



PHARMACOGNOSY AND PHYTOCHEMISTRY-III (Chemistry of Natural Products)

Paper-4

Time : Three Hours]

[Maximum Marks : 80

N.B. :- (1) Question No. 1 is compulsory.

(2) Attempt any **four** questions out of remaining.

(3) Draw neat labelled diagram wherever necessary.

1. Solve any **five** questions of the following :

(a) Compare and contrast Sumatra benzoin and Siam benzoin.

(b) Give theory of mass transfer.

(c) Define resin. Give its physical and chemical properties.

(d) Give principle and application of ion-exchange chromatography.

(e) Write a note on maceration.

(f) Give biological source, chemical constituent, uses and identification test of Asafoetida.

5×4=20

2. Define chromatography and enlist types of chromatography. Explain in detail thin layer chromatography with its application. 15

3. (a) Write a note on super critical fluid extraction. 8

(b) Write detail pharmacognostic account on cinnamon. 7

4. (a) Write structure elucidation of camphor. 8

(b) Write isolation, purification and chromatographic profile of camphor. 7

5. Give biological source, chemical constituents, uses and chemical test of any **three** of the following :

(i) Tulsi

(ii) Turmeric

(iii) Tolu Balsam

(iv) Colophony

(v) Coriander.

5×3=15

6. (a) Give classification of volatile oils with example. Add a note on general properties of volatile oil. 8

(b) Give general microscopical characteristics of Umbelliferous fruits with examples. 7

7. Write short notes on (any **three**) :

(a) Phenolic ether containing volatile oil

(b) Biosynthetic pathway of volatile oils

(c) Paper chromatography

(d) Ecuelle method

(e) Guggul.

5×3=15

