

2022

**BOTANY**

**[P.G.]**

**(M.Sc. Second Semester End Examination-2022)**

**PAPER-203**

**[Plant Anatomy and Pharmacognosy]**

**Full Marks: 40**

**Time: 02 Hrs**

*The figures in the right hand margin indicate marks*

*Candidates are required to give their answers in their own words as far as practicable*

*Illustrate the answers wherever necessary*

**Unit-I**

**F.M=20**

**1. Answer any four Questions**

**4x1=04**

- a. What is sunken stomata?
- b. What is unilacunar two trace node. Give example.
- c. Name the composition of raphide crystals.
- d. What are two types of xylem fibres?
- e. Roughly draw reticulate perforation plate.
- f. Where do you find glandular trichomes?
- g. What is transfer cell?

**2. Write short notes on [Any two]**

**2x4=08**

- a. Draw & enumerate different types of Laticifers in angiospermic plants.

(2)

- b. Categorize the types of stomata based on the classification of Metcalfe and Chalk.
- c. Give a detailed account of phylogeny of xylem vessel on the basis of length, types of end wall and perforation plate.
- d. Write a short note on active trap of sundew.

**3. Answer any one question**

**1x8=08**

- a. Write about the fine structures of pectic polysaccharides within the cell wall. 8
- b. State the importance of annual rings. Differentiate between porous and non-porous wood? What is tylosis? 3+3+2

**Unit-II**

**F.M=20**

**1. Define any four of the following-**

**4x1=04**

- a. Write the full form of IPP.
- b. Define pharmacognosy?
- c. Name the adulterants of turmeric and ginger.
- d. What are alkaloids?
- e. What do you mean by crude drugs?
- f. What are the active principles of *Datura* plants?
- g. Mention the active compounds of *Cinchona* bark.

**2. Write short notes on [any two]**

**2x4=08**

- a. Give a schematic overview of mevalonate pathway.
- b. Write down the uses of *Strychnos*, *Rauwolfia*, *Adhatoda*

(3)

- c. Discuss about the scope and importance of Pharmacognosy.
- d. What do you understand by adulteration of drugs.

**3. Answer any one Question**

**1x8=08**

4. Define secondary metabolites with examples of each type. Explain shikimic acid pathway in detail. 2+2+4
5. What is the importance of organoleptic study? Write the name of active principles and use of the following plants-*Belladonna*, *Senna* and *Cinchona*. 2+6