

		<p>B) The distance between the start and the solvent front</p> <p>C) The distance that a particular compound moves divided by the distance of the solvent front from the start</p> <p>D) The distance travelled by the solvent front from the start divided by the distance that a particular compound moves</p>	
10.	CO3	<p>Alkaloids are naturally occurring compounds which containin their molecules.</p> <p>A) one or more N atoms</p> <p>B) two heterocyclic rings</p> <p>C) a side-chain on one of the benzene rings</p> <p>D) one or more N atoms originating from amino acids</p>	1
11.	CO3	<p>Reserpine gives violet red color with</p> <p>A) Vanillin in acetic acid</p> <p>B) Vanillin</p> <p>C) Sulphuric acid</p> <p>D) Vanillin in sulphuric acid</p>	1
12.	CO3	<p>Which method of isolation is used for perfume manufacturing</p> <p>A) Steam Distillation</p> <p>B) Enflurege</p> <p>C) Both A & B</p> <p>D) Hydro distillation</p>	1
13.	CO4	<p>Diosgenin is isolated from</p> <p>A) Barks</p> <p>B) Leaves</p> <p>C) Tubers</p> <p>D) Stem</p>	1
14.	CO4	<p>Atropine is manufactured from combination of</p> <p>A) Tropic acid and tropine</p> <p>B) Hydrochloric acid and Tropic acid</p> <p>C) Hydrochloric acid and Tropinol</p> <p>D) Tannic acid and Hydrochloric acid</p>	1
15.	CO4	<p>Sonmukhi is synonym for which of the mentioned drug---</p> <p>A) Vinca</p> <p>B) Aloes</p> <p>C) Senna</p> <p>D) Shellac</p>	1
16.	CO4	<p>Which of the following is the assay for determination of the volatile oil contents of herbal drugs?</p> <p>A) Steam distillation</p> <p>B) Extraction with light petroleum</p> <p>C) Distillation by Marcusson's method</p> <p>D) Determination of the loss on drying</p> <p>E) Determination of the alcoholic extract</p>	1
17.	CO5	<p>Supercritical Fluid Extraction was first reported in 1879 by</p> <p>A) Hannay and Hogarth.</p>	1

		B) Hannay C) Hogarth D) Franz Van Soxhlet	
18.	CO5	'Marc' means a) Preparation of crude drug which contain all chemical constituents b) Solvent used for extraction c) Solid residues obtained after extraction d) None of these	1
19.	CO5	Choice of extraction is related to a) Sample size b) Extraction time c) Quantity of the extract required d) All of these	1
20.	CO5	IR spectroscopy is used to identify a) Number of hydrogens b) Functional group c) Number of double bonds d) Molecular weight	1

SECTION B

Answer any two questions of the following.

20

	CO1	Different methods are used depending on nature of drug and its source for Separation and isolation of labelled compound for below mentioned tissues and metabolites. <ul style="list-style-type: none">• Soft tissue (Fresh)• Hard tissue• Unorganized drug• Fat and oil• Alkaloids, Glycosides, Flavonoids• Plant phenol Explain different types of method and specific types of solvents used for separation. Also, explain the modern techniques used for detection of labeled compound.	5+5
	CO2	a) Explain the chemical classification of glycosides with at least one example. b) How glycosides are formed from a hemiacetal group? c) Discuss the importance of aglycone part in different glycosides.	4+3+3
3.	CO4	Explain industrial production and estimation of podophyllotoxin	5+5

SECTION C

Answer any seven questions of the following.

35

1	CO1	Describe in brief isolation and analysis of caffeine	5
2	CO2	What are effects of acid and alkaline hydrolysis in case of molecular stability of glycosides.	5
3	CO2	Discuss the source, chemical constituents and use of vinca alkaloids.	5
4	CO5	a) What is the difference between extraction and isolation? b) Shortly discuss the process of getting a pure form of the main important chemical constituent of curcumin.	1+4
5	CO5	a) What is the role of solvents during plant extraction?	1+4

		b) Illustrate different ideal properties of solvents to run the extraction methods.	
6	CO3	Define pseudo tannin. Write the chemical properties and chemical test for tannins	1+2+2
7	CO4	Explain the industrial production and isolation of sennosides	5
8	CO3	<p>The plant material was powdered and treated with hexane or petroleum ether followed by extraction with ethanol. Solvent was distilled off and residue was treated with sodium carbonate and extracted with organic solvents like chloroform. The mixture of bases thus obtained was separated into individual secondary metabolites by chromatographic (Column chromatography, Thin layer chromatography, Gas chromatography etc.) and steam distillation techniques.</p> <p>From the above statement answer the following questions.</p> <ul style="list-style-type: none"> • Which class of secondary metabolites is targeted for extraction and isolation? • Explain the role of sodium carbonate and organic solvent used in extraction process. • Describe with suitable example why steam distillation was done. 	1+2+2
9	CO4	Describe in brief isolation and estimation of vincristine	5
		Total	75