

Question 1: 35 marks
1- *Senna* 2- *Bucho* 3- *Digitalis* 4- *Datura stramonium*
5- *Mentha* 6- *Japorandi* 7- *Rosmery* 8- *Eucalyptus*

- a- Draw labeled T.S. diagram for 1 and 4
- b- Describe chemical test for 1 and 3
- c- Draw the diagnostic elements of powdered 2 and 5
- d- Give botanical origin, active constituents and uses of 6, 7, and 8.

Question 2 : 15 marks Draw each of the following:
a- Epidermis of Boldo, Mentha, Senna leaves b- Crystal layers of Solanaceous leaves. c- Powder of *Hyoscyamus muticus*.

Question 3: 10 marks Complete each of the following:
1- Four types of calcium oxalate are
2- The most suitable method for drying digitalis leaves is
3- Volatile oil in Mentha is present in while in Buchu is present in
4- Factors affecting deterioration of crude drug are..... 5- Sophistication is

Question 4 : 34 marks
Differentiate between sap wood and heart wood; give one example of each Mention one CNS depressant wood give: origin, active constituents and other uses if any.
2. Give a full description Frangula bark.
3. Complete the following
The activities of phyllogen results in formation of...(1)...outward and ...(2)... inward. Collectively they are termed (3)
4- The pericycle in the bark of ..(4)... is Parenchymatous but interrupted by sclerides, while that of canella is interrupted by (5)..
c- The ash value of *Quassia amara* is very low relative to that of *Picrasma excelasa* due to (6)
d- The total alkaloid content is the highest in Cinchona (7)...and the lowest in Cinchona....(8)
The alkaloids of Yohimbe bark is used to treat(9) while that of pomegranate is used to expel (10)

Question 5**26****marks**

1- Roman chamomile

2- Hibiscus

3- Clove

4- Calendula

5- Arnica

6- Saffron

a. In a tabular form give the used part, active constituents and uses of 2, 5, and 6 b-

Describe one chemical test for drug 3

c-Draw the diagnostic elements of powdered drug 1

d-Mention the main morphological differences between drug 4 and 5

Question 6**18**

marks Complete each of the following

a. Mother clove can be detected in powdered clove by the presence of(1) and (2)

b. Lavender belongs to family...(3)its volatile oil is rich in(4)

c. The used part in Hibiscus is.....(5)Its red colour is due to presence of (6)

d..Cazilback test is used to identity ...(7).....flower due to presence of. .. (8)..

e. Kamala belongs to family (9) .., It can be detected microscopically by(10)....

f. Precipitated Sulphur is prepared by(11)....,Medicinally is used as...(12).....

Question 7 :**22****marks**

A. a- Cantharides

b- Cod liver oil

c- Quassia wood

d- Guaiacum wood e- Juniper wood

f- Sandal wood

1- Give chemical test for drug d

2- Give the origin, active constituents and uses of a , c , e , and f.

3- Describe the preparation of drug b.

B. Define each of the following

1. Flare

2- Grain of the wood

3- Substitute fiber

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