

PYDAH COLLEGE OF PHARMACY

(Approved by PCI, AICTE and Affiliated to Andhra University, Visakhapatnam)

Yanam Road, PATAVALA, KAKINADA-533461, E.G.Dt

Telephone: 0884-2315344/45 Email id: princpharma@pydah.edu.in website: www.pydahpharmacy.edu.in



Education & Beyond

Department of pharmacy

Course File Enclosures

Year/Sem: 2ND YEAR

Name of the Subject: PHARMACOGNOSY AND
PHYTOCHEMISTRY

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VISION AND MISSION OF COLLEGE

VISION:

PYDAH College of Pharmacy envisions itself as a world-class hub for pharmacy research and technical knowledge, aiming to make a significant contribution in wisdom and humanity for the development of the apprentices into highly disciplined, internationally competent individuals with high ethical standards.

PYDAH COP envisions itself as a centre of excellence for pharmacy education, research, and the on-going professional development of pharmacists in rural areas. The institution's many programs, which are supported by stakeholders, are helping to accomplish the objective.

MISSION:

- To create professionally competent and moral pharmacists of global standards to meet the demands of rural to global healthcare
- To motivate students to pursue pharmacy education of world wide standards
- To provide an academic environment that is challenging
- To foster a safe, orderly and disciplined college environment
- To inspire and challenge students to set high academic and research standards and to meet high expectations
- To develop, promote and nurture ethical values

Course Objectives & Outcomes

Objective:

- To make student aware of medicinal uses of various naturally occurring drugs in history, sources, distribution methods of cultivation, active constituents, medicinal uses, identification tests, preservation methods and adulterants.

Outcomes:

- To understand basic principles of cultivation, collection, storage of crude drugs.
- To know the sources of crude drugs and its chemical nature.
- To know the active constituents and uses of crude drugs.
- To understand the applications of primary and secondary metabolites of plants.
- To know the evaluation techniques for herbal drugs.
- To do microscopic and morphological evaluation of crude drugs.

SYLLABUS

2.3 PHARMACOGNOSY & PHYTOPHARMACEUTICALS (THEORY)

- 1 Introduction.
- 2 Definition, history and scope of Pharmacognosy.
- 3 Classification of crude drugs.
- 4 Cultivation, collection, processing and storage of crude drugs.
- 5 Detailed method of cultivation of crude drugs.
- 6 Study of cell wall constituents and cell inclusions.
- 7 Microscopical and powder Microscopical study of crude drugs.
- 8 Study of natural pesticides.
- 9 Detailed study of various cell constituents.
- 10 Carbohydrates and related products.
- 11 Detailed study of carbohydrates containing drugs. (11 drugs)
- 12 Definitions, sources, method of extraction, chemistry and method of analysis of lipids.
- 13 Detailed study of foils.
- 14 Definition, classification, chemistry and method of analysis of protein.
- 15 Study of plant fibers used in surgical dressings and related products.
- 16 Different methods of adulteration of crude drugs.

Textbooks

- a. Pharmacognosy by G.E. Trease & W.C. Evans.
- b. Pharmacognosy by C.K. Kokate, Gokhale & A.C. Purohit.

Reference books

- a. Pharmacognosy by Brady & Tyler. E.
- b. Pharmacognosy by T.E. Wallis.
- c. Pharmacognosy by C.S. Shah & Qadery.
- d. Pharmacognosy by M.A. Iyengar.

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ROLLIST

PHARM.D2NDYEARNAMELIST

AY-2022-23

S.NO	REGD.NO	STUDENTNAME
1	623159802001	AKURI VARUN KUMAR
2	623159802002	BOMMALATA PRUDVIJA
3	623159802003	CHINTA APARNA
4	623159802004	DASARI GOVARDHAN
5	623159802005	ENNADULA MAVYA SARO RAJ
6	623159802006	ERUGULA ABHINAYA SREE
7	623159802007	JAKKI SNEHA SUDHA
8	623159802008	KATTIVARAPU RUTHWIK
9	623159802009	KOMAKULA SWARNANJALI
10	623159802010	MADDIPUDI AISHWARYA
11	623159802011	MATHI PRASANTHI
12	623159802012	MIRIYALA SUBHA SREE
13	623159802013	MUDUNURI HARSHINI
14	623159802014	MUTYA VEERA VENKATA SRILAKSHMI KALYANI
15	623159802015	NIMAKAYALA SIVA SAI PRASAD
16	623159802016	PALIVELA MOURYA
17	623159802017	PITHANI SANJEEV
18	623159802018	RAMAVATH VISHNU VARDHAN NAIK
19	623159802019	SABBITHI LAKSHMI VENKATA AKHILA
20	623159802020	SAKA PRIYA SATHWIK
21	623159802021	SHAIK JABIULLA
22	623159802022	VENNA KALYANI
23	623159802023	YALAMARTHI SRAVANI
24	623159802024	YELETI PRAVEEN KUMAR



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CLASSTIMETABLE

PYDAH COLLEGE OF PHARMACY									
IIPHARM-DT IMETABLE (2021 ADMITTED BATCH)									
DAY	9.15AM-10.05AM	10.05AM-10.55AM	10.55AM-11.05AM	11.05AM-11.55AM	11.55AM-12.45PM	12.45PM-1.30PM	1.30PM-2.20PM	2.20PM-3.10PM	3.10PM-4.00PM
MONDAY	COGLAB					LUNCH BREAK	PH.THRP	CP	COG
TUESDAY	COG	MB		CP	PH.THRP		PATHO	LIB	COL
WEDNESDAY	CP	PH.THRP		MB	PATHO		COL	LIB	
THURSDAY	MB	LIB	BREAK	PATHO	SEM		CP	COL	PH.THRP
FRIDAY	PH.THRPLAB						COL	SEM	COG
SATURDAY	MBLAB						COG	MB	PATHO

S.NO	SUBJECT NAME	FACULTY
1	COG: PHARMACOGNACY (T&L)	A.VENKATESWRARO
2	MB: MICROBIOLOGY (T&L)	Dr.BEEBA JOHN
3	CP: COMMUNITY PHARMACY (T)	M.TANUJA
4	COL: PHARMACOLOGY (T)	G.SRIVIDYA
5	PATHO: PATHOPHYSIOLOGY (T)	Sk.SAIRA BHANU
6	PH.THRP: PHARMACOTHERAPEUTICS (T&L)	Dr.K.TEJASWINI



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SUBJECTTIMETABLE

PYDAH COLLEGE OF PHARMACY									
IIPHARM-DT IMETABLE (2021 ADMITTED BATCH)									
DAY	9.15AM-10.05AM	10.05AM-10.55AM	10.55AM-11.05AM	11.05AM-11.55AM	11.55AM-12.45PM	12.45PM-1.30PM	1.30PM-2.20PM	2.20PM-3.10PM	3.10PM-4.00PM
MONDAY	COGLAB					LUNCH BREAK			COG
TUESDAY	COG								
WEDNESDAY									
THURSDAY									
FRIDAY									COG
SATURDAY								COG	




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Education & Beyond

ACADEMICCALENDER



**AU COLLEGE OF PHARMACEUTICAL SCIENCES
ANDHRA UNIVERSITY, VISAKHAPATNAM -530 003**

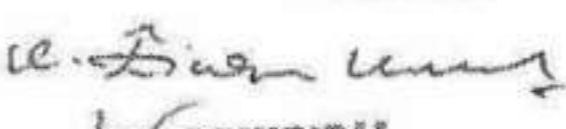
**ACADEMIC CALENDAR FOR PHARM. D & PHARM.D (PB) COURSES
FOR THE ACADEMIC YEAR 2022-2023**

YEAR END PATTERN

S. No	Class	Year End					
		Date of Commencement of Class work	1 st mid Examination	2 nd mid Examination	Date of Closing of Instructions	Date of Commencement of Theory Examination	Dates for Practical Examinations
1	VI/VI Pharm. D (2017-18 Batch) Pharma D PB 2020-21	From 16-08-2022 (Internship) To 03-08-2023					
2	V/VI Pharm. D (2018-19 Batch) Pharma D PB 2021-22	07-07-2022	14-11-2022	13-03-2023	21-03-2023	27-03-2023	
3	IV/VI Pharm. D (2019-20 Batch) & PB (2022-23 Batch)	18-07-2022	21-11-2022	20-03-2023	27-03-2023	03-04-2023	11-04-2023 to 13-04-2023
4	III/VI Pharm. D (2020-21 Batch)	01-08-2022	05-12-2022	27-03-2023	03-04-2023	10-04-2023	20-04-2023 to 29-04-2023
5	II/VI Pharm. D (2021-22 Batch)	25-10-2022	20-02-2023	03-07-2023	10-07-2023	17-07-2023	26-07-2023 to 03-08-2023
6	I/VI Pharm. D (2022-23 Batch)						

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1. DUSSEHRA HOLIDAYS 02-10-2022 to 05-10-2022
2. CHRISTMAS HOLIDAYS 24-12-2022 to 26-12-2022
3. PONGAL VACATION 03-01-2023 to 17-01-2023


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Andhra University
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LESSONPLAN

Summary of the Lecture Plan

Topic	Lectures	Hours
History and scope of Pharmacognosy	Definition of pharmacognosy, history, scope	2
	Organized and unorganized drugs, alphabetical, taxonomical classification	1
Classification of crude drugs	Chemical and pharmacological classification	1
Cultivation, collection, processing and storage of crude drugs	Methods of propagation	1
	Advantages and disadvantages of cultivation	1
	Factors affecting cultivation	5
	Plant growth hormones	2
	Collection, processing and storage of crude drugs	4
Detailed method of cultivation of crude drugs	Mutation, polyploidy, hybridization, PTC	3
Study of cell wall constituents and cell inclusions	Cell wall constituents	2
	Primary metabolites	2
Detailed study of various cell constituents	Secondary metabolites	5
	Cell structures and organelles	3
Carbohydrates and related products	Chemistry of carbohydrates, classification and examples	2
Detailed study of carbohydrates containing drugs.	11 drugs containing carbohydrates - acacia, tragacanth, isapgol, agar etc	6
Method extraction, chemistry and analysis of lipids	Cold expression methods, analysis of lipids, saponification value, acid value Herbal drugs with fixed oils	5
Detailed study of oils	Chemistry of volatile oils, pharmacognostical studies of volatile oil containing drugs	7
Chemistry and method of analysis of protein	Structure of proteins, pharmacognostical studies on proteins from natural sources	5

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Plantsfibers,surgical dressingsandrelated products	Plantfibreslikecotton,jute Animalfibreslikewool,silk Mineralfibres-asbestos,etc Surgicaldressings	5
Differentmethodsof adulterationofcrude drugs	Typesofadulteration	2
		TOTAL-64



rest
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QUESTIONBANK

Unit-1

10M

Give an account of history, development and scope of Pharmacognosy. 5M

Define Pharmacognosy. Explain the various scopes of Pharmacognosy.

Enlist the different natural sources of the crude drugs and explain.

Outline the present status of Pharmacognosy with its importance in each area. Write a note on future scope of Pharmacognosy.

2M

Define Pharmacognosy and who coined the term Pharmacognosy

Define crude drug.

Define Pharmacognosy and phytopharmaceuticals.

Explain about the traditional systems of medicine.

Brief note on ancient history of Pharmacognosy and its importance.

Unit-2

10M

Discuss about various methods of classification of crude drugs along with their merits and demerits.

Q.2 Define crude drug. Classify crude drugs based on their Alphabetical, pharmacological, taxonomical, morphological, chemical nature along with suitable examples.

5M

What are the different classes of secondary metabolites. Write a short note on tannins.

Explain chemical, taxonomical and chemo-taxonomical classification with examples.

Write a note on differences between organized and unorganized type of crude drugs. 2M

Q.1. List out different systems of classification of crude drug.

Q.2 Classify the crude drugs based on the alphabetical classification with examples.

Explain morphological classification by giving its merits and demerits.

Differentiate organized and unorganized drugs with suitable examples.

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Education & Beyond

Write in brief about taxonomical classification.

Write about various parameters considered in chemotaxonomical classification.

Explain the importance of chemical classification of crude drugs.

Write a short note on Pharmacological classification along with advantages and disadvantages.

Unit-3

10M

Give a detailed account on various methods of cultivation, collection, and processing of crude drugs. Q2.

Explain the various factors affecting or influencing the cultivation of crude drugs.

Q3. Write an account on method and significance of drying, preservation and storage of crude drugs along with examples.

Explain briefly about the conservation of medicinal plants. 5M

Elaborate on the cultivation of medicinal plants, its merits and demerits.

Q.2 Explain the various steps subsequent to collection of medicinal plants. Q3.

Describe the vegetative method of propagation of medicinal plants.

Define soil fertility. Explain the importance of soil in cultivation of medicinal plants.

Explain various methods of processing of crude drugs. 2M

Write a note on edaphic factor.

Plant growth regulations along with their significance

Significance of moisture content and its control in crude drugs.

What is grafting, layering, cutting, fermentation and inoculation techniques employed in vegetative propagation.

What is coppicing and felling.

Define mulching.

Enlist different types of drying.

Write about different methods of crop improvement.

What are different processing parameters for the preparation of crude drugs to the market.

What are the advantages and disadvantages of cultivation.

Methods of preservation of crude drugs.

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Education & Beyond

Enumerate the commonly used fertilizers.

Unit-4

10M

Explain in detail the cultivation and collection and storage of isapgol and Rauwolfia.

Explain in detail the cultivation and collection and storage of cinchona and fennel.

Explain in detail the cultivation and collection and storage of clove and digitalis. 5M

Explain the method of cultivation and collection of senna.

Explain the method of cultivation and collection of cardamom.

Explain the method of cultivation and collection of opium. 2M

Write the source, chemical constituents and uses of senna.

Write the source, chemical constituents and uses of Datura.

Write the source, chemical constituents and uses of isapgol.

Write the source, chemical constituents and uses of cinchona.

Write the source, chemical constituents and uses of cardamom.

Write the source, chemical constituents and uses of clove.

Write the source, chemical constituents and uses of opium.

Unit-5

10M

Draw a neat labelled diagram of plant cell and explain its various cell wall constituents and inclusions.

Enumerate the differences between plant and animal cell. Explain in detail the various cell inclusions. 5M

Q.1. Write a note on various cell wall constituents. Q2.

Write short notes on plant cell inclusions.

2M

Q.1. Write short notes on plant cell secretory products. Q2.

Define alkaloids and give some examples.

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Education & Beyond

Define glycosides with examples.

Write short notes on tannins and resins.

Write short notes on latex and volatile oils.

Unit-6

10M

What are natural pesticides. Give their advantages over synthetic ones. Write the Pharmacognosy of any one natural pesticide.

5M

Write the advantages and disadvantages of natural pesticides.

Explain the role of neem and pyrethrum as natural pesticides.

Discuss the various natural pesticides along with their mode of action. 2M

Write the mode of action of tobacco as pesticide.

Give the source and chemical constituents of neem.

Give the source and chemical constituents of pyrethrum.

Give the source and chemical constituents of tobacco.

What are insecticides and rodenticides. Give examples.

What is pest and pesticide. Give examples.

Unit-7

10M

Write in detail the various plant cell constituents with examples.

Explain in detail the role of plant hormones in regulating plant growth with examples. 5M

Write short notes on primary and secondary metabolites with examples.

Explain briefly the various plant hormones and their functions.

Write notes on ethylene and Abscisic acid as plant growth inhibitors. 2M

Discuss the various natural and synthetic auxins with examples.

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Education & Beyond

Explain the gibber skeleton. Write the structure of gibberlic acid.

Discuss the natural and synthetic cytokinins with examples.

Write short notes on ethylene.

Write short notes on Abscisic acid.

Unit-8

10M

Define carbohydrates. Write their classification with examples.

What are carbohydrates? Write the pharmacognosy of any two drugs that contain carbohydrates. 5M

Write the source, constituents and uses of acacia and honey.

Write the source, chemical tests and uses of Tragacanth and Isapgol. 2M

What is pectin? Name the source of pectin.

Write the chemical constituents and uses of honey.

Write the method of preparation of honey.

Give the source and uses of acacia.

Write the source and uses of strculiagum

Unit-9

10M

Discuss in detail the various methods of analysis of lipids and fixed oils.

Q2. Define and classify lipids with examples. Write their chemistry and pharmacognosy of any one fixed oil. 5M

Explain the general methods of extraction of lipids.

Q.2 Describe the chemical method of analysis of lipids.

Define saponification value. Explain the principle and procedure for the determination of saponification value.

Write the chemistry of lipids. 2M

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Define saponification value and give its significance.

Define acid value and give its significance.

Define iodine value and ester value.

Write short notes on rancidity.

Write the biological source of any one fixed oil.

Write the source, constituents and uses of castor oil.

Write the chemical constituents and uses of cod liver oil.

Unit-10

10M

Define and classify proteins with examples. Write the Pharmacognosy of any one protein containing drug.

Write in detail the chemistry, method of analysis and classification of proteins. 5M

Define and classify proteins with examples.

What are proteins? Write their chemistry and method of analysis. 2M

Give the general properties of proteins.

What are derived proteins. Give examples.

Q3. Explain conjugated proteins with examples.

Explain simple proteins with examples.

Write the source and uses of gelatin.

Unit-11

10M

What are fibres? Classify them with examples. Write the Pharmacognosy of any one fibre.

What are surgical dressings? Classify them with examples. Write their ideal properties.

Write the Pharmacognosy of any two fibres obtained from animal source. 5M

Classify fibres with examples and explain in detail about Jute.

Describe the plant fibres used in surgical dressing.

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Describe the source, method of preparation and uses of absorbent Cotton.

Describe the method of preparation of Silk and Wool. 2M

Define plant and animal fibres with examples.

Give the chemical tests for plant fibres.

Give the chemical tests for animal fibres.

Give the chemical tests for Cotton.

Give the source, constituents and uses of Cotton.

Give the source, constituents and uses of Jute.

Give the source, constituents and uses of Silk

Give the source, constituents and uses of Hemp.

Give the method of preparation of Hemp.

Give the source, constituents and uses of Wool.

Unit-12

10M

Explain in detail the various methods of adulteration of crude drugs with examples.

Explain the five different methods used for adulteration of crude drugs and discuss.

Define adulteration. Explain the various methods of adulteration with examples.

What do you mean by deliberate and undeliberate adulteration give examples. 5M

Define adulteration and explain the various methods of adulteration.

Define adulteration and give the reasons for adulteration with examples.

What do you mean by deliberate and undeliberate adulteration with examples.

Discuss with examples on adulteration of powders and liquid drugs.

Name the different methods of adulteration of crude drugs and explain with examples.

What is adulteration? Explain undeliberate adulteration of crude drugs with examples.

Name five different methods used for adulteration of crude drugs and explain with examples. 2M

Define Adulteration and Substitution.

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What do you mean by deliberate and undeliberate adulteration?

Give the various reasons of adulteration

Artificial adulteration with examples.

Name the different methods of adulteration of crude drugs

Define adulteration and sophistication.

What are exhausted drugs? Give examples.

What is harmful adulteration? Give examples.

Give the difference between substitute and official drug with example.

What is substitution? Give examples.

What is deterioration? Give example.

Adulteration of crude drugs with artificial adulterants.

ASSIGNMENT QUESTIONS

1. Define Pharmacognosy. Explain the various scopes of Pharmacognosy.
2. Define crude drug. Classify crude drugs based on their Alphabetical, pharmacological, taxonomical, morphological, chemical nature along with suitable examples.
3. Discuss the various natural pesticides along with their mode of action.
4. Draw a neat labelled diagram of plant cell and explain its various cell wall constituents and inclusions.
5. Explain the role of neem and pyrethrum as natural pesticides.
6. Write short notes on primary and secondary metabolites with examples.
7. What are surgical dressings? Classify them with examples. Write their ideal properties.
8. What are proteins? Write their chemistry and method of analysis.

MIDQUESTION PAPERS

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II PHARMD – I MID sub:- Pharmacognosy-II Marks 30 M

II Answer any 4 out of 6 4X5=20

- 1&2. Write about various factors affecting cultivation of crude drugs 10M
3. Explain the advantages and disadvantages of Sexual method of propagation.
4. Give the detail about collection of different types of crude drugs
5. Write a brief morphological classification of crude drugs with examples.
6. Can you give the scope of pharmacognosy in detail.

I Answer all the questions 5X2=10

1. Give the definition of crude drug.
2. Define soil fertility and write the importance.
3. Differentiate organised and unorganised crude drugs.
4. Give some examples for crude drugs for roots, seed and barks
5. Give the definition of biopesticides with 2 examples.

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Pharm- D2nd year MID-2

sub:- PHARMACOGNACY Max Marks: 30M

I. ANSWER THE FOLLOWING QUESTIONS

5X2=10M

1. Can you give biological source for two carbohydrate drugs that exhibit bulk laxative action.
2. Report identification test for mucilage.
3. Write the identification test for lignin.
4. Give chemical tests for identification of starch.
5. List out microscopic characters

II. ANSWER ANY 4 QUESTIONS

4X5=20M

1. What are Natural pesticides? Explain in detail about natural pesticides with relevant examples.
2. Write in brief on macroscopic characters used for study of crude drugs.
3. Draw a neat sketch, explain the significance of trichomes in crude drug study.
4. Differentiate cinchona and cinnamon barks.
5. Give a detail note on macro, powder & microscopic study of Nux vomica.
6. Write a brief note on macro, powder & microscopic study of Senna (or) Fennel.

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Yanam Road, PATAVALA, KAKINADA-533461, E.G.Dt

Telephone: 0884-2315344/45 Email id: princpharma@pydah.edu.in website: www.pydahpharmacy.edu.in



Education & Beyond

PYDAH COLLEGE OF PHARMACY, PATAVALA

II Year Pharm.D MID-3 SUB: COGNOSY MARKS:30M Time:1hr30min

I. Answer any two of the following.

5×2=10M

1. Classify lipids with examples.
2. Write source & uses of cod liver oil.
3. Report the identification tests used for proteins.
4. Give confirmation test for wool.
5. Write the identification test for lignin.

II. Write any four of the following

4×5=20M

- 1.(a) Differentiate between substituent & Adulterant.
(b) Write in brief on different types of Adultration.
- 2.(a) Give a note on gelatin.
(b) Discuss the source, chemistry & uses of Arachis oil.
3. Write in detail on methods used for extraction of lipids.
- 4.(a) Chemical constituents of bees wax
(b) Saponification value helps in evaluation of purity in fixed oils.
5. Write a detail note on plant fibres used in surgical dressings.
6. Define Peroxide value, Iodine value, Radification..

PREVIOUS UNIVERSITY QUESTION PAPERS

II/VIPharm.DDEGREEEXAMINATION,

Second Year (Batch-2022)

PHARMACOGNOSY AND PHYTOPHARMACEUTICALS

(Effective from the admitted batch of 2008-2009)

Time: Three hours

Maximum: 70 marks

PART A - (10 × 2 = 20 marks)

Answer ALL questions.

Each question carries 2 marks.

1. Define Pharmacognosy.
2. Write a note on storage of crude drugs.
3. Write in detail about any two carbohydrates containing drugs.
4. Write the confirmation test for wool.
5. What is the identification test for liganin?
6. Define and classify lipids with examples.
7. Mention two natural pesticidal drugs.
8. Differentiate between substituent and adulterant.
9. Write biological source for two carbohydrate drugs that exhibit bulk laxative action.
10. the identification test for mucilage.

PART B - (5 × 10 = 50 marks)

Answer any FIVE questions.

All questions carry equal marks.

11. Write the cultivation, collection and processing of crude drugs.
12. Write a detailed note on methods of adulteration of crude drugs.

13. Write a detailed note on plant fibres used in surgical dressings.
14. Explain in detail about oils.
15. What are natural pesticides? Explain in detail about natural pesticides with relevant examples.
16. Write a detailed note on classification of crude drugs.
17. Write the biological source, evaluation and uses of an unorganised protein drug of plant origin.
18. Differentiate Cinchona and Cinnamon barks.

II/VI Pharm. D DEGREE EXAMINATION.

Second Year (Batch-2021)

PHARMACOGNOSY AND PHYTOPHARMACEUTICALS

(W.e.f. 2008-09 A.B)

Time: Three hours

Maximum: 70 marks

SECTION A (10 × 2 = 20 marks)

Answer ALL the questions.

1. Who is Sushruta?
2. Write advantages of herbs sourced from farming and cultivation.
3. What are microscopic characters?
4. Write applications of chemical classification of crude drugs.
5. Classify lipids with examples.
6. Write significance of stomatal index in crude drug evaluation.
7. Write source and uses of Cod Liver Oil.
8. Write identification tests used for proteins.
9. Write chemical constituents of beeswax.

10. Write chemical tests for identification of starch.

SECTION B (5x10=50 marks)

Answer any FIVE questions.

11. Write in detail on storage of crude drugs.

12. Explain the following

(a) Lycopodium spore method

(b) Peroxide value.

13. Write in detail on methods used for extraction of lipids. 14.

(a) Write a note on factors affecting cultivation of crude drugs.

(b) Write in brief on macroscopic characters used for study of crude drugs.

15. Give reasons for the following:

(a) Biopesticides are better than synthetic pesticides.

(b) Secondary metabolite production alters with temperature.

(c) Saponification value helps in evaluation of purity in fixed oils.

16. (a) Write a note on types of soils used for cultivation.

(b) With neat sketch explain the significance of trichomes in crude drug study.

17. (a) Write a note on gelatin.

(b) Discuss the source, chemistry and uses of Arachis oil.

18. (a) Write in brief on different types of adulteration.

(c) Write in brief on silk.

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Education & Beyond

TOPICS BDEYONDSYLLABUS

1. Modern methods of extraction, application of latest techniques like Spectroscopy,
2. chromatography and electrophoresis in the isolation, purification and identification of crude drugs
3. Role of Pharmacognosy in allopathy and traditional systems of medicine namely, Ayurveda, Unani, Siddha, Homeopathy and Chinese systems of medicine.
4. Novel medicinal agents from marine sources
5. Applications of plant tissue culture in pharmacognosy.
6. Edible vaccines

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Education & Beyond

INTERNAL MARKS



ANDHRA UNIVERSITY

Page 1

@AUCC

Pharm.D - Doctor of Pharmacy
Internal Marks Sheet, AUGUST-2024 .


College : PYDAH COLLEGE OF PHARMACY (598)


Subject : Pharmacognosy and Phytopharmaceuticals (TH-2-3)


Year : SECOND YEAR

Max. Marks : 30.

Regd. Number	Candidate Name	Sem	Month-Year	Marks
623159802001(R)	AKURI VARUN KUMAR	2-0	08-2024	29
623159802002(R)	BOMMALATA PRUDVIJA	2-0	08-2024	30
623159802003(R)	CHINTA APARNA	2-0	08-2024	28
623159802004(R)	DASARI GOVARDHAN	2-0	08-2024	29
623159802005(R)	ENNADULA MAVYA SARO RAJ	2-0	08-2024	30
623159802006(R)	ERUGULA ABHINAYA SREE	2-0	08-2024	29
623159802007(R)	JAKKI SNEHA SUDHA	2-0	08-2024	27
623159802008(R)	KATTIVARAPU RUTHWIK	2-0	08-2024	26
623159802009(R)	KOMAKULA SWARNANJALI	2-0	08-2024	28
623159802010(R)	MADDIPUDI AISHWARYA	2-0	08-2024	30


Signature of Principal


College Seal


Signature of Internal Exam Incharge

Instructions:

1) After Internal Signature is done, Please Submit this Marks Sheet in Concerned Examination Section.

Secure Code: f019e6ce6f61321c781db76969e3c26e



ANDHRA UNIVERSITY

Pharm.D - Doctor of Pharmacy
Internal Marks Sheet, AUGUST-2024 .

College : PYDAH COLLEGE OF PHARMACY (598)

Subject : Pharmacognosy and Phytopharmaceuticals (TH-2-3)

Year : SECOND YEAR

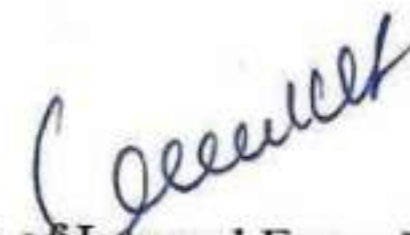
Max. Marks : 30

Regd. Number	Candidate Name	Sem	Month-Year	Marks
623159802011(R)	MATHI PRASANTHI	2-0	08-2024	25
623159802012(R)	MIRIYALA SUBHA SREE	2-0	08-2024	30
623159802013(R)	MUDUNURI HARSHINI	2-0	08-2024	29
623159802014(R)	MUTYA VEERA VENKATA SRILAKSHMI KALYANI	2-0	08-2024	29
623159802015(R)	NIMMAKAYALA SIVA SAI PRASAD	2-0	08-2024	28
623159802016(R)	PALIVELA MOURYA	2-0	08-2024	30
623159802017(R)	PITHANI SANJEEV	2-0	08-2024	29
623159802018(R)	RAMAVATH VISHNU VARDHAN NAIK	2-0	08-2024	24
623159802019(R)	SABBITHI LAKSHMI VENKATA AKHILA	2-0	08-2024	30
623159802021(R)	SHAIK JABIULLA	2-0	08-2024	28


Signature of Principal



College Seal


Signature of Internal Exam Incharge

Instructions:

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ANDHRA UNIVERSITY

Pharm.D - Doctor of Pharmacy
Internal Marks Sheet, AUGUST-2024 .


College : PYDAH COLLEGE OF PHARMACY (598)

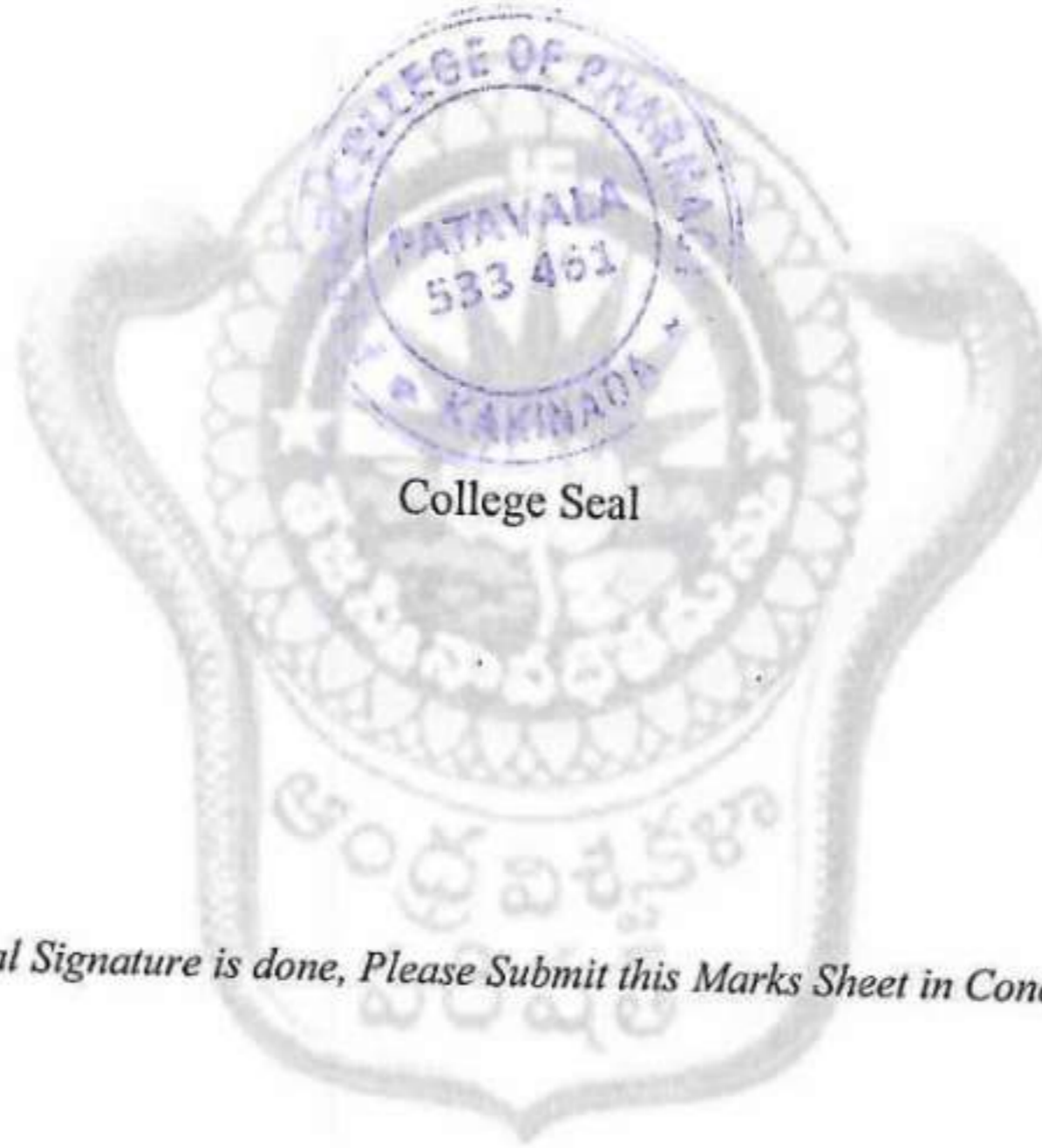
Year : SECOND YEAR

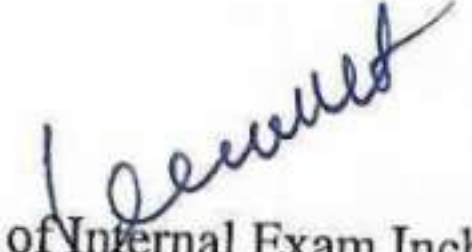
Subject : Pharmacognosy and Phytopharmaceuticals (TH-2-3)

Max. Marks : 30

Regd. Number	Candidate Name	Sem	Month-Year	Marks
623159802022(R)	VENNA KALYANI	2-0	08-2024	30
623159802023(R)	YALAMARTHI SRAVANI	2-0	08-2024	30
623159802024(R)	YELETI PRAVEEN KUMAR	2-0	08-2024	27


Signature of Principal




Signature of Internal Exam Incharge

Instructions:

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Secure Code: f019e6ce6f61321c781db76969e3c26e

LIST OF RESOURCES

PubMed: A free search engine accessing primarily the MEDLINE database of references and abstracts on life sciences and biomedical topics.

ScienceDirect: Provides access to a wider range of scientific journals and articles, including pharmacognosy-related research.

GoogleScholar: A freely accessible web search engine that indexes the full text or metadata of scholarly literature across an array of disciplines, including pharmacognosy.

Phytochemical Analysis: An international journal devoted to the publication of original articles concerning the development and application of techniques in the field of natural product chemistry.

Journal of Ethnopharmacology: Publishes papers concerning the ethnomedical use of plants and their derivatives, including traditional medicine, phytochemistry, and pharmacology.

Pharmacognosy Magazine: An open-access peer-reviewed journal dedicated to the dissemination of research articles in the field of pharmacognosy.

Phytotherapy Research: A peer-reviewed medical journal focusing on the efficacy, safety, and mechanisms of action of plant-based medicines.

American Journal of Pharmacognosy: Publishes original research articles, review articles, and clinical studies related to pharmacognosy and phytochemistry.

Pharmacognosy Reviews: An open-access, peer-reviewed journal that publishes reviews, mini-reviews, original articles, and short communications in all areas of pharmacognosy.

The Journal of Natural Products: Published by the American Chemical Society, this journal covers the chemistry and biochemistry of naturally occurring compounds.

These resources should provide you with a comprehensive overview of current research and developments in the field of pharmacognosy.




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Education & Beyond

RESULTSHEET

COLLEGE:598 - PYDAH COLLEGE OF PHARMACY

REGD. NO (2023 A.B)	NAME	PATHOPHYSIOLOGY(I)	PHARMACEUTICAL MICROBIOLOGY(2)	PHARMACOGNOSY AND PHYTOPHARMACEUTICALS(3)	PHARMACOLOGY- COMMUNITY PHARMACY(5)	PHARMACOTHERAPEUTICS- (6)	PHARMACEUTICAL MICROBIOLOGY PRACTICAL(7)	PHARMACOGNOSY AND PHYTOPHARMACEUTICALS PRACTICAL(8)	PHARMACOTHERAPEUTICS- PRACTICAL(9)	TOTAL SGPA	CGPA	CLASS	REMARKS
623159802001	AKURI VARUN KUMAR	85 GRADE	75	81	67	76	78	93	86	-	-	727	PASSED IN SECOND YEAR
623159802002	BOMMALATA PRUDVILA	85 GRADE	84	80	74	79	83	95	91	-	-	759	PASSED IN SECOND YEAR
623159802003	CHINTA AFARNA	82 GRADE	78	78	58	74	76	92	78	-	-	699	PASSED IN SECOND YEAR
623159802004	DASARI GOVARDHAN	89 GRADE	72	79	68	75	84	91	85	-	-	722	PASSED IN SECOND YEAR
623159802005	ENNAJULA MAYYA SARO RAJ	82 GRADE	80	79	68	76	78	82	83	-	-	713	PASSED IN SECOND YEAR
623159802006	ERUGULA ABHINAYA SREE	85 GRADE	84	80	69	78	79	95	83	-	-	741	PASSED IN SECOND YEAR
623159802007	JAKKI SNEHA SUDHA	81 GRADE	75	80	61	76	73	88	78	-	-	691	PASSED IN SECOND YEAR
623159802008	KATTIVARAPU RUTHWIK	77 GRADE	75	75	56	74	76	84	76	-	-	671	PASSED IN SECOND YEAR
623159802009	KONAKULA SWARNANJALI	79 GRADE	83	80	74	78	83	87	84	-	-	734	PASSED IN SECOND YEAR
623159802010	MADDIPUDI AISHWARYA	87 GRADE	87	72	75	78	88	95	92	-	-	762	PASSED IN SECOND YEAR
623159802011	MATHI PRASANATHI	74 GRADE	71	72	59	76	74	85	76	-	-	660	PASSED IN SECOND YEAR
623159802012	MIRIYALA SUBHA SREE	85 GRADE	77	84	62	78	76	85	80	-	-	708	PASSED IN SECOND YEAR
623159802013	MUDUNURI HARSHINI	83 GRADE	82	78	64	81	79	87	87	-	-	727	PASSED IN SECOND YEAR
623159802014	MUTYA VEERA VENKATA SRILAKSHMI	86 GRADE	85	82	69	80	86	95	92	-	-	767	PASSED IN SECOND YEAR

REGD. NO (2022 A.B)	NAME	PATHOPHYSIOLOGY(I)	PHARMACOTHERAPEUTICS-I (I)(6)	PHARMACOTHERAPEUTICS-II PRACTICAL(9)	TOTAL	SGPA	CGPA	CLASS	REMARKS	PASSED IN SECOND YEAR	
623159802016	PALVELA MOURYA	77	78		65	76	77	85	86	81	710
623159802017	PITHANI -SANJEEV	76	75		68	75	75	89	94	78	710
623159802018	RAMAVATH VISHNU VARDHAN NAIK	66	67		59	70	70	78	84	76	646
623159802019	SABBITHI LAKSHMI VENKATA AKHILA	84	83		81	81	79	86	95	92	762
623159802021	SHAIK JABIJULLA	69	60		65	73	71	78	84	76	652
623159802022	VENNA KALYANI	84	77		72	80	75	88	85	86	730
623159802023	YALAMARTHI SRAVANI	81	79		65	72	79	83	84	79	702
623159802024	YELETI PRAVEEN KUMAR	78	71		72	77	76	78	85	82	695
622159802006	CHINTA VANI JAYA RAM	67	64	88							
622159802013	JILLELLA SPANDANA	68	67	72							

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Education & Beyond

PASSPERCENTAGE

S.NO	NUMBEROF STUDENTS	NUMBEROFSTUDENTS ATTENDED EXAM	NUMBER OF STUDENTSPASSED	PASS PERCENTAGE
1	24	24	24	100%




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PYDAH
GROUP

Education & Beyond

SAMPLE ASSIGNMENT SHEET

Clove:

Synonym:

Caryophyllus,
Eugenia aromatic
Family: Myrtaceae

dried fruits of
Feeneculum vulgare
Millen

Volatile oil:
Eugenol

Epidermal tissue with
stomata collenchyma
and parenchyma &
spongy parenchyma
Carminic acid

Cinchona

Synonym:

Cinchona bark,
Jesuit's bark,
Peruvian bark.
Family: Rubiaceae

dried bark of
Cinchona species
"Cinchona callisaya"
Cinchona ledgeriana
Cinchona officinalis
Cinchona succirubra

Quinoline alkaloids:
Quinine, Quinidine,
Cinchonine,
Cinchocidine

Thin cell contains
dark reddish in
colour thin walled
cells contains
amorphous reddish
biogen matter

antimalar
& bitter to

Ephedra:

Synonym: Joint-pine,
Jointfir, Brigham

tea / Mormon-tea

Family:

Gnetaceae

Dried young stem
of *Ephedra gerardii*
Ephedra and
Ephedra nebradensis
Ephedra
Equisetina

alkylamine alkaloids:
ephedrine, d-ephedrine,
ephedrine

thin & long cylindrical
it has outer layer
of thin walled cells
Covered with thick
waxen stomata

In asthma
whooping c

Name of the drug: Quassia Biological Source: Chemical Constituents

Synonym: Amargo, bitterash, bitterwood; or kambi grande (Spanish for big man) family: Simarubaceae

Dried wood of stem of *Mesquion excelsa* [*Picroena excelsa*] Quassia hecquassin

Microscopical Characters: Medullary rays are one to five seriate but usually triseriate. vessels are thick walled & border pitted.

Uses: Bitter tonic, insecticide

Cinnamon:

Synonym: Ceylon Cinnamon, Kalmi-dalchini family: Lauraceae

dried inner bark of *Veratilis* ssp: Cinnamic aldehyde, eugenol, Terpene, mucilage, starch, calciumoxalate Tannins

Transverse section of cinnamon bark consists of 3-4 layers of scleroids consisting of starch grains

Carminative, aromatic, taste flavouring, mild astringent, powerful gas

Senna:

Synonym: Indian senna, Isenial, alexandrine, Diabloblabous, Adirpeta rat.

dried leaflets of "cassia" *angustifolia* Vahl

Anthracene Glycosides Sennoside A and B

non lignified, unicellular, warty hair are scattered on both sides

Laxative

Family:

leguminosae

Name of the drug	Synonym & family	Biological source	Chemical constituents	Microscopical characters	uses
<u>Liquorice</u> Synonym: Glycyrrhiza radice, Glycyrrhiza, mulietri family: Leguminosaceae	Dried stems & roots of various species of Glycyrrhiza (e.g. glabra, sp. officinalis, etc.)	Saponin glycosides: glycyrrhizin, glycyrrhizic acid Flavonoid glycosides: liquiritin, and isoliquiritin Coumarin derivatives: coumarin, umbelliferone Hemiterpene: umbelliferone	Cork arranged in radial tubular cells. Phelloderm is composed of parenchymatous and collenchymatous cells. Starch grains and calcium oxalate crystals, medullary rays are present.	Mild expectorant, sweetening, anti-peptic, demulcent	
<u>Ginger</u> Synonym: Zingiber, Zingiberis, Zingiberaceae family: Zingiberaceae	Dried rhizomes of Zingiber officinale Roscoe	Volatile oil, Terpenes, starch, cineol, Chlorophyll, borneol, mucilage, Oleo-resin, gingerol, Zingiberene	The fibres are unligified, pitted and separate. Ground tissues contain starch, Oleo-resins, fibro-vascular bundles	Carminative, stimulant, flavouring	

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Education & Beyond

ATTAINMENT SHEET

CO-PO MAPPING

PHARM. D.

YEAR : Second

CO		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10
	Pharmacognosy and Phytopharmaceuticals										
CO1	Gain knowledge on biological source, active constituents and uses of crude drugs.	3	2	2	1	1	0	0	0	1	3
	Different methods of adulteration of crude drugs.										
CO2	Understand the basic principles of cultivation, collection and storage of crude drugs.	3	0	2	2	2	3	3	0	2	0
	Application of the crop improvement concepts for improvement of quality of medicinal plants	3	0	2	2	0	0	1	0	2	2
CO3	Understand the techniques of evaluation of crude drugs as per the WHO guidelines	3	1	2	2	0	3	2	0	2	0
CO4	Appreciate the applications of Primary metabolites of the plant and explore its medicinal importance based on its chemical class	3	2	2	3	0	3	2	0	2	0
CO5	Understand and explore the pharmaceutical applications of Primary metabolites	2	0	3	2	1	0	0	0	0	0
CO6	Understand and explore the utilization of plants fibers in surgical dressings and related products.	3	0	2	1	1	0	0	0	1	2
		3	1	2	0	0	1	0	0	0	2




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CO-PO Mapping

COs	POs										
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	2	2	1	1	0	0	0	1	3	3
CO2	3	0	2	2	0	0	1	0	2	2	2
CO3	3	2	2	3	0	3	2	0	2	0	2
CO4	2	0	3	2	1	0	0	0	0	0	2
CO5	3	0	2	1	1	0	0	0	1	2	2
CO6	3	1	2	0	0	1	0	0	0	2	2
C212	2.83333	0.83333	2.16667	1.5	0.5	0.66667	0.5	-	1	1.5	2.16667

Total CO Attainment through Direct & Indirect Assessment

CO Attainment	2.74
----------------------	-------------

PO Attainment

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
PO Attainment	2.58778	0.76111	1.97889	1.37	0.45667	0.60889	0.45667		0.91333	1.37	1.97889

1. Copy CO - PO matrix and CO attainment matrix from previous pages and find PO attainment.
2. PO attainment is calculated as per the following formula:

$PO_i = \frac{\text{Total CO attainment Level}}{3}$ where 'i' ranges from 1 to 12

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COURSE COMPLETION CERTIFICATE

I, A.VENKATESWARA RAO, faculty in the department of Pharmacognosy have taught Pharmacognosy and Phytochemistry subject to students of II Pharma-D during academic year 2023-24. I certified that I have completed 16 units on...!!-07-23


Signature of Faculty




Signature of Principal
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