III. Short answers (Answer seven out of nine questions) (5x7=35)

1. What do you mean by primary metabolites and secondary metabolites? What are the different Physical evaluation parameters for crude drug evaluation? (2+3)

2. What is stomatal number, stomatal index, vein islets and vein islet termination number? What is the length of aneye piece micrometer scale? (4+1)

3. Write a short note on factors affecting cultivation of crude drugs. (5)

4. Write about the biological source, solubility profile, chemical constituents, chemical tests and use of tragacanth. (5)

5. Write a short note on morphological and taxonomical method of crude drug classification. (2.5+2.5)

6. Write the basic chemical structure of flavonoids? How phenolic compounds are classified? (2+3)

7. Write a short note on chemical classification of crude drugs with suitable examples. (5)

8. Write a short note on Tannins and their identification tests. (5)

9. How many ways extraction of volatile oils can be done? (5)

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B.Pharm Even Semester Examination, May, 2025

PHARMACEUTICAL SCIENCES

(4th Semester)

Course No: BP-405T

(Pharmacognosy and Pytochemistry-I)

FM: 75

Time: 3 Hours

The figures in the right margin indicate full marks for the question

I. A. Multiple choice questions -All questions are compulsory (1×10=10)

1. Emetine is obtained from which crude drug?
   a. Ipecacuanha root
   b. Rauwolfia root
   c. Chondrodendron stem
   d. None of the options

2. An example of bitter tonic is
   a. Senna leaf b. Quassia bark
   c. Ashwagandha root d. None of the options

3. C6-C3-C6 ring is mainly found in
   a. Flavonoids b. Alkaloids
   c. Volatile oils d. All the options

4. Dichlorophenoxyacetic acid is an example of

a. Cytokinins b. Auxin

c. Ethylene d. Gibberellins

5. Potassium in tissue culture nutrient medium has which property?

a. Regulates osmotic potential

b. Required for photosynthesis

c. Cell wall synthesis, membrane function

d. Component of some vitamins

6. An example of cyanogenetic glycoside is

a. Liquorice b. Nuxvomica

c. Ashwagandha d. None of the options

7. The moisture content of crude drug can be determined by heating it generally at -

a. 100°C b. 200°C

c. 65°C d. 90°C

8. The major role of ethylene involves

a. Cell elongation b. fruit ripning

c. loss of leaves d. None of the options

9. If the sugar is glucose, then the glycoside is called

a. Glucoside b. Rhamnoside

c. Digitoxoside d. None of the options

10. Swelling index is related to determine the _____ content of crude drugs

a. Mucilage b. Gum

c. Carbohydrate d. None of the options

I. B. Answer all the following questions (2×5=10)

1. What do you mean by chemo-taxonomical classification of crude drugs?

2. Write the name of four glycoside groups with examples.

3. What are the crude drugs acting on central nervous system?

4. Write the biological sources of castor oil and senna.

5. Give examples of auxin and cytokinin plant hormones.

II. Long answers (Answer two out of three questions) (10×2=20)

1. Write a detailed note on plant tissue culture technique including the steps involved.What do you mean by sero-taxonomical classification? (7+3)

2. Classify volatile oils based on their chemical structure with suitable examples. Write the difference between plant hormone and animal hormone. (6+4)

3. What are the physicochemical properties of glycosides and alkaloids? (5)