

**DEPARTMENT OF PHARMACY
M.I.T., MUZAFFARPUR**



**AFFILIATED TO
ARYABHATTA KNOWLEDGE UNIVERSITY,
MITHAPUR, PATNA**

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**DEPARTMENT OF PHARMACY,
M.I.T. MUZAFFARPUR**

Contact Details:

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NAME OF COURSE: PHARMACOGNOSY IV

COURSE CODE (T): 1303

COURSE CODE (P): 1303P

SEMESTER:

ACADEMIC: 2018-2019

PHARMACOGNOSY -IV

B. PHARM – FIFTH SEMESTER

1. Course Syllabus

Module-1

Resins:- Study of Drugs containing resin and resin combination like colophony, podaphyllum, jalap, cannabis, myrrh, asafoetida, balsam of tolu, balsam of peru, benzoin, turmeric, ginger, capcicum.

Tannins:- study of tannins and tannin containing drugs like gambir, black catechu, gall and myrobalan

Volatile oils:- general methods of obtaining volatile oils from plants, study of volatile oils of mentha, coriander, cinnamon, cassia, lemon peel, orange peel, lemon grass, citronella, caraway, dill, spearmint, clove, fennel, nutmeg, eucalyptus, Chenopodium, cardamom, valerian, musk, palmarosa, gaultheria, sandal wood.

Module-2

Phytochemical screening:

- a) Preparation of extract
- b) Screening of alkaloids, saponins, cardenolides and bufadenolides, flavonoids and leucoanthocyanidins, tannins and polyphenols, anthraquinines, cynogenetic glycosides, amino acid in plant extracts.

Module-3.

Fibres: - study of fibres used in pharmacy such as cotton, silk, wool, nylon, glass wool, polyester and asbestos.

Pharmaceutical aids:- study of pharmaceutical aids like talc, diatomite, kaolin, bentonite, gelatin and natural colours.

Recommended Books:

1. Text book of Pharmacognosy by kokate C K, Purohit A P, Gokhale S B (Nirali Prakashan, Pune).
2. Trease G.E and Evans W. C., Pharmacognosy(Balliene Tindall, Eastbourne)
3. Text book of Pharmacognosy by T.E. Wallis.(CBS Publishers & Distributors, New Delhi)
4. Tyler V.E., Brady L.R. and Robbers J.E., Pharmacognosy(Len &Fibiger, Philadelphia)

SAMPLE TIME TABLE

MUZAFFARPUR INSTITUTE OF TECHNOLOGY								
ODD SEM (JULY- DEC 2018) TIME TABLE FOR 3 rd , 5 th & 7 th SEMESTER, B.PHARM, WITH EFFECT FROM 16.07.20								
DAY	SEMESTER	9 AM TO 10	10 -11 AM	11- 12 AM	12 -1 PM	2- 3 PM	3 PM	
MON	THIRD SEM	APHE II SK	PHARM ANAL II GT	PHARMACEUTICS III AB	PHARMACOGNOSY II NRB		CLAS	
	FIFTH SEM	PHARMACEUTICS V RKC	PHARMACEUTICS V LAB RKC					CLAS
	SEVENTH SEM	PHARMA. BIOTECH SNS	PHARM CHEM VII RP	PHARMA. INDUST. MANAG.	PHARMACOLOGY III RP		CLAS	
TUES	THIRD SEM	PHARMACEUTICS III AB	PHARM CHEM IV SW	PHARMACEUTICS III AB(T)	PHARM ANAL II GT(T)		PHARMA LA	
	FIFTH SEM	PHARM CHEM V SNS	PHARMACEUTICS VI AB	PHARMA CEUTICS V RKC	PHARMACOLOGY I SK		PHARM C S	
	SEVENTH SEM	PHARMACEUTICS VIII RKC	PHARM CHEM VII RP	PHARMACOLOGY III RP	PHARMACEUTICS VIII RKC(T)		PHARMA LA	
WED	THIRD SEM		PHARMACOGNOSY II NRB(T)	PHARMACOGONOSY II NRB	PHAR ANAL II GT		PHARMA II LA	
	FIFTH SEM	PHARMACOLOGY I SK	PHARM CHEM V SNS	PHARMACEUTICS VI AB	PHARMACOLOGY I SK(T)		PHARMA LA	
	SEVENTH SEM	PHARM CHEM VII RP(T)	PHARMACEUTICS VIII RKC	PHARM CHEM VII RP	ELECTIVE OPT		PHARM C	
THURS	THIRD SEM	APHE II SK(T)	PHARM CHEM IV SW	APHE II SK	PHARM CHEM IV SW(T)		PHARM A C	
	FIFTH SEM	PHARM CHEM V SNS	PHARMACEUTICS VI AB	PHARMACOGONOSY IV SW			PHARMA IV LA	
	SEVENTH SEM	PHARMACEUTICS VIII RKC	PHARMA. BIOTECH SNS(T)	PHARMACOLOGY III RP	ELECTIVE OPT		ELECTIVE	

FRI	THIRD SEM	APHE II SK	PHARMACUTICAL CHEMISTRY IV LAB SW			APHE I
	FIFTH SEM	PHARMACOGONOSY IV SW	PHARMACEUTICS V RKC	PHARMACOGONOSY IV SW(T)	PHARMACEUTICS V RKC(T)	PHARMA LAB C
	SEVENTH SEM		ELECTIVE OPT (T)	ELECTIVE OPT	PHARMA. BIOTECH.SNS	PHARMA III RK
SAT	THIRD SEM	PHARMACOGONOSY II NRB	PHARM CHEM IV SW	PHAR ANAL II GT	PHARMACEUTICS III AB	
	FIFTH SEM	PHARM CHEM V SNS(T)	PHARMACOLOGY I SK	PHARMACEUTICS VI AB	PHARMACOGONOSY IV SW	
	SEVENTH SEM	PHARMACOLOGY III RP(T)	PHARMA. INDUST. MANAG.	PHARMA. BIOTECH SNS		

2.Program Objectives (POs)

The graduates of the programme will possess:

1. The knowledge of core concepts of resins..
2. The knowledge of tannins.
3. Brief knowledge about volatile oils & phytochemical screening
4. Brief knowledge about pharmaceutical aids & fibres.

3. Course Outcomes (COs)

1. Recall The knowledge of Resins
2. Gain The knowledge of tannins
3. Gain brief knowledge about volatileoils & phytochemical screening the following enzymes: diastase, papain, pepsin, trypsin, pancreatin, pharmaceutical aids & fibres.

4. Mapping of COs with Pos

PO	CO1	CO2	CO3	CO4
1				
2				
3				
4				
5				
6				

7				
8				
9				
10				
11				
12				

5. Assessment Methods for Cos

5.1. Theory

S. No	Assessment Tools	Marks	Outcomes
1	Sessional Examination	20	CO1 CO2 CO3 CO4
2	Assignment	02	CO1 CO2 CO3 CO4
3	Presentation	02	CO1 CO2 CO3 CO4

4	Quizzes	01	CO1 CO2 CO3 CO4
5	Attendance	05	NA
6	University Examination	70	NA

5.2. Practical

S. No	Assessment Tools	Marks	Outcomes
1	Attendance	05	CO1 CO2 CO3 CO4
2	Experiment valuation	10	CO1 CO2 CO3 CO4
3	Internal Viva- voce	05	CO1 CO2 CO3 CO4
4	University Practical Exam	30	CO1 CO2 CO3 CO4

6. Delivery Methodology

Outcomes	Methods	Supporting Tools
CO 1	Chalk-Talk, Interactive classroom, ICT usage, Case study discussion about diseases, Group discussions, Web based learning	Board, Laptop, Projector, You Tube, WhatsApp, Google,

CO2	Chalk-Talk, Interactive classroom, ICT usage, Case study discussion about diseases, Group discussions, Web based learning	Board, Laptop, Projector, You Tube, WhatsApp, Google,
CO3	Chalk-Talk, Interactive classroom, ICT usage, Case study discussion about diseases, Group discussions, Web based learning	Board, Laptop, Projector, You Tube, WhatsApp Google,
CO4	Chalk-Talk, Interactive classroom, ICT usage, Case study discussion about diseases, Group discussions, Web based learning	Board, Laptop, Projector, You Tube, WhatsApp, Google,

7. Teaching plan

7.1. Theory

Lecture No.	Contents
1	Colophony, podaphyllum
2	jalap, cannabis
3	Myrrh, asafoetida
4	Balsam of tolu, balsam of peru.
5	Capcicum, benzoin
6	Turmeric, ginger
7	Gambir, black catechu.
8	Gall and myrobalan
9	Mentha, coriander
10	Cinnamon, cassia.
11	Lemon peel, orange peel
12	Lemon grass, citronella
13	Caraway, dill
14	Dill, spearmint
15	Clove, fennel
16	Nutmeg, eucalyptus
17	Chenopodium, cardamom
18	Valerian, musk
19	Palmarosa, gaultheria, sandal wood
20	Preparation of extract for phytochemical screening.
21	Screening of alkaloids, saponins in plant extracts.
22	Screening of cardenolides and bufadenolides in plant extracts.
23	Screening of flavonoids and leucoanthocyanidins in plant extracts.
24	Screening of tannins and polyphenols in plant extracts.
25	Screening of anthraquinones, cynogenetic glycosides in plant extracts.
26	Screening of amino acid in plant extracts.
27	Study of fibres used in pharmacy such as cotton, silk, wool, nylon, glass wool, polyester and asbestos.
28	Study of fibres used in pharmacy such as cotton, silk, wool.
29	Study of fibres used in pharmacy such as nylon, glass wool.
30	Study of fibres used in pharmacy such as polyester and asbestos.
31	Pharmaceutical aids: - study of pharmaceutical aids like talc, diatomite.
32	Pharmaceutical aids: - study of pharmaceutical aids like kaolin, bentonite.
33	Pharmaceutical aids: - study of pharmaceutical aids like gelatin and natural colours

7.2. Practical

Exp. No	Experiment
1	To study macroscopy, microscopy & powder microscopy of fennel & coriander
2	To study macroscopy, microscopy & powder microscopy of dill & clove
3	To study macroscopy, microscopy & powder microscopy of caraway & ginger
4	To study macroscopy, microscopy & powder microscopy of colophony & benzoin
5	To study macroscopy, microscopy & powder microscopy of asafoetida
6	Isolation of caffeine from tea
7	Isolation of casein from milk
8	Isolation of starch from potato
9	Isolation of lycopene from tomato