

(3 hours)

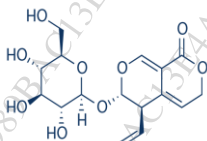
[Total marks: 75]

**N.B.: 1. All questions are compulsory****2. Figures to right indicate full marks****Q. I Choose appropriate option for following multiple choice-based questions. 20**

- 1 Which of the following is not a precursor in shikimic acid pathway.  
a Prephenic acid  
b Mevalonic acid  
c Chorismic acid  
d Quinic acid
- 2 Shinoda, Alkaline reagent and Zinc HCl test are used to identify \_\_\_\_\_.  
a Lignans  
b Alkaloids  
c Flavonoids  
d Glycosides
- 3 Which of the following is the source of Rutin?  
a *Ruta graveolens*  
b *Podophyllum emodi*  
c *Camellia sinensis*  
d *Mentha spicata*
- 4 Diosgenin is used as raw material for synthesis of \_\_\_\_\_.  
a Corticosteroids  
b Paracetamol  
c Acyclovir  
d Insulin
- 5 Which of the following is the source of fennel?  
a *Foeniculum vulgare*  
b *Coriandrum sativum*  
c *Mentha Piperita*  
d *Cinnamomum cassia*
- 6 Which of the following drug consist of phenyl propanoidal constituent in volatile oil?  
a *Foeniculum vulgare*  
b *Coriandrum sativum*  
c *Mentha spicata*  
d *Eugenia caryophyllus*
- 7 Which of the following test is confirmatory test for catechu?  
a Ferric chloride test  
b Gold beater's test  
c Matchstick test  
d Gelatine test

- 8 \_\_\_\_\_ plant is known as Indian Kino is use for its astringent activity
- Taxus brevifolia*
  - Pterocarpus marsupium*
  - Picrorhiza kurroa*
  - Uncaria gambier*
- 9 Following are the examples of pathological resin containing drug except
- Benzoin
  - Asafoetida
  - Colophony
  - Guggul
- 10 Which of the following drug will give combined umbelliferon test positive?
- Benzoin
  - Asafoetida
  - Colophony
  - Guggul
- 11 Atropine is
- l*-hyoscyamine
  - d*-hyoscyamine
  - dl*-hyoscyamine
  - d*-hyoscine
- 12 \_\_\_\_\_ enzyme plays main role in conversion of 3 -Hydroxy-3 -methylglutaric acid to mevalonic acid
- HMG Co-A Synthase
  - Aceto acetyl Synthase
  - Mevalonic acid Synthase
  - HMG Co-A Reductase
- 13 Which of the following drug will give positive modified Bontrager's test?
- Senna
  - Aloe
  - Bitter almond
  - Digitalis
- 14 \_\_\_\_\_ is the source of Dianthrone glycosides.
- Senna
  - Aloe
  - Bitter almond
  - Digitalis

- 15 Identify the given structure



- a Picroside  
b Forskolin  
c Taxine  
d Gentiopictin
- 16 \_\_\_\_\_ metabolite of *A. annua* shows 7-member ring structure.  
a Artemisinic acid  
b Artemisinic aldehyde  
c Artemisinin  
d Dihydroartemisinic acid
- 17 Carotenoids are \_\_\_\_ compounds.  
a C-10  
b C-20  
c C-30  
d C-40
- 18 In the extraction of Sennosides \_\_\_\_\_ is prepared in-situ by addition of Calcium chloride and liquor ammonia 30%.  
a HCl  
b CaCO<sub>3</sub>  
c CaOH  
d NH<sub>4</sub>Cl
- 19 Microwaves are electromagnetic radiations with a frequency from \_\_\_\_ GHz  
a 0.3 to 300  
b 300 to 3000  
c 0.003 to 0.3  
d 3000 to 300000
- 20 Which of the following is not true about SFE?  
a SCF is easily recoverable from the extract due to its volatility  
b Low boiling components are extracted at relatively high temperatures.  
c Non-toxic solvents leave no harmful residue  
d Thermally labile compounds can be extracted with minimal damage as low temperatures can be employed by the extraction

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

- 1 a. Give example of an acid resin. Mention it's source, preparation & Chemical tests. 10  
b. Enlist 4 methods use in tracer techniques and explain any 1 method with suitable example.
- 2 Write a short note on the following 10  
a. HPTLC in phytochemical analysis  
b. Electrophoresis in drug identification
- 3 Write a short note on source, industrial production, estimation and uses of 10 following.  
a. Sennosides  
b. Digoxin

- Q.II B. Answer any SEVEN out of NINE** **35**
- 1 Write a note on various methods for feeding radioactive precursors. 5
  - 2 Discuss in detail collection & chemistry of Opium alkaloids. 5
  - 3 Illustrate pathway for biosynthesis of GPP with suitable structures. 5
  - 4 Discuss phytochemistry of Cardiac glycosides, illustrate your answer with appropriate structures. 5
  - 5 Discuss the following phytoconstituents with respect to their isolation and identification. 5
    - a. Rutin
    - b. Caffeine
  - 6 Write a note on the analysis of following phytoconstituents 5
    - a. Citral
    - b. Podophyllotoxin
  - 7 Explain in short with suitable example the modern method of extraction for Volatile oils. 5
  - 8 Write a note on drugs containing iridoids (Any two). 5
  - 9 Write a note on UV Spectroscopy in the identification of crude drugs. 5
-