(3 hours) **[Total marks: 75]**

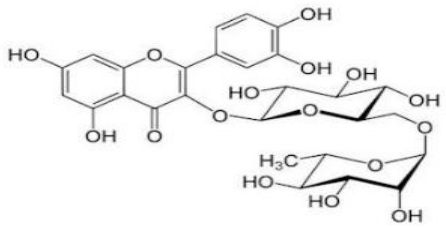
N.B.: 1. All questions are compulsory.
2. Figures to right indicate full marks.

I **Choose appropriate option for following multiple choice-based questions.** **20**

1 Geranyl pyrophosphate is
a. C10 compound
b. C20 compound
c. C15 compound
d. C30 compound

2 Dimethylallyl pyrophosphate is an isomer of
a. Farnesyl pyrophosphate
b. Isopentenyl pyrophosphate
c. Squalene
d. Mevalonic acid

3 Following compound is



a Aloe-emodin
b Sesamin
c Ephedrine
d Rutin

4 Caffeine can also be referred as
a 1,3,7-trimethylxanthin
b 1,3-dimethylxanthin
c 3,7-dimethethylxanthin
d 1,7-trimethylxanthin

5 Which of the following is phenolic volatile oil?
a Fenchone
b Coriandrol
c Citral
d Eugenol

6 Mother clove is
a Exhausted flower bud of *Eugenia caryophyllus*
b Flower of *Eugenia caryophyllus*
c Fruit of *Eugenia caryophyllus*
d Stem of *Eugenia caryophyllus*

7 *Pterocarpus marsupium* is the botanical name for
a Myrrh
b Indian kino
c Black catechu
d Ashoka

8 Pink colour in match stick test is due to the reaction of_____ with lignin
a Eugenol
b Chlorgenic acid
c Phloroglucinol
d vanillin

9 Pungent taste of fresh ginger is due to
a Bisabolol
b Gingerol
c Alpha- bisabolene
d Alpha- zingiberol

10 Abietic acid is present in
a Colophony
b Benzoin
c Guggul
d Myrrh

11 Source of Senna IP is
a *Cassia acutifolia*
b *Cassia angustifolia*
c *Cassia cinnamon*
d *Cassia fistula*

12 Sennoside C is a
a heterodianthrone
b homodianthrone
c Anthrone
d Anthranol

13 Digitalis leaves should be dried under_____.
a 100 ºC
b 60 ºC
c 75 ºC
d 90 ºC

14 Atropine is
a *l*-hyoscyamine
b *d*-hyoscyamine
c Racemic mixture of *d&l*-hyoscyamine
d *d*-hyoscine

15 Etoposide and teniposide are semisynthetic products of
a Vinca alkaloids
b Taxus
c Podophyllotoxin
d Cinnamic acid

16 _____is the sublimed crystals
a Eugenol
b Menthol
c Fenchone
d Caffeine

17 The electromagnetic waves with frequency of 0.3-300GHz are called as
a Ultrasonic waves
b Microwaves
c Radio waves
d Sonar waves

18 Which of the following property is necessary for microwave assisted extraction
a Moisture should be present in the material to be extracted
b Solvent used should be non-polar in nature
c High quantity of solvent
d Material should be completely dry

19 Column chromatography is based on the principle of
a Size exclusion
b Ion exchange
c Adsorption
d Substitution

20 Gas liquid chromatography is used for
a Stable compounds
b Thermolabile and volatile compounds
c Non-volatile compounds
d Heat non-resistant compounds

Q. II A **Answer any TWO out of THREE** **20**

1 a. Write a note on biological source, chemical constituents, chemical tests & uses of Asafoetida. 10
b. Write significance of tracer technique & discuss any two methods of tracer technique in detail.

2 Write a short note on the following 10
a. Thin layer chromatography
b. UV spectroscopy in drug identification

3 Write a short note on source, industrial production, estimation and uses of the following. 10
a. Diosgenin
b. Forskolin

Q.II B. **Answer any SEVEN out of NINE** **35**

1 Illustrate pathway for biosynthesis of Shikimic acid with suitable structures. 5
2 Write a note on various methods for feeding radioactive precursors.
3 Discuss source, chemistry & test of an anti-hypertensive Indole alkaloid. 5
4 Write a note on source, chemistry (with structures), chemical test & uses of Liqourice. 5
5 Write a note on carotenoids 5
6 Discuss the following phytoconstituents with respect to their isolation and identification. 5
a. Quinine
b. Curcumin

7	Write a note on the analysis of following phytoconstituents a. Menthol b. Atropine	5
8	Write a note on continuous extraction method.	5
9	Discuss principle and applications of supercritical fluid extraction.	5
