



ADITYA COLLEGE OF PHARMACY

Aditya nagar, Surampalem,
Andhra Pradesh 533437

A certificate course on



"HANDS ON TRAINING OF LABORATORY TECHNIQUES IN ORGANIC SYNTHESIS"

Timings:
5th Nov to 2016 to
24th Dec 2016
(Every Saturday)

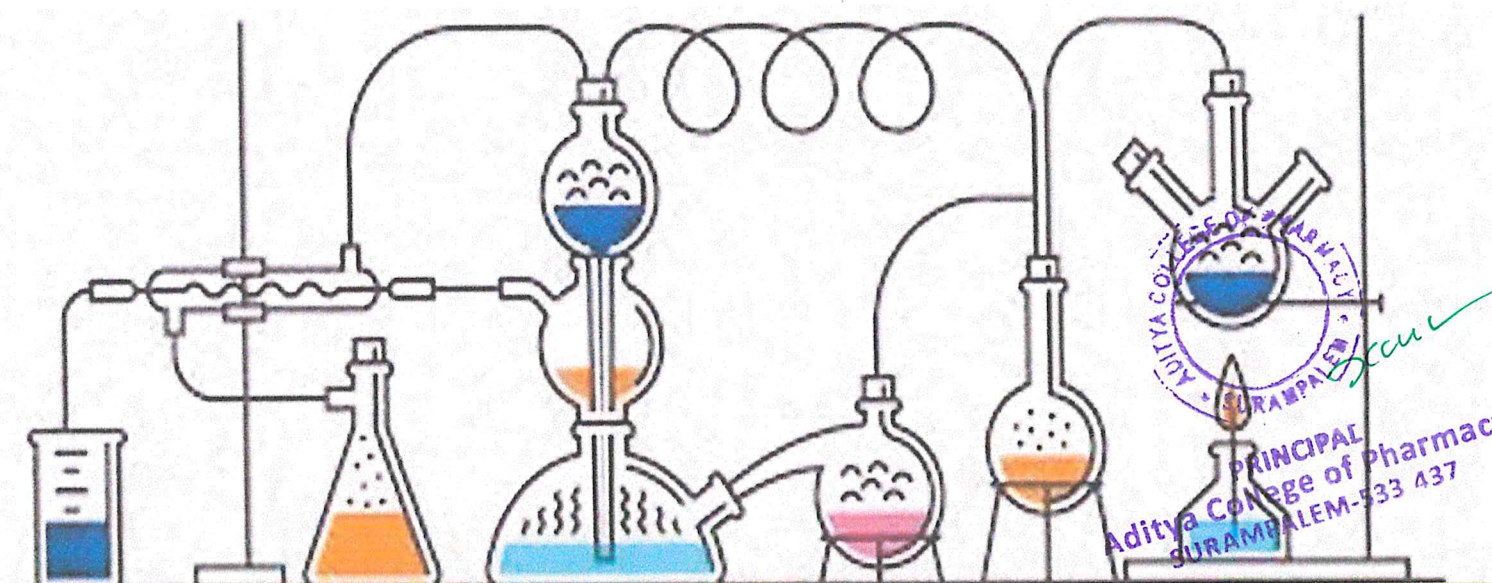
ELIGIBILITY: II & III B.PHARMACY

Coordinator: A.Sree geetha
Asst. Professor,
Aditya College of Pharmacy

Resource Person: K.Abhinav
Asst. Professor,
Aditya College of Pharmacy

Convener: Dr.K.Ravishankar
Principal,
Aditya College of Pharmacy

Patron: Dr.N. Satish Reddy
Vice-Chairman,
Aditya Educational Institutions



All the students enrolled in this course will be provided with a certificate



ADITYA COLLEGE OF PHARMACY

(Affiliated to JNTUK, Approved by AICTE)



(ADITYA NAGAR, ADB ROAD, SURAMPALEM 533 437, E.G.Dt, Ph.9949876664, 08852-200005)

Website: www.acop.edu.in, Email: office@acop.edu.in

COURSE SYLLABUS

DURATION: 45Hrs

COURSE NAME: Hands on training of laboratory techniques in organic synthesis

Course objective:

1. To create awareness on instruments used in organic synthesis.
2. Purification and drying organic solvents and reagents by distillation in an inert and moisture-free atmosphere.
3. Micro-scale synthesis.
4. Running a reaction for a long time (also under reflux), Running a reaction at low temperature.
5. Synthesis under moisture- and air-free conditions.
6. Isolation of the product by distillation, crystallization and chromatography.

Course Outcome:

1. To get information about easy handling of instruments and reagents involved in organic synthesis.
2. To get knowledge about various techniques, preparation of various reagents and their applications involved in organic synthesis.
3. To know about Reaction conditions and precautions involved in various synthetic procedures.

DAY 1: 05-11-2016 (6 Hrs)

Module: 1

Using lab equipment and basic experimental techniques:

Using a Balance, Pipette, magnetic stirrer, folding fluted filter paper, rotary evaporators, vacuum and gravity filtration, extraction and usage of drying agents, Steam distillation, distillation, vacuum distillation crystallization, Recrystallization, evaporation, sublimation techniques, determination of melting point, molecular weight, density etc



Jeevan Chaudhary
PRINCIPAL
Aditya College of Pharmacy,
SURAMPALEM-533 437



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DAY 2 : 12-11-2016, (6 Hrs)

DAY 3 : 19-11-2016 (6Hrs)

Module: 2

Systematic qualitative analysis of unknown organic compounds like

1. Preliminary test: Color, odour, aliphatic/aromatic compounds, saturation and unsaturation, etc.
2. Detection of elements like Nitrogen, Sulphur and Halogen by Lassaigne's test
3. Solubility test
4. Functional group test like Phenols, Amides/ Urea, Carbohydrates, Amines, Carboxylic acids, Aldehydes and Ketones, Alcohols, Esters, Aromatic and Halogenated Hydrocarbons, Nitro compounds and Anilides.
5. Melting point/Boiling point of organic compounds
6. Identification of the unknown compound from the literature using melting point/ boiling point.
7. Preparation of the derivatives and confirmation of the unknown compound by melting point/ boiling point

DAY 4: 26-11-2016 (6Hrs)

Module: 3

Separation of components from mixture by chromatography

Thin layer chromatography, paper chromatography, column chromatography

DAY 5: 03-12-2016, (6Hrs)

DAY 6: 10-12-2016 (5Hrs)

Module: 4

Solvent Free Organic Synthesis:

1. Pinacol coupling reaction
2. Reformatsky reaction/Luche
3. Knoevenagel condensation
4. Dieckmann condensation
5. Corrole Synthesis
6. Knoevenagel condensation, 3-carboxycoumarin
7. 3-(ethoxycarbonyl)-4-hydroxy-5-(1-hydroxyalkyl)-2-isoxazoline-2-oxide
8. Biginelli reaction
9. Claisen reaction
10. Pechmann reaction.

DAY 7: 17-12-2016, (5Hrs)



Xavi Chellar
PRINCIPAL
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DAY 8: 24-12-2016 (5Hrs)

Module: 5

Methods involved in organic compounds: Asymmetric synthesis, carbon-carbon bond-forming reactions, disconnection reactions, reterosynthesis.

References:

1. J. C. Gilbert, S. F. Martin, "Experimental Organic Chemistry. A Miniscale and Microscale Approach", Thomson 2006
2. A. I. Vogel, A. R. Tatchell, B. S. Furnis, A. J. Hannaford, P. W. G. Smith "Vogel's Textbook of practical organic chemistry", Prentice Hall 1996.
3. Solvent-free Organic Synthesis by Koichi Tanaka (Copyright © 2009 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim, ISBN: 978-3-527-32264-)
4. Practical organic chemistry. Cambridge. F. G. Mann. May 1936. B. C. Saunders.



Prachi Chaudhary
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ADITYA

COLLEGE OF PHARMACY

Approved by AICTE & PCI - NEW DELHI, Affiliated to JNTUK KAKINADA
(Formerly known as Sri Sai Aditya Institute of Pharmaceutical Sciences & Research)

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Website: www.acop.edu.in

CERTIFICATE COURSE SUMMARY 2016-17

COURSE CODE AND NAME : CLOS and Hands on training of laboratory techniques in organic synthesis

COURSE DURATION : 45Hrs

BRANCH AND YEAR OFFERED: II & III B.Pharmacy

COURSE INSTRUCTORS : K.Abhinav, Assistant Professor

COURSE OUTCOME

Student would be able to get information about easy handling of instruments and reagents involved in organic synthesis, to get knowledge about various techniques, preparation of various reagents and their applications involved in organic synthesis, and to know about Reaction conditions and precautions involved in various synthetic procedures.

COURSE TYPE : Self framed course

ASSESSMENT MODE

ATTENDANCE : 45 Hours

NO.OF PARTICIPANTS : 68

SCHEME OF EXAM : MCQ Offline

DATE OF EXAM : 26-12-2016

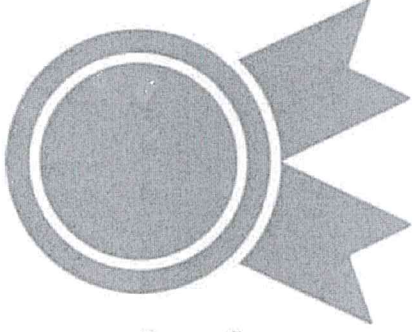
A Sree Geetha
Course coordinator



Sree Geetha
Principal

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Aditya College of Pharmacy
SURAMPALAM-533 437





CERTIFICATE OF COMPLETION

This is to certify that Mr./Ms

bearing roll number

has successfully

completed the certificate course entitled

“Hands on training of laboratory techniques in organic synthesis”

held in Aditya College of Pharmacy, Surampalem from

5th November to 24th December, 2016.

N. Sate Reddy

Chairman

N. Subudhakar

Vice-Chairman

Surampalem
PRINCIPAL Pharmacy
College of Pharmacy 437

Surampalem
ADITYA COLLEGE OF PHARMACY
SURAMPALEM

Director &
Principal

