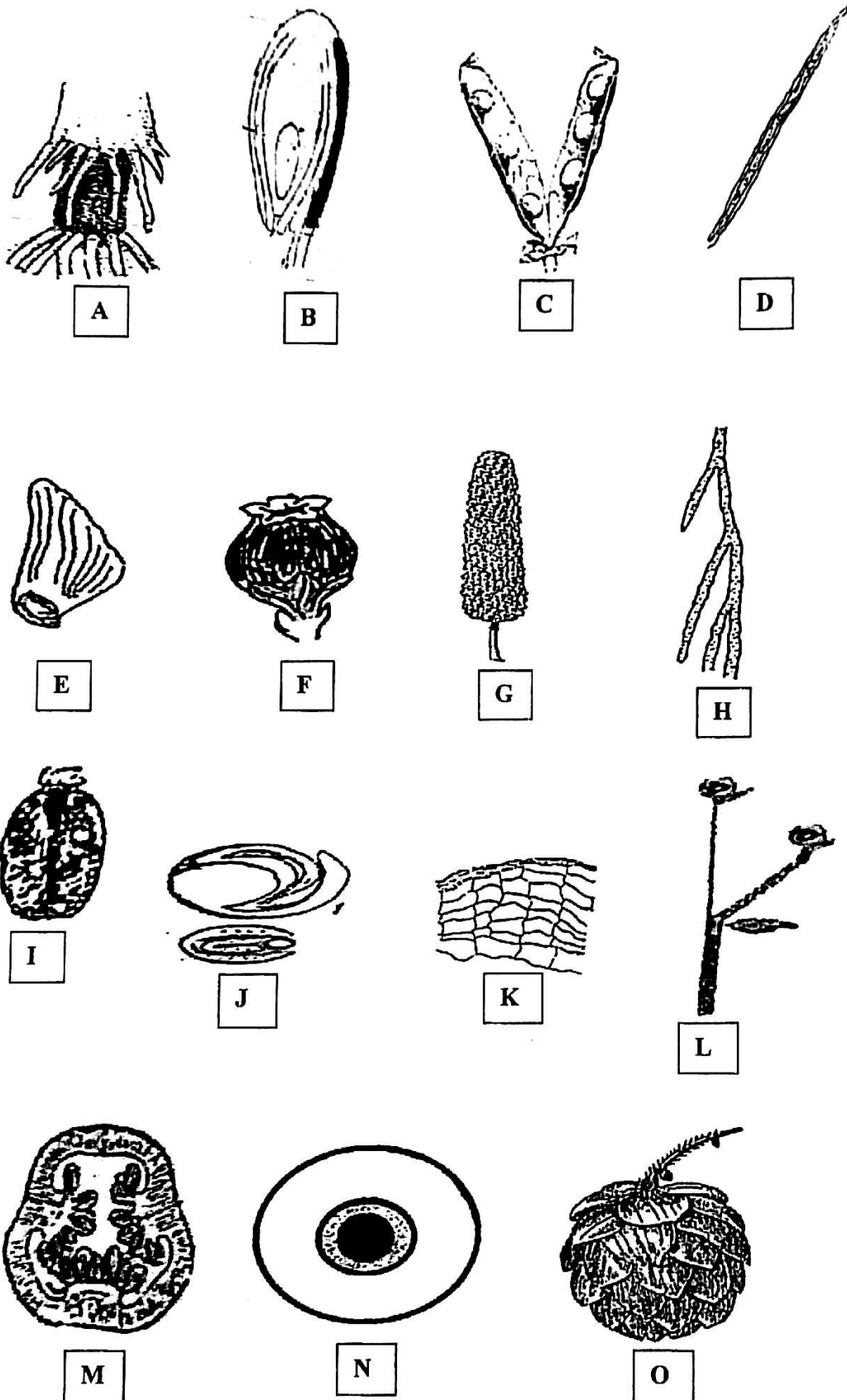
**Choose the suitable statement(s) and figure that confirmed the characters of each of the following items. Put your answers Table (1).**

**Table (1)**

Item	Answer	Item	Answer
1- Schizocarpic fruit		11- Calyx	
2- Pollen		12- Parenchyma	
3- Septate fibers		13- Corolla	
4- Seed		14- Caruncle	
5- Parietal placentation		15- Hilum	
6- Adventitious root		16- Epidermis	
7- Dehiscent fruit		17- Stele	
8- Secretory structures		18- Cork	
9- Serosis fruit		19- Receptacle	
10- Anatropous ovule		20- Embryo	

### **Statements**

- 1- It is developed from the fertilized ovum.
- 2- They are special structures adopted for production of certain active constituents.
- 3- In which the ovule is bent 180 upon the funicle.
- 4- Adopted for the propagation of the plants.
- 5- It is that fruit which split when ripe into indehiscent parts.
- 6- It is the fine powder that liberated from the anther.
- 7- It is either straight, coiled or bent.
- 8- Laticiferous vessel is one type of them.
- 9- It is a scar left by removal of the stalk or funicle from the seed.
- 10- The fruit remains attached to the plant and split open to release numerous seed.
- 11- It has a raphe runs along one side of the ovule.
- 12- It is an enlarged, mature fertilized ovule.
- 13- It produces four pollen grains by reduction division.
- 14- It is the outer most whorl of the floral series.
- 15- It is the inner whorl of the differentiated perianth.
- 16- It has thin transverse walls across the cell lumen.
- 17- It runs along the line of fusion of carpels.
- 18- It arises from the base of the stem.
- 19- Its function is to attract the pollen carrying insects.
- 20- It is used as storage tissue.
- 21- Carpophore is a type of its elongation.
- 22- Constitutes the outer most layer of the plant organ.
- 23- It is formed of polygonal cells, uniform in shape arranged in rows.
- 24- It is a type of composite fruit.
- 25- It is spongy in nature.
- 26- All the tissues inside the endodermis.
- 27- It is resulted from spike inflorescence.
- 28- Usually formed as a result of secondary thickening.
- 29- It has thin wall rounded, polygonal or oval cells.
- 30- It is the swollen or expanded apex of the shorten axis on which the floral leaves are arranged.

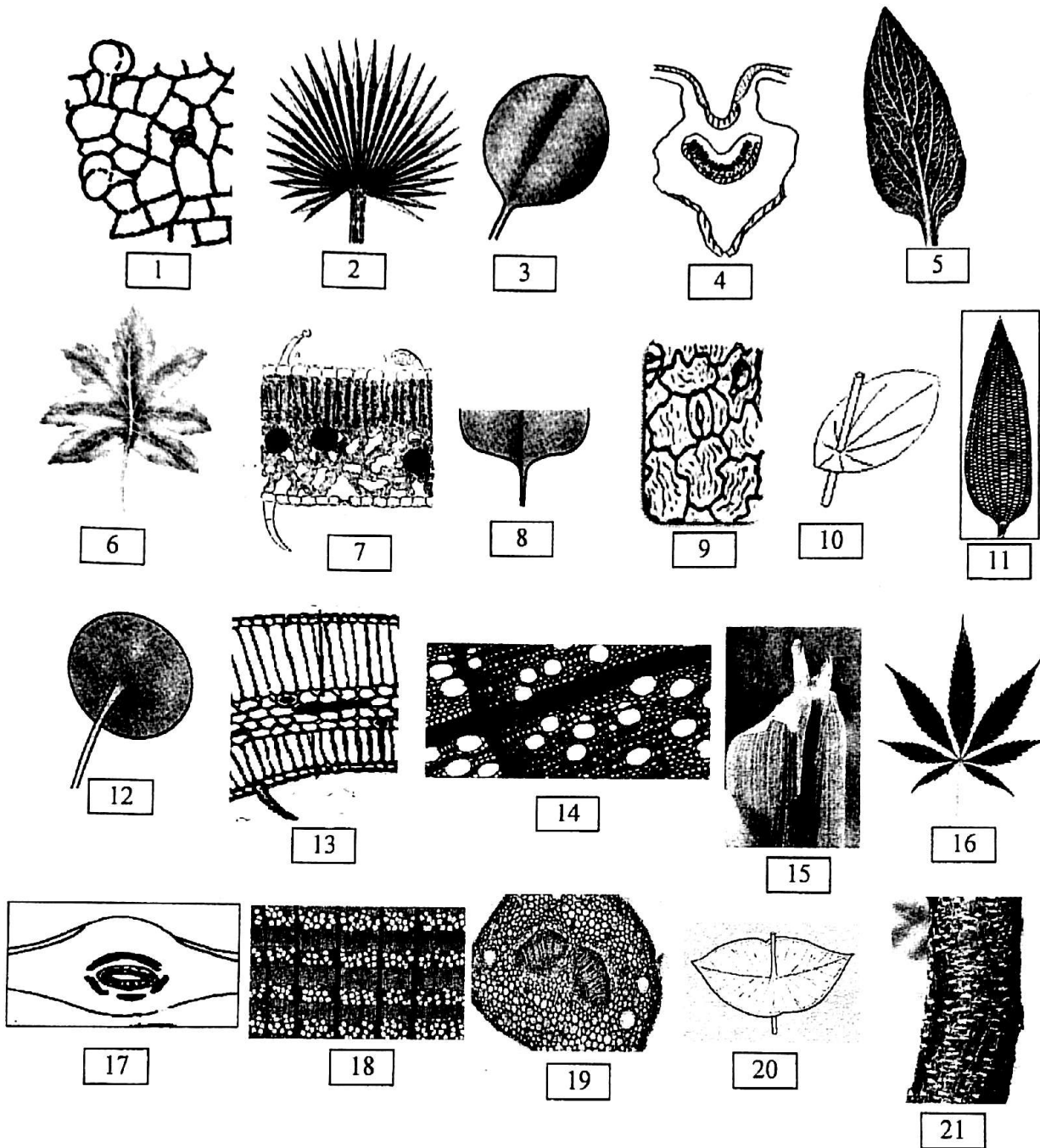


**Part II**(90 marks) (70 minutes)  
(45 marks) (35 minutes)**Question 1:**

You are provided with the following (30) sentences, please match each sentence with ONLY ONE suitable Drawing or Words in page 5 and write the number corresponding to each sentence in the specified space in Table (2):

**Table (2)**

Sentence	No.
..... is a modified leaf to catch insects.	
The leaf base is described as ..... when the lower part of the sessile lamina continues as wings down the stem.	
Divergent multicostate parallel venation.	
The base of the lamina is truncate.	
They are external marks in the bark that replace stomata for purpose of gaseous exchange.	
Epidermal cell in digitalis leaf.	
The leaf base is long sheath with outgrowth called ligules.	
Spirally arranged thin leaves present on the outer surface of the bark.	
Orbicular lamina shape.	
Connate leaf base.	
.....are dead tissues cut off by the bark.	
A transverse section in a petiole of <i>Ginko biloba</i> .	
The average number of stomata per square millimeter of epidermis.	
Compound palmate leaf.	
The surface of the leaf is smooth and covered with waxy coat as in cabbage leaves.	
The leaf surface that free from hairs is described as .....e.g. coca leaf.	
The pericycle layer consists of lignified fibers forming ..... around V.B. in Japorandi leaf	
Leathery and thick leaf texture.	
Diffuse porous woods.	
The foliage leaves are red due to.....	
An example of modified inflated leaf with air is.....	
A whorl of bracts surrounding a group of flowers is called .....	
The leaf base is rarely modified into flattened leafy structure known as...	
A specialized cells or group of cells, having the appearance of gland and serve to excrete water or dilute solutions.	
A dorsiventral leaf.	
In this leaf, the pericycle layer consists of collenchym.	
Convergent multicostate parallel venation.	
Two little projections of leaf base is called.....	
Ring porous woods.	
The inner darker part of the wood. It has no function in water transport.	

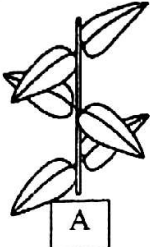
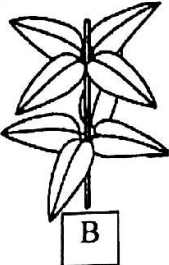
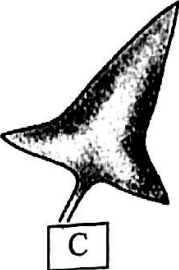

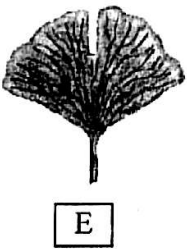


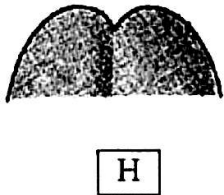
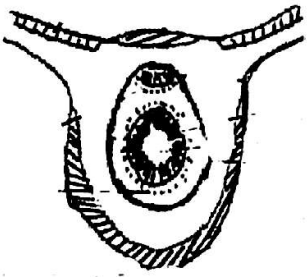
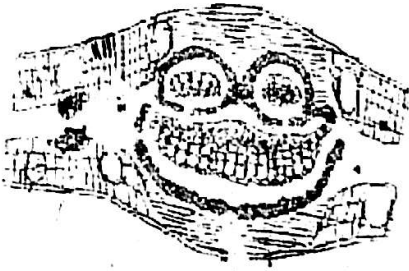


22) Rhytidomes	32) Stomatal number
23) Coriaceous	33) Eichornia
24) Stomatal index	34) Sapwood
25) Phyllode	35) Anthocyanins
26) Mosses	36) Heartwood
27) Trap	37) Auricle
28) Hydathode	38) Water pore
29) Involucre	39) Glaucous
30) Xanthophyll	40) Glabrous
31) Smooth	

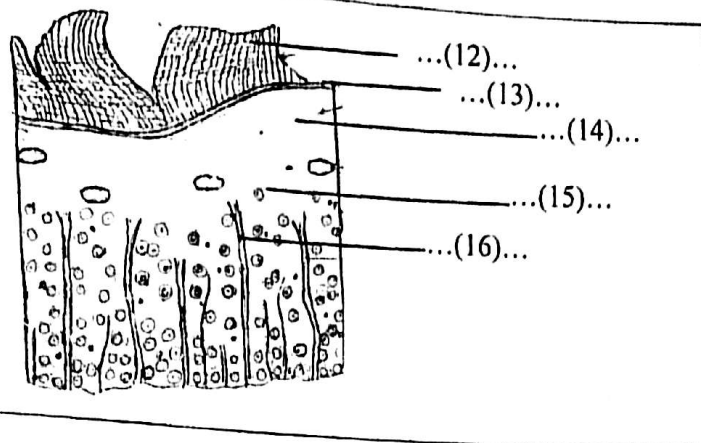
(45 marks) (35 minutes)

**Question 2:**

Complete the following statements and insert your answer in answer Table (3) below:

  <p>- The phyllotaxis in A is ...(1)..., and in B is ...(2)...</p>	  <p>- The lamina shape in C is ...(3)... and in D is...(4)....</p>
  <p>- The leaf venation in E is...(5)...and in F is...(6)...</p>	  <p>- The leaf margin in G is ...(7)..., and the leaf apex in H is ...(8)...</p>
 <p>- Regarding to this picture, the pericycle is.....(9)...</p>	 <p>- This is a diagram of the cross section in ...(10). - The palisade is ...(11)....</p>

- Complete this diagram:



- The leaf arises as a multicellular lateral projection called ...(17)...
- An example of twisted leaf petiole is...(18)...leaf.
- In lemons and oranges, the prophyll is a ...(19)...
- In family Graminae the bract with no flower in its axil is called ...(20)...., while the fertile one is called ...(21)...
- ...(22)...is the innermost layer of cortical tissue and usually surrounds vascular bundle.
- An example of content in epidermal cells is ...(23)...in buchu leaf.
- Epiphytes present only on the stem bark and include, ...(24)... with flat leaf appearance and ...(25)... which characterized by grayish thaloid structures.
- Cork, phellogen and phelloderm compose the ...(26)....
- The inner bark consists of ...(27)...and separated from the wood by...(28)....
- ...(29)...are balloon-like extensions of the xylem parenchyma passing through the pits.
- A single bract may enclose the whole inflorescence is called ...(30)... e.g. Araceae.

**Table (3)**

No.	Answer	No.	Answer
1		16	
2		17	
3		18	
4		19	
5		20	
6		21	
7		22	
8		23	
9		24	
10		25	
11		26	
12		27	
13		28	
14		29	
15		30	

**Good Luck**