COURSE TITLE: PLANT DRUG TECHNOLOGY AND PHARMACOGNOSY (THEORY)(w.e.f. June 2020)
COURSE CODE: BOT-V.E-11
MARKS: 100(75 Theory+ 25 Practicals)
CREDITS: 4 (3 Theory+ 1 Practical)
COURSE DURATION: 45 HOURS
COURSE OBJECTIVES:

To enable the students to learn and understand the fundamental knowledge, techniques & skills in plant drug industry, drug discovery and development.

COURSE OUTCOMES:
Upon successful completion of the course, students will be able to:

CO 1: Explain, discuss and classify medicinal plants, plant drug and technology
CO 2: Explain and illustrate, biosynthetic pathways, bioassays and working of instruments
CO 3: Discuss and compare methods of extraction and analysis of phytochemicals.

SR. NO.	TOPICS	HOURS
	MODULE I: INTRODUCTION	**15**
1.1 1.2 1.3 1.4	Introduction to plant drug technology and Pharmacognosy Classification of drugs: morphological, chemical and pharmacological. Identification of marker compounds in the formulations. Bioassays, Fingerprint and identification of plant drugs. Biosynthesis of alkaloids. Metabolic pathways of selected plants (from *Ocimum sanctum* and *Rauwolfia*).	
	MODULE II: CULTIVATION, COLLECTION AND CONSTITUENTS	**15**
2.1 2.2 2.3 2.4 2.5	ROOTS/ RHIZOME: *Rauwolfia* and *Curcuma* LEAVES: *Adathoda* and *Ocimum* SEEDS: Fenugreek and Nutmeg FRUITS: Coriander and Senna pod FLOWERS: Clove and Rose	
	MODULE III: PHYTOCHEMICALS (EXTRACTION AND ANALYSIS)	**15**
3.1 3.2 3.3	Extraction methods and principles. Traditional and modern techniques Methods of Characterization: NMR,MS,UV-Vis, GC-MS, LC-MS	

	Analysis of Pigments, Phenolics, Flavonoids and Alkaloids.	
	TOTAL	45

COURSE TITLE: PLANT DRUG TECHNOLOGY AND PHARMACOGNOSY (PRACTICAL)
COURSE CODE: BOT-V.E-11
MARKS: 25
CREDITS: 1
PRACTICAL SESSIONS: 15

Sr. No.	MODULE IV: TOPICS	Practical
1.	Isolation of alkaloids and Phenolics	**02**
2.	Test for alkaloids: Mayer's, Wagner's, Dragendorffs' reagent	**01**
3.	Disc diffusion for antimicrobial assay	**02**
4.	MIC evaluation for antimicrobial assay	**02**
5.	Anatomical study of *Nux vomica* seeds, Ginger, Citronella leaf, Senna leaf & its medicinal properties	**04**
6.	Histochemical tests for Oils And Fats – Castor seed/ *Eucalyptus*Citrus	**01**
7.	Microchemical test of Arum / *Colocasia* leaves for observation of Calcium oxalate crystals.	**01**
8.	Mini project Adulteration of crude drugs	**02**
	TOTAL	**15**

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