



The Sikh Education Society's

# Gurunanak College of Pharmacy NAGPUR-440026

E-mail : [gncp2004@yahoo.com](mailto:gncp2004@yahoo.com)

Web Address: [www.gncp.edu.in](http://www.gncp.edu.in)

6.5.2: The institution reviews its teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals through IQAC set up as per norms and recorded the incremental improvement in various activities

## 1. Add on courses

### Index of Supporting Documents about Add on Courses

Sr. no.	Academic Year	Name of the Certificate Course	Page number
1	2020-2021	Effective Project writing and Presentation Skill	02-06
		Application of Computational Techniques in Drug Design and Development	07-12
2	2019-2020	Effective Project writing and Presentation Skill	13-18
		Hands on training Programme for Sophisticated Analytical Instruments	19-25

## 2. ICT enabled tools for effective teaching-learning process.

### Index of Examples of documents being used by staff for ICT enabled teaching

Sr. no.	Name of the document	Page Number
1	YouTube channels of college and staff members	26-27
2	WordPress page of faculty	28
3	Representative power point presentation of faculty	29-60
4	Recording Room	61
5	e-Content developed by faculty and available on YouTube/ Slide share platform	62-72
6	Flipped classroom activity constructor	73-77
7	Think-Pair-Create-Share Activity constructor	78-83
8	Use of Software for animal experimentation	84-86
6	Google classroom based exam and classes	87-90



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Academic Year 2020-2021

## "Effective Project writing and Presentation Skill"

**Flyer of the Workshop**

The Sikh Education Society's  
**Gurunanak College of Pharmacy**  
Nagpur  
Certificate course on  
**"Effective Project Writing and Presentation Skill"**  
(20<sup>th</sup> Feb 10:30am to 01<sup>st</sup> Feb 2021)

To Create Globally Competent Pharmacist

**Preamble**

- Students of B. Pharmacy final year and M. Pharmacy having projects in their curriculum.
- Projects must be prepared through MS-Word and presentation through power point presentation.
- Referencing and Ethics in preclinical experimentation also needed in the scientific report writing.
- During curriculum there is no such scope to develop the soft skills among students required for project / scientific report writing.
- College has started Certificate course to develop the required soft skills and maintaining the uniformity of college project.

<b>Day 1</b> (10:30am to 1:30pm)	<ul style="list-style-type: none"> <li>Page setup, Selection of layout, Selection of the headings, Table of contents (Auto indexing), Page Break, Header and Footer, Page border</li> <li>Hands on training 2:30 pm to 5:00pm</li> </ul>
<b>Day 2</b> (10:30am to 1:30pm)	<ul style="list-style-type: none"> <li>header/footer, insert captions (tables and figures), Track changes and balloons, Insertion of Endnote and Footnote, Insert Citation</li> <li>Hands on training 2:30 pm to 5:00pm</li> </ul>
<b>Day 3</b> (10:30am to 1:30pm)	<ul style="list-style-type: none"> <li>Introduction to Mendeley: Reference Management Software</li> <li>Hands on training 2:30 pm to 5:00pm</li> </ul>
<b>Day 4</b> (10:30am to 1:30pm)	<ul style="list-style-type: none"> <li>Citation &amp; reference writing using Mendeley Citation Plug-in, Compare and contrast different citation and referencing styles, Insertion of Bibliography and Advanced Features of Mendeley</li> <li>Hands on training 2:30 pm to 5:00pm</li> </ul>
<b>Day 5</b> (10:30am to 1:30pm)	<ul style="list-style-type: none"> <li>Slide selection, Contents, orientation of slides, Animations, Presentation skills</li> <li>Hands on training 2:30 pm to 5:00pm</li> </ul>
<b>Day 6</b> (10:30am to 1:30pm)	<ul style="list-style-type: none"> <li>Introduction to preclinical Experimentation, Animal used, Ethical requirements, Scientific importance</li> <li>Certificate distribution 2:30 pm to 3:30pm</li> </ul>

**Trainers**

**MS-Word**

by Dr. G.K. Lohiya

**Mendeley**

by Dr. S.K. Arora

**MS-PPT**

by Dr. N.P. Sapkal

**Ethics in Preclinical Experimentation**

by Dr. S. R. Yende

■ **Note:** Laptop is essential to attend the program.

■ **Important:** In the view of COVID-19 situation it is mandatory to wear mask during entire session, maintain social distancing and use hand sanitizer frequently.

■ Registration fee of Rs. 1000/- only

■ **Venue:** Seminar room, Gurunanak College of Pharmacy, Nagpur

■ **Feel free to contact :** Dr. G. K. Lohiya, 8275330476 (Course Coordinator)

*Dr. A. M. Itadwar*  
Principal

**Dr. A. M. Itadwar**  
Principal

Gurunanak College of Pharmacy  
Nari, Near Dixit Nagar, Behind C.P. Foundry  
Kamptee Road, Nagpur-440 026



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To Create Globally Competent Pharmacist

**GURUNANAK COLLEGE OF PHARMACY**

Mauza Nari, Kh. No. 81/1, Kamgar Nagar, Nari, Nagpur - 440026.

under the aegis of

THE SIKH EDUCATION SOCIETY, BEZONBAGH, NAGPUR - 440004

## NOTICE

Date: 12/02/2021

All the faculty members, students of M. Pharmacy are hereby informed that the certificate course (continuous activity) is on the "Effective Project writing and Presentation skill" Co-ordinated by Dr. Govind Lohiya from 15<sup>th</sup> Feb 2021 to 20<sup>th</sup> Feb 2021. In the view of COVID-19 situation thesis/project submission to the authority will be in digital (soft copy mode) and hence students are instructed to enrol into course. Take all the necessary precaution and follow the guidelines given by disaster management/state government and respective agencies during entire course conduction.

  
Principal

**Dr. A. M. Itadwar**  
Principal G. N. C. P.  
Nari, Near Dixit Nagar, Behind C. P. Foundry  
Kamptee Road Nagpur-440026.

  
Principal

**Dr. A. M. Itadwar**  
Principal  
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## GURUNANK COLLEGE OF PHARMACY

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Accredited by NAAC & Gold Ranking in AICTE-CII Survey

UNDER THE AEGIS OF

THE SIKH EDUCATION SOCIETY, BEZONBAGH, NAGPUR – 440004

APPROVED BY A.I.C.T.E. & GOVERNMENT OF MAHARASHTRA

Ph. No. 7775883667

Fax: (0712) 2633851 Email: [gncp2004@yahoo.com](mailto:gncp2004@yahoo.com) Web: [gncp.edu.in](http://gncp.edu.in)

### Attendance Sheet

### Effective Project Writing and Presentation Skill

Date: 15<sup>th</sup> to 20<sup>th</sup> Feb 2021

Sr. no.	Name of the Student	15/02/2021	16/02/2021	17/02/2021	18/02/2021	19/02/2021	20/2/21	Sign
1.	ABHILASHA ROKADE	P	P	P	P	P	P	Abhilasha
2.	ANUBHAV MORGHAD	P	P	P	P	P	P	Anubhav
3.	CHARUSHEELA GIRI	P	P	P	P	P	P	Charusheela
4.	DAVINI BOBDE	P	P	P	P	P	P	Davini
5.	ESHA JAIN	P	P	P	P	P	P	Esha Jain
6.	FARHEEN BANO	P	P	P	P	P	P	Farheen
7.	GUNJAN KEWALRAMANI	P	P	P	P	P	P	Gunjan
8.	HASAN HUSSAIN	P	P	P	P	P	P	Hasan Hussain
9.	KARISHMA ASNANI	P	P	P	P	P	P	Karishma
10.	LABHESH MEN	P	P	P	P	P	P	Labhesh
11.	PURVA SARODE	P	P	P	P	P	P	Purva
12.	RITIKA SINGH	P	P	P	P	P	P	Ritika
13.	SUHASINI CHAURASIA	P	P	P	P	P	P	Suhasini
14.	TRUSHNA JAMGADE	P	P	P	P	P	P	Trushna
15.	VILESH JADHAV	P	P	P	P	P	P	Vilesh
16.	YOGESHWAR RODGE	P	P	P	P	P	P	Yogeshwar

*(Handwritten signatures)*

*(Handwritten signature)*  
Principal

Dr. A. M. Itadwar  
Principal

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Photo Gallery



*Dr. A. M. Itadwar*  
Principal

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Principal  
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Sample Certificate



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Principal  
**Dr. A. M. Itadwar**  
Principal  
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“Application of Computational Techniques in Drug Design and Development”



The Sikh Education Society's  
**Gurunanak College of Pharmacy,**  
**Nagpur**  
Organizes  
One week hands on training program on

## Application of Computational Techniques in Drug Design and Development

Date: 1<sup>st</sup> to 6<sup>th</sup> March 2021

**About the Institute:**  
Under the aegis of The Sikh Education Society, Gurunanak College of Pharmacy was established in 2004. Subsequently, Postgraduate courses (2009) and PhD (2014) in the pharmaceutical sciences were also introduced. The institute is situated in a spacious, well planned, well ventilated building surrounded by the lush green campus. The college has been successful in imparting quality education in pharmacy and is approved by AICTE and PCI, New Delhi, permanent affiliation with RTM Nagpur University, Nagpur, accredited by NAAC (2016-2021), ranked 49th in National Institutional Ranking Framework (NIRF), Gold Rank in AICTE CII survey in last 5 years.

**About the Program:**  
Understanding the basis of computer-aided drug design/development (CADD) is a vital part of the training of students specializing in medicinal chemistry, pharmaceuticals, pharmacology, or pharmacy. The ability to select a target, explore the interactions between protein and ligand, design small molecule drug candidates and evaluate their potential *in silico* provides students with a crucial skill-set for a successful career as medicinal chemists. This program will provide complete workflow, from the initial downloading and evaluation of a target protein structure from the PDB, through searching databases for candidate structures, designing and inputting drug candidates, molecular docking experiments, evaluation of the results and subsequent rounds of molecular redesign. After completing this program students can undertake a CADD project and prepare the molecules in the laboratory designed by them.



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## Key Features:

- A rich immersive learning experience supported through the use of webinars, discussion fora and personal assistance wherever appropriate
- Hands on training to gain practical knowledge of concepts and tools involved in molecular docking and prediction of molecular properties, efficacy and toxicity.
- Participants will be given full support to access, download, install & operate each software's.

## Program Schedule:

Day and Time	Content of Program
<b>Day 1</b> 10.30 am to 4.00 pm	Introduction to Molecular Docking; Downloading & Installing Software's; How to draw chemical structures; How to search database for ligands; Ligand optimization; One click Sketch to Molecular Optimization of Multiple molecules; Searching Protein PDB download and Optimization
<b>Day 2</b> 10.30 am to 4.00 pm	Hands on training and evaluation
<b>Day 3</b> 10.30 am to 4.00 pm	Searching Active site and Allosteric sites; Molecular Docking using Auto dock Vina; Molecular Docking using Webservers
<b>Day 4</b> 10.30 am to 4.00 pm	Hands on training and evaluation
<b>Day 5</b> 10.30 am to 4.00 pm	Visualization of Docking Result; Introduction to Drug Properties; Calculation of Properties
<b>Day 6</b> 10.30 am to 4.00 pm	Hands on training and evaluation; Research Paper Discussion, Feedback

- ✓ **Registration Fees: Rs. 1000/-**
- ✓ **Who can attend: M. Pharm/ M.Sc./PhD/Research scholar/Faculty**
- ✓ **Registration: Submit duly filed registration form**
- ✓ **Note: Personal laptop is essential to attend the program.**
- ✓ **Venue: Seminar room, Gurunanak College of Pharmacy, Nagpur**
- ✓ **For Further Enquires contact : 9028665370, 8459419190**

## Organizing Committee

### Convener:

**Dr. Abhay Itadwar**  
Principal, GNCP, Nagpur

### Co-Ordinator:

**Dr. Nilhi Sapkal**

### Resource Person

**Mr. Sapan K. Shah**  
Asst. Professor,  
P. J. L. COP,  
Nagpur

**Dr. Sumit Arora**  
Asst. Professor,  
GNCP,  
Nagpur

**Dr. Subhash Yende**  
Asst. Professor,  
GNCP,  
Nagpur

++

  
Principal

**Dr. A. M. Itadwar**  
Principal

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## Gurunanak College of Pharmacy, Nagpur Application of Computational Techniques in Drug Design and Development Date: 1<sup>st</sup> to 6<sup>th</sup> March 2021

### Attendance

Sr. No	Name of Participant	Day 1 01/03/21	Day 2 02/03/21	Day 3 03/03/21	Day 4 04/03/21	Day 5 05/03/21	Day 6 06/03/21
1	Gulshan Gurmai	Present	Present	Present	Present	Present	Present
2	Muskan Kumbhar	Present	Present	Present	Present	Present	Present
3	Tejaswini Kesarpure	Present	Present	Present	Present	Present	Present
4	Prachi Patade	Present	Present	-	Present	Present	Present
5	Shradha Mahalle	Present	Present	Present	Present	Present	Present
6	Veerendra Dhoke	Present	Present	Present	Present	Present	Present
7	Shradha Khoske	Present	Present	Present	Present	Present	-
8	Vishakha V. Dumbre	Present	Present	Present	Present	Present	Present
9	Prayalata Patil	Present	Present	Present	Present	Present	Present
10	Prinyanka Patil	Present	Present	Present	Present	Present	Present
11	Mihir Patil	Present	Present	Present	Present	Present	Present
12	Kaushik Arani	Present	Present	Present	Present	Present	Present
13	Gunjan K. Kesarpure	Present	Present	Present	Present	Present	Present
14	Shobha Ugle	Present	Present	Present	Present	Present	Present
15	-	+	+	+	+	+	+

Principal

**Dr. A. M. Itadwar**  
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**Photo Gallery**



  
**Principal**  
**Dr. A. M. Itadwar**  
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**Sample Certificate**

  
The Sikh Education Society's  
**Gurunanak College of Pharmacy, Nagpur**  
*One week hands on training program on*  
Application of Computational Techniques in  
Drug Design and Development  
**Certificate**  
This certificate is presented to  
**Veerendra Dhoke**  
in recognition of your participation in the  
One week hands on training program on  
"Application of Computational  
Techniques in Drug Design and  
Development" held from 01/03/2021 to  
06/03/2021.  
Convener  
Dr. A. M. Itadwar  
Principal  
Coordinator  
Dr. Nidhi P. Sapkal  
Professor



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**Sample Feedback**

**Gurunanak College of Pharmacy, Nagpur**

One-week hands on training program on  
Application of Computational Techniques in Drug Design and Development

Date: 1<sup>st</sup> to 6<sup>th</sup> March 2021

**Feedback Form**

Your feedback is critical for us to ensure we are meeting your educational needs. We would appreciate if you could take a few minutes to share your opinions with us so we can serve you better.

Please return this form to the instructor or organizer at the end of the Seminar. Thank you.

(Circle Your Response to Each Item.)

- | 1: Strongly disagree   | 2: Disagree | 3: Agree | 4: Strongly agree |   |
|--|-------------|----------|-------------------|---|
| ✓ The content of this program was relevant for my study                    | 1           | 2        | 3                 | ④ |
| ✓ The activities in this program gave me Sufficient practice and feedback. | 1           | 2        | ③                 | 4 |
| ✓ The resource persons were well prepared.                                 | 1           | 2        | 3                 | ④ |
| ✓ I will be able to use what I learned in this One week training program   | 1           | 2        | ③                 | 4 |
| ✓ This workshop lived up to my expectations.                               | 1           | 2        | 3                 | ④ |
| ✓ What other improvements would you recommend in this Workshop?            |             |          |                   |   |

*The resources were very well prepared & I learnt new things.*

*gmk*  
Name of the delegate



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Academic Year 2019-2020

**“Effective Project writing and Presentation Skill”**



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**NOTICE**

Date: 13/01/2020

All the faculty members, students of B. Pharmacy final year and M. Pharmacy are hereby informed that the certificate course is designed on the “Effective Project writing and Presentation skill” by Dr. Govind Lohiya from 16<sup>th</sup> Jan 2020 on every Thursday 3:00pm to 5:30pm. In the view of the upcoming certificate course concerned faculty member please take a note in time change in M. Pharmacy (pharmaceutics) table schedule.

Old schedule	3:00-4:00	4:00-5:00	5:00-5:30
Wednesday	Seminar/Assignments	Seminar/Assignments	Seminar/Assignments
Thursday	Comp. Aided DDS (VVK)	Molecular Pharmaceutics (VAK)	Seminar and Assignments
New Schedule			
Wednesday	Comp. Aided DDS (VVK)	Molecular Pharmaceutics (VAK)	Seminar and Assignments
Thursday	Certificate course	Certificate course	Certificate course

Time table committee

Program committee

Principal  
**Dr. A.M. Ittadwar**  
 Principal G. N. C. P.  
 Nari, Near Dixit Nagar, Behind C. P. Foundry  
 Kamptee Road Nagpur-440026.

Principal

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## Schedule



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As per the need of the industry and to maintain the uniformity in drafting of the college research project, IQAC has decided to start the certificate course on effective communication and use of soft skill tools like MS-Word and Excel. Dr. G.K. Lohiya was already taking (as and when required) the guidance on the same for M.Pharm students. As Dr. G. K. Lohiya already guiding students on the same, the activity converted in the form of certificate course to bolster the effectiveness of delivered contents and maximum benefits to students/participants. The course is planned in such way that regular academic activity will not get disturb. For the same proposed weekly scheduled is as given below

### Proposed weekly schedule for the course

Sr. No.	Date/Day	Time	Topic to be cover
1.	16/01/2020	3:00pm- 5:30pm	MS-Word as a tools and its tab introduction
2.	23/01/2020	3:00pm- 5:30pm	Selection of layout, selection of heading
3.	30/01/2020	3:00pm- 5:30pm	Auto indexing, Auto caption and figures
4.	06/02/2020	3:00pm- 5:30pm	Track the changes
5.	13/02/2020	3:00pm- 5:30pm	End note and foot note
6.	20/02/2020	3:00pm- 5:30pm	Hands on training
7.	27/02/2020	3:00pm- 5:30pm	Use of excel in reference management
8.	05/03/2020	3:00pm- 5:30pm	Hands on training
9.	12/03/2020	3:00pm- 5:30pm	PPT tools, slide selection
10.	19/03/2020	3:00pm- 5:30pm	Animation, picture tabs and hyperlink
11.	26/03/2020	3:00pm- 5:30pm	Presentation skills and report writing
12.	02/04/2020	3:00pm- 5:30pm	Hands on training and certificate distribution
13.	If any scheduled post pone		

  
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### Attendance Sheet "Effective Project Writing and Presentation Skill" Date: 16/01/2020 to 02/04/2020 (Every Thursday)

SR. NO.	PARTICIPANTS	16/01/20	23/01/20	30/01/20	06/02/20	13/02/20	20/02/20	27/02/20	06/03/20	13/03/20	20/03/20	27/03/20	03/04/20
1.	ABHIJIT NARENDRA DAF	P	P	P	P	P	P	P	P	P	P	P	P
2.	ANKITA KRISHNADEO SONI	P	P	P	P	P	P	P	P	P	P	P	P
3.	DEEPAI N. TAPRE	P	P	P	P	P	P	P	P	P	P	P	P
4.	FIRDOUS ANJUM SHEIKH AKRAM	P	P	P	P	P	P	P	P	P	P	P	P
5.	HARSHALI N. SHENDE	P	P	P	P	P	P	P	P	P	P	P	P
6.	HEMLATA DNYANESHWAR RAROKAR	P	P	P	P	P	P	P	P	P	P	P	P
7.	JASH UMESH PARIKH	P	P	P	P	P	P	P	P	P	P	P	P
8.	JUNAID WASI ANSARI	P	P	P	P	P	P	P	P	P	P	P	P
9.	KOMAL S. GUPTA	P	P	P	P	P	P	P	P	P	P	P	P
10.	MOHAMMAD ATIF IQBAL ANSARI	P	P	P	P	P	P	P	P	P	P	P	P
11.	NIHAL SUNIL LANDGE	P	P	P	P	P	P	P	P	P	P	P	P
12.	PARAS PRASAHNAT KOTHARI	P	P	P	P	P	P	P	P	P	P	P	P
13.	POOJA PURUSHOTTAM BHOMLE	P	P	P	P	P	P	P	P	P	P	P	P
14.	PRIYA V. VASWANI	P	P	P	P	P	P	P	P	P	P	P	P
15.	PAYAL ASHOK CHANDURKAR	P	P	P	P	P	P	P	P	P	P	P	P
16.	SATYAM YADORAHO HATWAR	P	P	P	P	P	P	P	P	P	P	P	P
17.	SHIKHA D. POPALI	P	P	P	P	P	P	P	P	P	P	P	P
18.	SHITAL A. AGASHE	P	P	P	P	P	P	P	P	P	P	P	P
19.	SHRUTI IESHWAR DONGARE	P	P	P	P	P	P	P	P	P	P	P	P
20.	SHUBHAM NILKANTH KALBANDE	P	P	P	P	P	P	P	P	P	P	P	P
21.	SHUBHAM SHIVPUJAN GUPTA	P	P	P	P	P	P	P	P	P	P	P	P
22.	SHIVANI ARVIND CHAUDHARI	P	P	P	P	P	P	P	P	P	P	P	P
23.	TARANPREET KAUR BAMRAH	P	P	P	P	P	P	P	P	P	P	P	P
24.	VAIBHAV SANTOSH SHENDE	P	P	P	P	P	P	P	P	P	P	P	P
25.	VAISHNAVI S. VAIRAGADE	P	P	P	P	P	P	P	P	P	P	P	P

No. and heads  
 Selection topics  
 Assignment  
 Presentation  
 End Note  
 First part  
 Hands on - cases  
 Hands on - cases  
 Present in submission  
 PPT - Slide  
 Caption  
 Assignment  
 Presentation  
 First part  
 Hands on - cases  
 Hands on - cases  
 PPT

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*Signature*  
 Principal

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 Principal  
 Gurunanak College of Pharmacy  
 Nari, Near Dixit Nagar, Behind C.P. Foundry  
 Kamptee Road, Nagpur-440 026



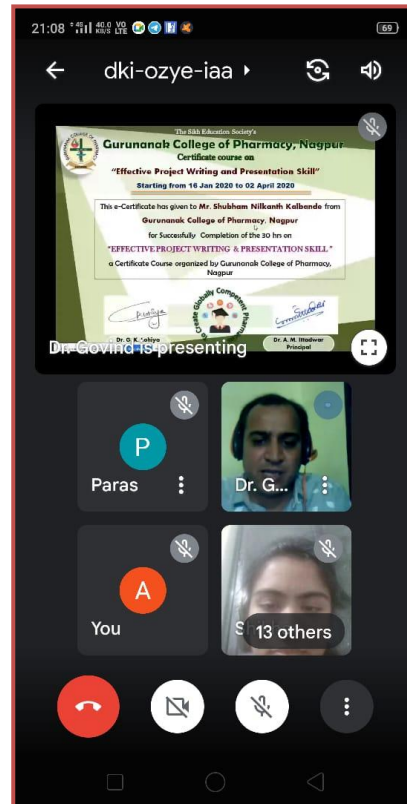
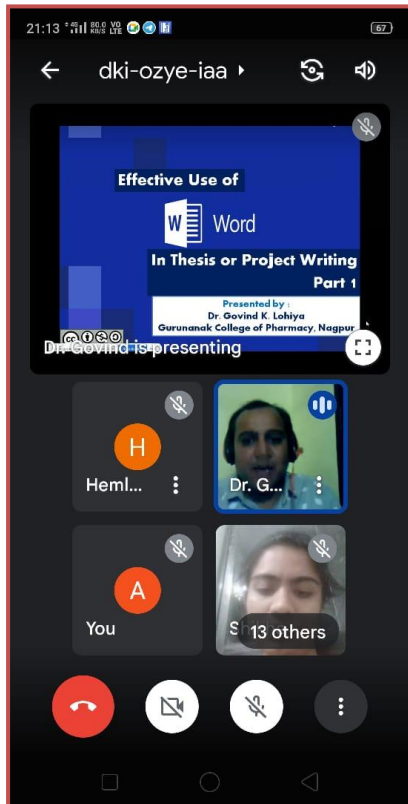
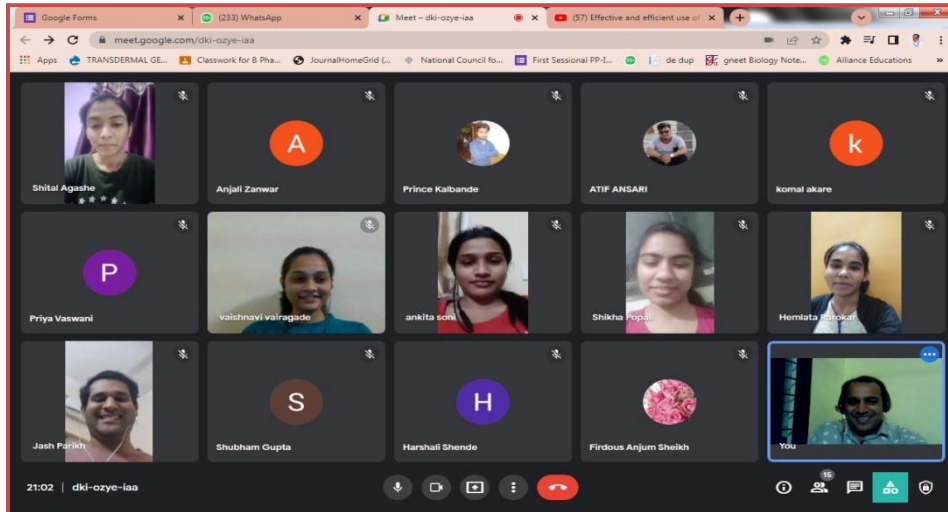
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## Photo Gallery



*Signature*  
Principal

**Dr. A. M. Itadwar**  
Principal  
Gurunanak College of Pharmacy  
Nari, Near Dixit Nagar, Behind C.P. Foundry  
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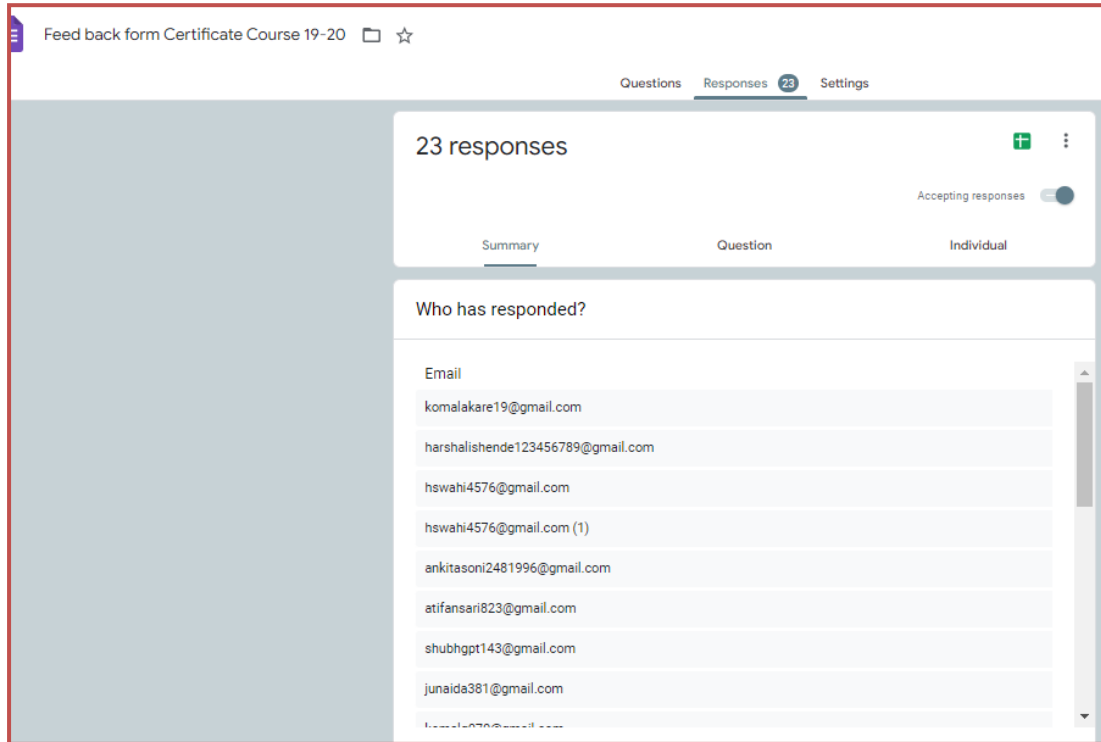
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## Sample Feedback



Timestamp	Email address	Name of the Participant	The certificate course co	The demonstration in coo	The trainer is well prepar	I will be able to use what	I will be able to use what	This certificate course liv	Rate the topic which you Ra
06/03/2020 00:12:25	dafabhjit@gmail.com	Abhijit Narendra Daf	Strongly agree	Agree	Agree	Agree	Agree	Agree	4
06/03/2020 23:09:01	ankitasoni2481996@gmail.com	Ankita Krishnadeo Soni	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	4
06/03/2020 07:20:11	franjum1697@gmail.com	Firdous Anjum Akram SH	Agree	Agree	Strongly agree	Agree	Agree	Agree	3
06/03/2020 23:02:14	harshalishende1234567@gmail.com	Harshali Niranjan Shendi	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	5
06/03/2020 23:05:18	hswahi4576@gmail.com	Harshpal Singh Wahi	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	4
06/03/2020 23:07:11	hswahi4576@gmail.com	Harshpal Singh Wahi	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	4
06/03/2020 23:29:44	rarakarhemlata08@gmail.com	Hemlata Dnyaneshwar R	Agree	Agree	Strongly agree	Agree	Strongly agree	Agree	5
06/03/2020 09:53:58	jash.parkhi94@gmail.com	Jash Parkhi	Strongly agree	Agree	Strongly agree	Disagree	Disagree	Strongly agree	4
06/03/2020 23:19:38	junaida381@gmail.com	Junaid Ansan	Strongly agree	Strongly agree	Agree	Agree	Strongly agree	Agree	4
06/03/2020 22:59:23	komalakare19@gmail.com	Komal Ramesh Akare	Agree	Agree	Agree	Agree	Agree	Agree	4
06/03/2020 23:25:17	komal070@gmail.com	KOMAL SUNILKUMAR C	Strongly agree	Agree	Agree	Agree	Agree	Agree	5
06/03/2020 23:11:08	atifansari823@gmail.com	Mohammad Atif Iqbal	Agree	Agree	Agree	Agree	Agree	Agree	4
06/03/2020 23:38:00	samfool123456@gmail.com	Paras Kothan	Agree	Agree	Agree	Agree	Agree	Agree	4
06/03/2020 09:39:11	payalchandurkar97@gmail.com	Payal Ashok Chandurkar	Agree	Agree	Agree	Strongly agree	Agree	Agree	3
06/03/2020 08:35:09	priyavaswan5@gmail.com	Priya Vaswani	Strongly agree	Agree	Strongly agree	Agree	Agree	Agree	4
06/03/2020 07:00:41	sameerhedao01997@gmail.com	Sameer Akhadu Hedao	Agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Agree	4
06/03/2020 23:34:39	s.popali.sp@gmail.com	Shikha Dinesh Popali	Strongly agree	Agree	Strongly agree	Agree	Agree	Agree	5
06/03/2020 23:34:59	shital.agashe1996@gmail.com	Shital Arunrao Agashe	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	5
06/03/2020 06:44:22	chaudharishivani13@gmail.com	Shivani Arvind Chaudhar	Strongly agree	Agree	Agree	Agree	Agree	Agree	4
06/03/2020 23:28:35	princekalbade@gmail.com	Shubham N Kalbade	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Agree	4
06/03/2020 23:18:29	shubhgpt143@gmail.com	Shubham Shivpujan Gup	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Agree	5
06/03/2020 08:08:27	vivshende@gmail.com	Vaibhav Santosh Shende	Agree	Strongly agree	Agree	Agree	Agree	Agree	4
06/03/2020 23:35:15	vaishvairagade4545@gmail.com	Vaishnavi Shallesh Vaira	Agree	Strongly agree	Agree	Strongly agree	Strongly agree	Agree	3

*Dr. A. M. Itadwar*  
Principal

**Dr. A. M. Itadwar**  
Principal

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After the Course a flyer containing YouTube video link was prepared to circulate among the students

**Smart and Advanced Thesis Writing**

**Preamble**

- In this lockdown period students need a continuous support and mentoring for writing the thesis or dissertation in a correct manner with proper guidelines, standards formats.
- Here an attempt made is made provide you a single platform for all your doubts.
- Most of the students Prepared the individual MS-Word file for introduction, materials, experimental methods and so on.
- How to build the Thesis in single file?
- What about the Thesis or Dissertation Submission?

**Submission Possibilities**

For Submission of dissertation or Thesis Following possibilities may be implemented:

- Submit the entire Dissertation in Single Microsoft Word or PDF file in soft copy.
  - Title Page
  - Certificates
  - Acknowledgment
  - Index
  - Introduction and entire part up to references in single file.
- Online Viva with many Software Tool may be conducted.

**Here is the Solution: visit the given YouTube link**

<https://www.youtube.com/watch?v=VXdZyuiPzLI>

**Subscribe my Channel**

Dr. Govind K. Lohiya



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## Hands on training Programme for Sophisticated Analytical Instruments

### GURUNANK COLLEGE OF PHARMACY

ORGANISES

## HANDS ON TRAINING FOR SOPHISTICATED ANALYTICAL INSTRUMENTS

16-21 SEPTEMBER 2019

### OBJECTIVES

This Training Programme is intended to provide basic understanding, operation and hands on training of sophisticated instruments like UV-visible spectrophotometry, Fourier Transform Infrared Spectrometer (FTIR) and High Performance Liquid Chromatography (HPLC). These instruments are widely used in industries for analysis of drug products. The training program can help them in understanding the role of sophisticated instruments and give advantage to the learner to face progressive competition in industries.



### OUTLINE OF CONTENTS

- \* It provides basic understanding of UV-visible spectrophotometer, FTIR spectrophotometer HPLC.
- \* It imparts knowledge about sample and mobile phase preparation.
- \* It gives hands on training for software of sophisticated instruments.
- \* It gives knowledge of care required during handling, trouble shooting and maintenance of the instruments.

### RESOURCE PERSONS

#### Dr. Suhas Padmane

Assistant Professor,  
Gurunank College of Pharmacy, Nagpur.

#### Mr. Kiran Ghadge

Assistant Manager  
Toshvin Analytical Pvt Ltd. Mumbai.

### WHO CAN APPLY

Interested faculty members, Ph.D. Scholars and PG students can fill up the application form and submit it to the Coordinators.

### HOW TO APPLY

The applicants are required to send completely filled in application form so as to reach the co-ordinator on or before 14/9/2019.

**COURSE REGISTRATION FEE : Rs. 100/-**

Contact: Dr. Suhas Padmane  
Contact No.: 8275744760  
Email: [suhaspadmane@gmail.com](mailto:suhaspadmane@gmail.com)

  
Principal

**Dr. A. M. Itadwar**  
Principal

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Day/ Date	Session 12.00-1.30	Demonstration 2.00-5.30
Monday 16/9/2019	<ul style="list-style-type: none"><li>Basics of spectroscopy, Electronic transitions</li><li>Beer-Lambert's Law and its limitation,</li><li>Chromophore and Auxochrome</li><li>UV cut-off</li></ul>	<ul style="list-style-type: none"><li>Introduction to Shimadzu UV-spectrometer software</li><li>Preparation of samples</li><li>Calibration of wavelength &amp; Absorbance scale</li></ul>
Tuesday 17/9/2019	<ul style="list-style-type: none"><li>UV-spectroscopy</li><li>Woodward-Fieser rule</li><li>Qualitative and Quantitative Applications</li></ul>	<ul style="list-style-type: none"><li>Calibration curve,</li><li>Assay of pharmaceuticals using UV-spectroscopy</li></ul>
Wednesday 18/9/2019	<ul style="list-style-type: none"><li>FT-IR spectroscopy- Basics</li><li>Theory, Sample preparation,</li><li>Factors affecting IR spectroscopy</li></ul>	<ul style="list-style-type: none"><li>Introduction to software</li><li>Sample preparations- Solid pellet technique &amp; liquid sampling.</li></ul>
Thursday 19/9/2019	<ul style="list-style-type: none"><li>FT-IR spectroscopy</li><li>Interpretation</li><li>Assay of Simethicone</li></ul>	<ul style="list-style-type: none"><li>Diffuse Reflectance Spectroscopy (DRS)</li><li>Calibration</li></ul>
Friday 20/9/2019	<ul style="list-style-type: none"><li>High Performance Liquid chromatography (HPLC)- Theory</li><li>Stationary phases- column chemistry</li><li>Detectors</li></ul>	<ul style="list-style-type: none"><li>Introduction to Agilent Chemstation software</li><li>Preparation of Sample and Mobile phase</li></ul>
Saturday 21/9/2019	<ul style="list-style-type: none"><li>HPLC Applications (11.00am - 12.30 pm)</li></ul>	<ul style="list-style-type: none"><li>Valedictory function (1.00 pm)</li></ul>


## Gurunanak Collage of Pharmacy, Nagpur ACCREDITED BY NAAC 'B' GRADE

### APPLICATION FORM

#### Hands on Training for Sophisticated Analytical Instruments

16-21 September 2019

1. Name Dr/Mr./Ms.....
  2. Age ..... years
  3. Edu. Qualification.....
  4. Designation .....
  5. Organization .....
  6. Address  
.....  
.....
  - Phone.....
  - Email.....
  7. Experience (years) if any
- Date : Signature of Participant
- Place :
- Certified that the above applicant is employed/studying in our institute and the information stated by him/her is verified and found correct. We therefore, permitted him/her to attend the training programme organized at your institute.
- Signature of Authority with Seal

  
Principal  
**Dr. A. M. Itadwar**  
Principal  
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## List of attendees

Vision: To Create Globally Competent Pharmacist



### GURUNANAK COLLEGE OF PHARMACY

Mauza Nari, Kh. No. 81/1, Kamgar Nagar, Nari, Nagpur – 440026.  
Accredited by NAAC & Gold Ranking in AICTE-CII Survey  
Under the aegis of  
THE SIKH EDUCATION SOCIETY, BEZONBAGH, NAGPUR – 440004

**“Hands on Training Program for Sophisticated Analytical Instruments”**

Attendance Sheet

Sr. No.	Name of Student	16/9/2019	17/9/2019	18/9/19	19/9/19	20/9/19	21/9/19
1	ABHILASHA CHANDRIKA YADAV	Abhilasha	Abhilasha	Abhilasha	Abhilasha	Abhilasha	Abhilasha
2	MANISHA RAMESH CHAVHAN	Manisha	Manisha	Manisha	Manisha	Manisha	Manisha
3	PREETI CHANDRABHAN RATHOUR	Preeti	Preeti	Preeti	Preeti	Preeti	Preeti
4	RANJANA RAJU NIKHARE	Ranjana	Ranjana	Ranjana	Ranjana	Ranjana	Ranjana
5	RASHMI HEMKANT NASARE	Rashmi	Rashmi	Rashmi	Rashmi	Rashmi	Rashmi
6	SUPRIYA KHIVARAJ BHAGAT	Supriya	Supriya	Supriya	Supriya	Supriya	Supriya
7	CHANDRASHEKHAR BHOJRAJ BADWAIK	Chandrashekar	Chandrashekar	Chandrashekar	Chandrashekar	Chandrashekar	Chandrashekar
8	RUSHIKESH SANJAY KHAIRKAR	Rushikesh	Rushikesh	Rushikesh	Rushikesh	-	Rushikesh
9	ANKITA KRISHNADEO SONI	Ankita	Ankita	Ankita	Ankita	Ankita	Ankita
10	DEEPALI NAMDEO TAPRE	Deepa	Deepa	Deepa	-	Deepa	Deepa
11	HARSHALI NIRANJAN SHENDE	Harshali	Harshali	Harshali	Harshali	Harshali	Harshali
12	NEHA SHAMRAOJI NIKHADE	Neha	Neha	Neha	Neha	Neha	Neha

1

*Signature*  
Principal

**Dr. A. M. Itadwar**  
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13	PRIYANKA LAINIDAS MOKHARKAR	P	P	P	P	P	P
14	PRIYANKA NARENDRA WARAMBHE	Prud	Prud	Prud	-	-	Prud
15	RINA GENDALALJI KALBANDE	Praband	Praband	Praband	Praband	Praband	Praband
16	SHITAL ARUNRAO AGASHE	Agash	Agash	Agash	Agash	Agash	Agash
17	SONAM SHAMBHUNATH YADAV	Sonam	Sonam	Sonam	Sonam	Sonam	Sonam
18	SUSHMA GIRADE	Sush	Sush	Sush	Sush	Sush	-
19	TARANPREET KAUR BAMRAH	Tara	Tara	Tara	Tara	Tara	Tara
20	TRUPTI CHHAGAN BOBDE	Trupti	Trupti	Trupti	Trupti	Trupti	Trupti
21	RAHUL LANGDE	RLS	RLS	RLS	RLS	RLS	RLS
22	RAHUL SANJAY GUPTA	R	R	R	R	R	R
23	SAGAR NEWARGADE	S	S	S	S	S	S

2

2022/3/8 17:54

## Photo Gallery

  
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Principal

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**Sample Certificate**



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**Dr. A. M. Itadwar**  
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### Sample Feedback Form

**Gurunanak College of Pharmacy, Nagpur**  
**One-week Hands on training program for Sophisticated Analytical Instruments**  
**Date: 16<sup>th</sup> to 21<sup>st</sup> September 2019**

**Feedback Form**

Your feedback is critical for us to ensure we are meeting your educational needs. We would appreciate if you could take a few minutes to share your opinions with us so we can serve you better.

Please return this form to the instructor or organizer at the end of the Seminar. Thank you.

(Circle Your Response to Each Item.)

1: Strongly disagree	2: Disagree	3: Agree	4: Strongly agree
✓ The content of this program was relevant for my study	1	2	3 (4)
✓ The activities in this program gave me sufficient knowledge and all queries were satisfied.	1	2	3 (4)
✓ The resource persons were well prepared.	1	2	(3) (4)
✓ I will be able to use what I learned in this One week training program	1	2	3 (4)
✓ This workshop useful up to my expectations.	1	2	3 (4)
✓ Any areas for improvements would you suggest for this Workshop?			

No improvement suggested and would request the staff and Resource persons to conduct such training program.

Rashmi Nasare  
Name of the Participant



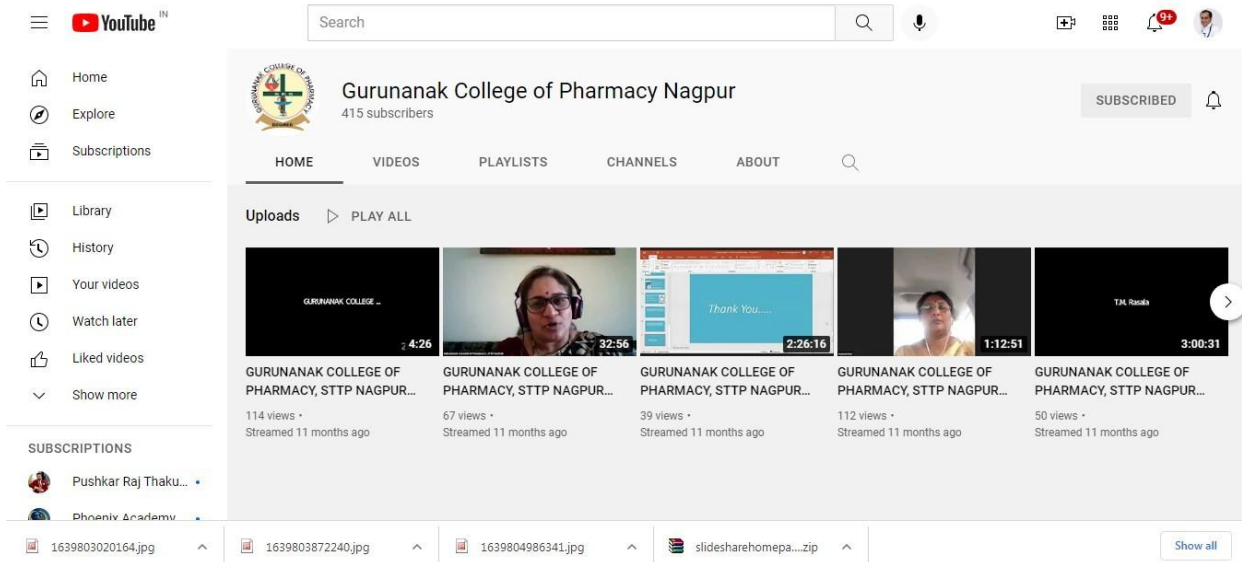
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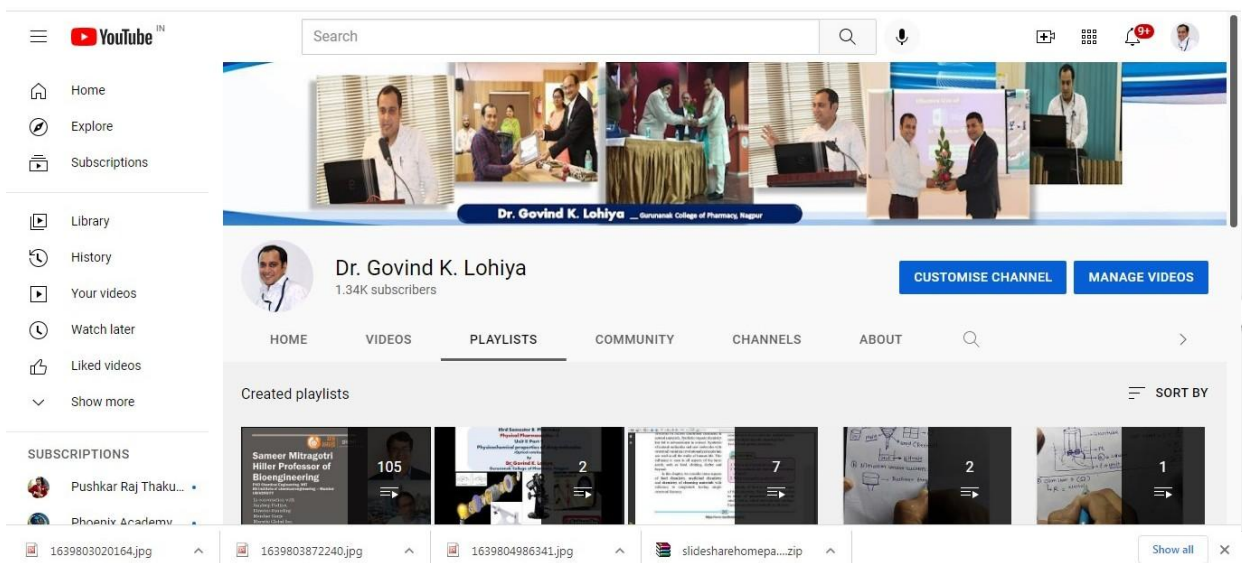
1.



**YOUTUBE CHANNEL OF THE FACULTY AS MODE OF CONTENT DELIVERY**

1. Govind K. Lohiya

<https://www.youtube.com/c/DrGovindKLohiya>



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## 2. Sumit Arora

<https://www.youtube.com/channel/UCv9s2wDLvjaBkkEtjUk-cWg?app=desktop>

## 3. Keshav Moharir

[https://www.youtube.com/channel/UCgbiloxvNmRvcu\\_RN2oqCLw](https://www.youtube.com/channel/UCgbiloxvNmRvcu_RN2oqCLw)

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## Wordpress page of faculty

<https://keshavmoharirblog.wordpress.com/fdp-201-x/>

🔍 keshavmoharirblog.wordpress.com/fdp-201-x/ 🏠 ☆ K ⋮

KESHAV MOHARIR

FDP 201 X

SEARCH

Search ...

TEXT WIDGET

## FDP 201 X

Dear students,

Please find the link given below as Flipped classroom - out of classroom activity.

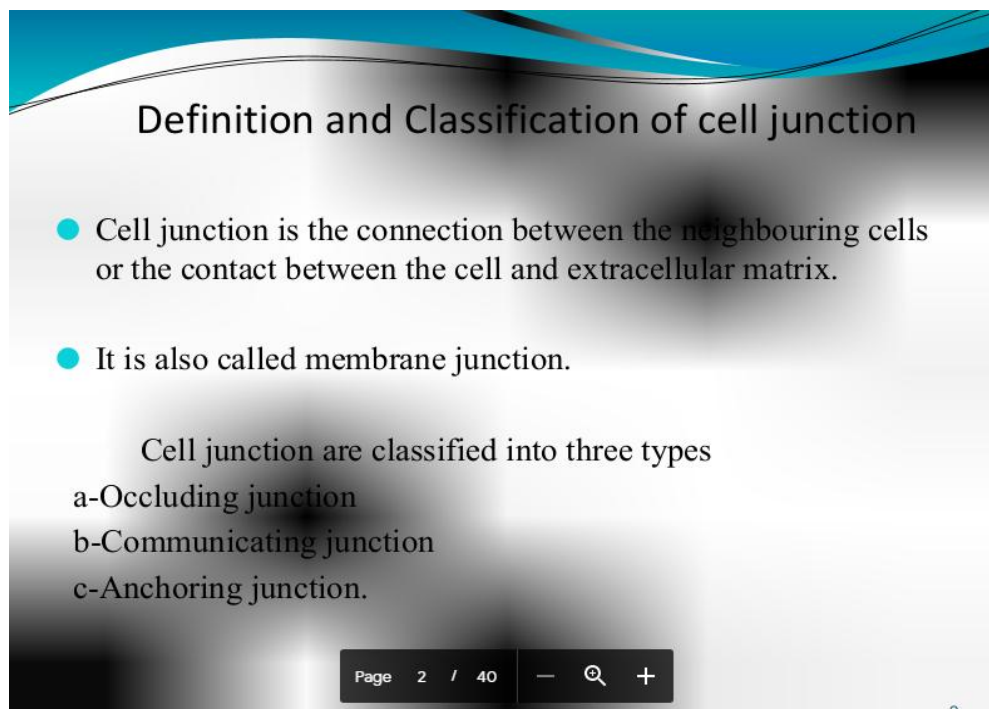
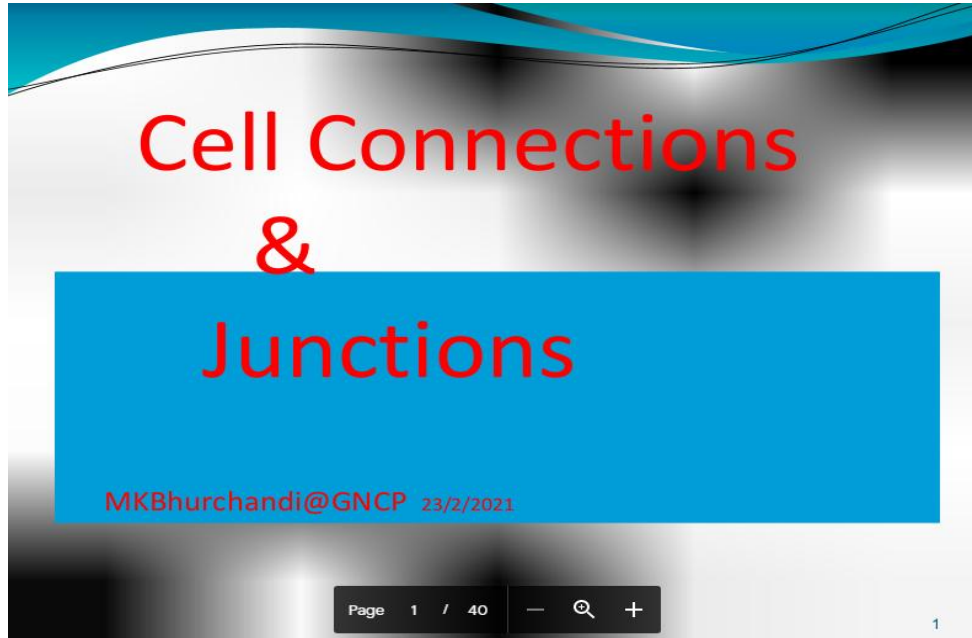
[Flipped\\_Classroom\\_Activity\\_KESHAV MOHARIR](#)

Follow the instructions as given below -

  
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Principal  
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Representative power point presentation of faculty



*Committee*  
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Dr. A. M. Itadwar  
Principal  
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# Membrane Structure and Function

Mrs Minal K Bhurchandi Faculty GNCP Nagpur

## Membrane Function

- **Membranes organize the chemical activities of cells.**
- The outer plasma membrane
  - forms a boundary between a living cell and its surroundings
  - Exhibits selective permeability
    - Controls traffic of molecules in and out

*Comm. Itadwar*  
**Principal**  
**Dr. A. M. Itadwar**  
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# The Cell Cycle

Mrs Minal K Bhurchandi@GNCP Nagpur

## Five Phases of the Cell Cycle

- ✓  $G_1$  - primary growth phase
- ✓ S - synthesis; DNA replicated
- ✓  $G_2$  - secondary growth phase
- collectively these 3 stages are called interphase*
- ✓ M - mitosis
- ✓ C - cytokinesis

  
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## LEVELS OF ORGANIZATION OF HUMAN BODY

Mrs Minal K. Bhurchandi @  
Gurunanak College of Pharmacy,  
Nagpur

## LEVELS OF ORGANIZATION OF HUMAN BODY

- Anatomy is the study of the structure or form of human body parts and how the body parts are arranged in relation with each other.
- There are many disciplines within anatomy.
- GROSS ANATOMY is the study of what can be seen with the naked eye. It is the study of large structures such as organs, bones muscles etc.
- Involves the technique of DISSECTION.
- Dissection means “to section “or “to cut”.

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IIIrd Semester B. Pharmacy

**Physical Pharmaceutics -I**

Unit II Part-3

**Physicochemical properties of drug molecules**  
(Dielectric constant, dipole moment and dissociation constant)

By

**Dr. Govind K. Lohiya**

Gurunanak College of Pharmacy, Nagpur



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**Physicochemical properties of drug molecules**

- Prerequisite for the formulation.
- Types of dosage form
- Chances of incompatibilities
- Stability aspect
- Interrelationship between molecular structure and drug action.

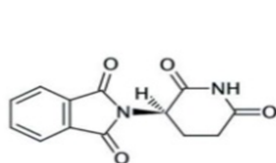
Properties are

**Additive:**

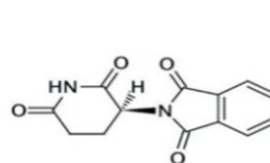
Sum of properties of individual atoms or functional group in molecule. e.g. mass

**Constitutive:**

Depends on the structural arrangements of atom within the molecules.  
e.g. Optical rotation



R-(+)- Thalidomide




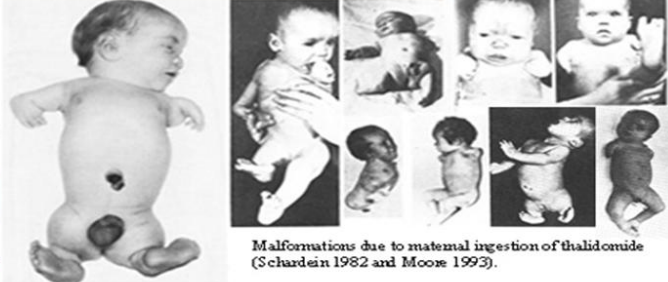
S-(-)-Thalidomide

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### Physicochemical properties of drug molecules

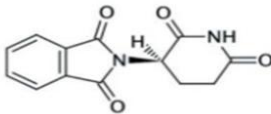
**Prerequisite for the formulation.**


Malformations due to maternal ingestion of thalidomide (Schardein 1982 and Moore 1993).

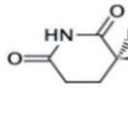
**Additive:**  
Sum of properties of individual atoms or functional group in molecule. e.g. mass

Depends on the **number of atoms**




R-(+)-Thalidomide





S-(-)-Thalidomide




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### 1. Optical rotation:


- **Optical activity: Dextro and Laevo:**
- **Construction: Polarimeter**
- **Working:**
- **Specific rotation:**

L-alanine

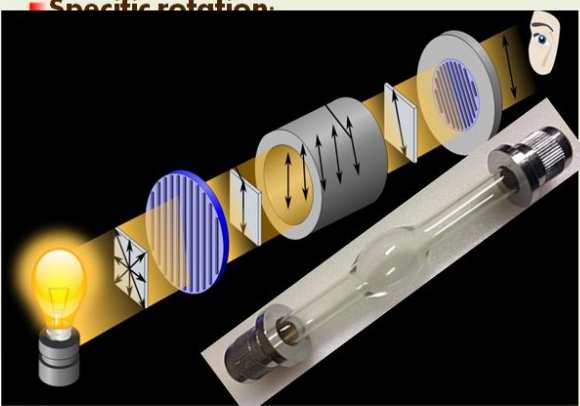



(+) *dextrorotatory*

D-alanine



(-) *levorotatory*



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1. Optical rotation:

- Optical activity: Dextro and Laevo:
- Construction: Polarimeter
- Working:
- Spec

**Formula for Specific Rotation**

$$[\alpha] = \frac{\alpha_{\text{observed}}}{c \times l}$$

Observed rotation (units = degrees)  
Path length (units = dm)  
Concentration (units = g/ml)  
Specific rotation (in degrees\*)

**L-alanine**  
C[C@@H](N)C(=O)O  
(+) dextrorotatory

**D-alanine**  
C[C@H](N)C(=O)O  
(-) levorotatory

1. Optical rotation:

- Optical activity: Dextro and Laevo:
- Construction: Polarimeter
- Working:
- Specific rotation:
- Application
  - To determine the optical activity of compound.
  - To determine the purity of the compound (imp Pharmacopoeia test).
  - In QA to determine the concentration of the substances.
  - In sugar industries to determine the quality of sugar juice.

**L-alanine**  
C[C@@H](N)C(=O)O  
(+) dextrorotatory

**D-alanine**  
C[C@H](N)C(=O)O  
(-) levorotatory

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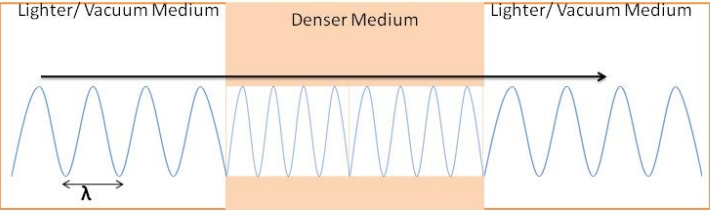
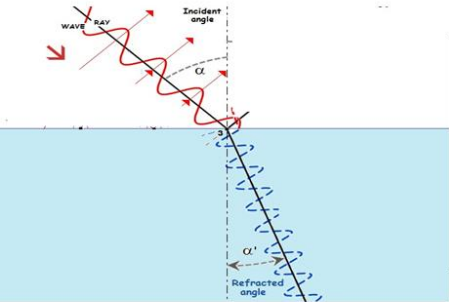
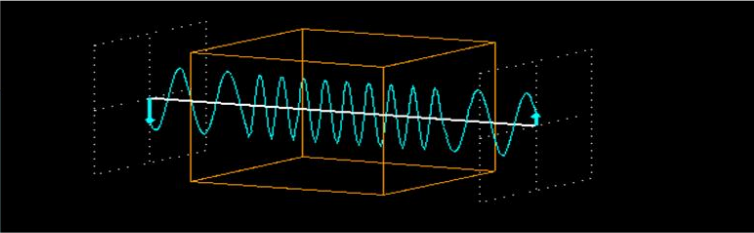
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**Refractive index- Optical rotation- Dielectric constant- Dipole moment Dissociation constant**

**2. Refractive index ( $n=c/v$ )**

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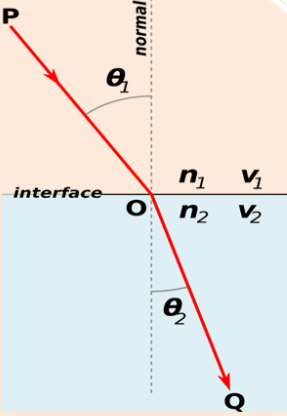
**Refractive index- Optical rotation- Dielectric constant- Dipole moment Dissociation constant**

**1. Refractive index**

- **Refraction: Direction and speed change**
  - Bending toward the interface
  - Bending away from interface
- **To check the purity of the compound.**
- **RI given by the Snell's law:**

Snell's Law:  
 $n_1 \sin \theta_1 = n_2 \sin \theta_2$

- **$n = \sin \theta_1 / \sin \theta_2$**



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### Measurement of Refractive Index

1. Abbe's    2. Pulfrich    3. Immersion    4. V block

**Principle:** Critical angle  
**Construction:**

telescope  
compensating Amici prisms  
shadow and scale seen together  
measuring prism  
illuminating prism  
sample  
light source

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### Measurement of Refractive Index

3. Immersion    4. V block

Light Beam  
Eyepiece  
Scale  
Sample  
Prisms  
Mirror  
telescope  
shadow and scale seen together  
measuring prism  
illuminating prism  
sample  
light source

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### Measurement of Refractive Index

1. Abbe's    2. Pulfrich    3. Immersion    4. V block

**Principle:** Critical angle  
**Construction:**  
**Working:**

telescope  
compensating Amici prisms  
shadow and scale seen together  
measuring prism  
illuminating prism  
sample  
light source

Too low  
Too high

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### Measurement of Refractive Index

1. Abbe's    2. Pulfrich    3. Immersion    4. V block

**Principle:** Critical angle  
**Construction:**  
**Working:**

light bulb  
Glass cell  
light A  
90° B  
Prism  
C  
i  
Scale  
Telescope  
90° B  
A  
C  
r  
 $\mu_0$   
i

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**Measurement of Refractive Index**

1. Abbe's 2. Pulfrich 3. Immersion 4. V block

**Principle: Critical angle**

Labels: refractometer, scale, measuring prism, light source, mirror

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**Measurement of Refractive Index**

1. Abbe's 2. Pulfrich 3. Immersion 4. V block

**Principle: Angle of refraction and taking measures the of the exit angle**

**Construction:**

**Working:**

Labels: slit, sample, telescope

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## Dioscorea



By  
**Dr. Sumit Arora**  
Assistant Professor,  
Gurunanak College of Pharmacy, Nagpur

## Dioscorea

Dioscorea belongs to the chemical class of steroids


### **Synonyms**

Yam, Rheumatism root

### **Botanical Source**

Dioscorea is the dried tubers of several species of *Dioscorea* like *D. villosa*, *D. prazeri* Prain and Burk; *D. composite*; *D. spiculiflora*; *D. deltoidea* and *D. floribunda*

**Family:** Dioscoreaceae.

  
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## Guggul



By  
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## Guggul

Guggul belongs to the chemical class of Resins

### **Synonyms**

Gumguggul, Salai-gogil. Scented bdellium, Indian Bdellium

### **Botanical Source**

Guggul is a oleagumresin obtained by incision of the bark of *Commiphora mukul* (H. and S.) Engl., *Commiphora weightii*. It should not contain less than 1.0 % and not more than 1.5 % of guggulsterones (Z and E).

**Family:** Burseraceae

  
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## Pharmacognosy of Digitalis



By  
**Dr. Sumit Arora**  
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### **Digitalis**

Digitalis herb belongs to the chemical class of Cardiac glycosides.

#### **Synonyms**

Digitalis leaves, foxglove leaves.


#### **Botanical Source**

Digitalis consists of dried leaves of *Digitalis purpurea*. It should not contain more than 5 % moisture.

**Family:** Scrophulariaceae.

#### **Cultivation, collection and preparation:**

It is a biennial or perennial herb of about 1-2 meters.

  
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## Pharmacognosy of Opium



By  
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### Opium

Opium belongs to the chemical class of Isoquinoline alkaloids.

#### **Synonyms**

Raw Opium

#### **Botanical Source**

It is dried latex obtained by incision from the unripe capsules of *Papaver somniferum* Linn. It should not contain less than 9.5 % of morphine calculated as anhydrous morphine.

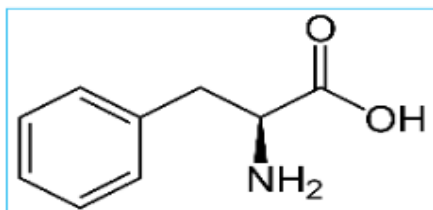
According to British Pharmacopoeia opium required to contain not less than 10 % of morphine and not less than 2.0 % of codeine. The Thebaine content is limited to 3 %.

**Family:** Papaveraceae.

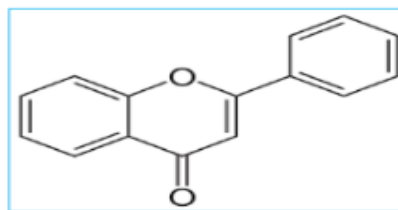
  
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## Phenylpropanoids and Flavonoids



**Phenylpropanoids**



**Flavonoids**

By

**Dr. Sumit Arora**

Assistant Professor,

Gurunanak College of Pharmacy, Nagpur

### Lignans

- ✓ This is a group of plant nutrients (phytonutrients found in vegetables in fruits, roots, heart wood, seeds, and grains.
- ✓ Lignans are low molecular weight products, formed by the oxidative coupling of p hydroxy phenyl propene units, in which two units are linked by oxygen bridge.
- ✓ They are also found in resinous exudates of plants.
- ✓ Lignans are also optically active compounds.
- ✓ Flax seed is the richest source of plant lignans as compared to rye, buck wheat, millet soya and barley.

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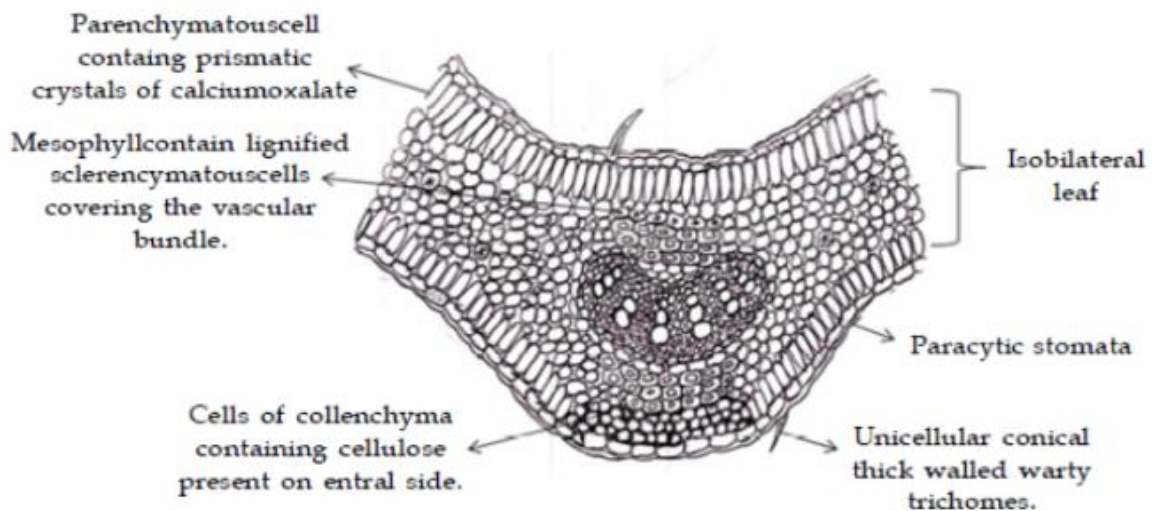
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## Microscopy



T.S, of Sema leaflet

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# Drug absorption through GIT: Transport models

LECTURE I  
BY  
T.M.RASALA  
ASSISTANT PROFESSOR

## Transport model : Permeability-Solubility charge state & The pH partition Hypothesis

Fick's first law applied to a membrane shows that passive diffusion of a solute is the product of the diffusivity and the concentration gradient of the solute inside the membrane. For an ionizable molecule to permeate by passive diffusion most efficiently, the molecule needs to be in its uncharged form at the membrane surface.

- Consider a vessel divided into two chambers, separated by a homogeneous lipid membrane. The left side is the donor compartment, where the sample molecules are first introduced; the right side is the acceptor compartment, which at the start has no sample molecules.

  
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## FICK'S FIRST LAW OF DIFFUSION APPLIED TO DISSOLUTION

By Fick's first law of diffusion:

$$\text{Rate of Solution} = \frac{D \bullet A \bullet (C_s - C_b)}{h}$$

where D is the diffusion coefficient, A the surface area,  $C_s$  the solubility of the drug,  $C_b$  is the concentration of drug in the bulk solution, and h the thickness of the stagnant layer.

If  $C_b$  is much smaller than  $C_s$  then we have so-called "Sink Conditions"

## FICK'S FIRST LAW - SINK CONDITIONS

$$\text{Rate of Solution} = \frac{D \bullet A \bullet C_s}{h}$$

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## BIOEQUIVALENCE PROTOCOL

BY

**T.M.RASALA**

Assistant Professor

Pharmaceutics Department

Gurunanak college of pharmacy

## Elements of Bioequivalence

### Study Protocol

#### 1. Title

- a. Principal investigator
- b. Project number and date

#### 2. Study objective

#### 3. Study design

- a. Design
- b. Drug Products
  - i. Test products(s)
  - ii. Reference product
- c. Dosage regimen
- d. Sample collection schedule

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## 2. Latin Square Design:

□ More than two formulations

Eg: A group of volunteers will receive formulations in the sequence.

Volunteer Number	Period 1	Period 2	Period 3
1	A	B	C
2	B	C	A
3	C	A	B

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# RESEARCH PROPOSAL

## BY

### T.M.RASALA

### ASSISTANT PROFESSOR

### GNPC, NAGPUR

## Type of Research study

- To gain familiarity with a phenomenon or to achieve new insights into it (**Exploratory or formulative** research studies)
- To describe accurately the characteristics of a particular individual, situation or a group (**Descriptive** research studies)
- To determine the frequency with which something occurs or with which it is associated with something else (**Diagnostic** research studies)
- To test a hypothesis of a causal relationship between variables (**Hypothesis-testing** research studies).

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## Guidelines on Evaluation of Safety/Toxicity of Chemical substances

Subject: Biological Evaluation

M. Pharm Semester II

**Nidhi Sapkal**

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## Organization of Economic Co-operation & Development (OECD)

No.	Title	Original Adoption	No. of Updates	Updates	Most Recently Updated
401	Acute Oral Toxicity	12 May 1981	1	24 February 1987	Date of Deletion: 17 December 2001
402	Acute Dermal Toxicity	12 May 1981	1		24 February 1987
403	Acute Inhalation Toxicity	12 May 1981	1		7 September 2009
404	Acute Dermal Irritation/Corrosion	12 May 1981	2	17 July 1992	24 April 2002
405	Acute Eye Irritation/Corrosion	12 May 1981	3	24 April 2002 24 February 1987	2 October 2012
406	Skin Sensitisation	12 May 1981	1		17 July 1992
407	Repeated Dose 28-Day Oral Toxicity Study in Rodents	12 May 1981	2	27 July 1995	3 October 2008
408	Repeated Dose 90-Day Oral Toxicity Study in Rodents	12 May 1981	1		21 September 1998
409	Repeated Dose 90-Day Oral Toxicity Study in Non-Rodents	12 May 1981	1		21 September 1998

  
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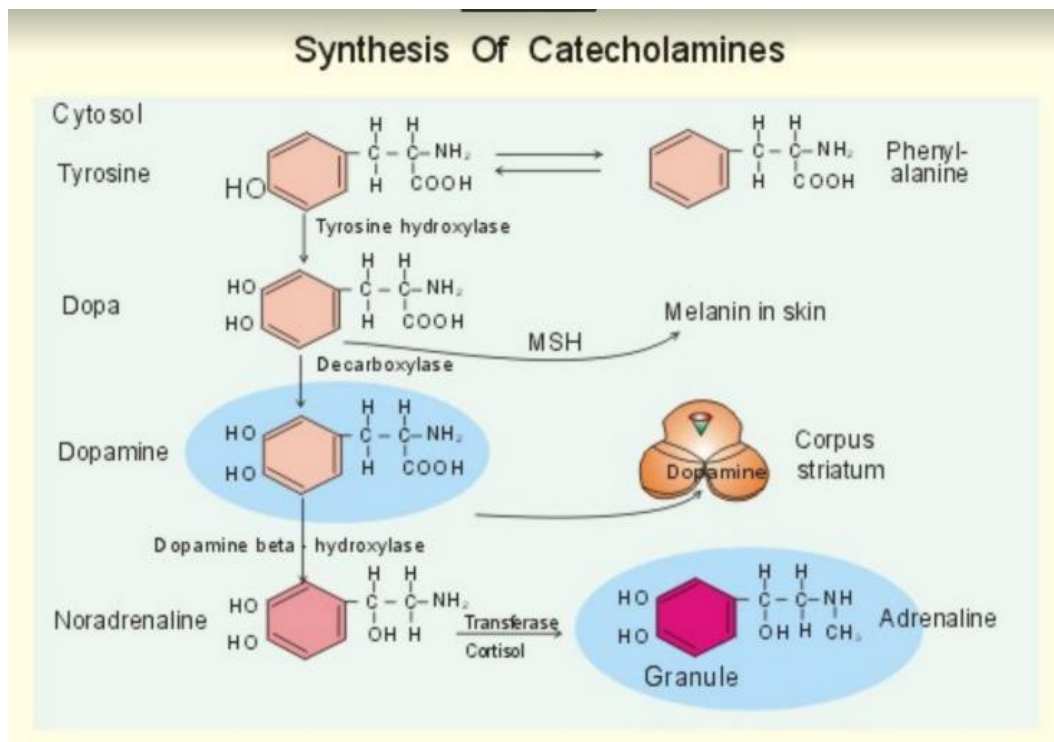
# ADRENERGIC AGONISTS

## SYMPATHOMIMETICS

Subject: Advanced Medicinal Chemistry  
M. Pharm Semester I

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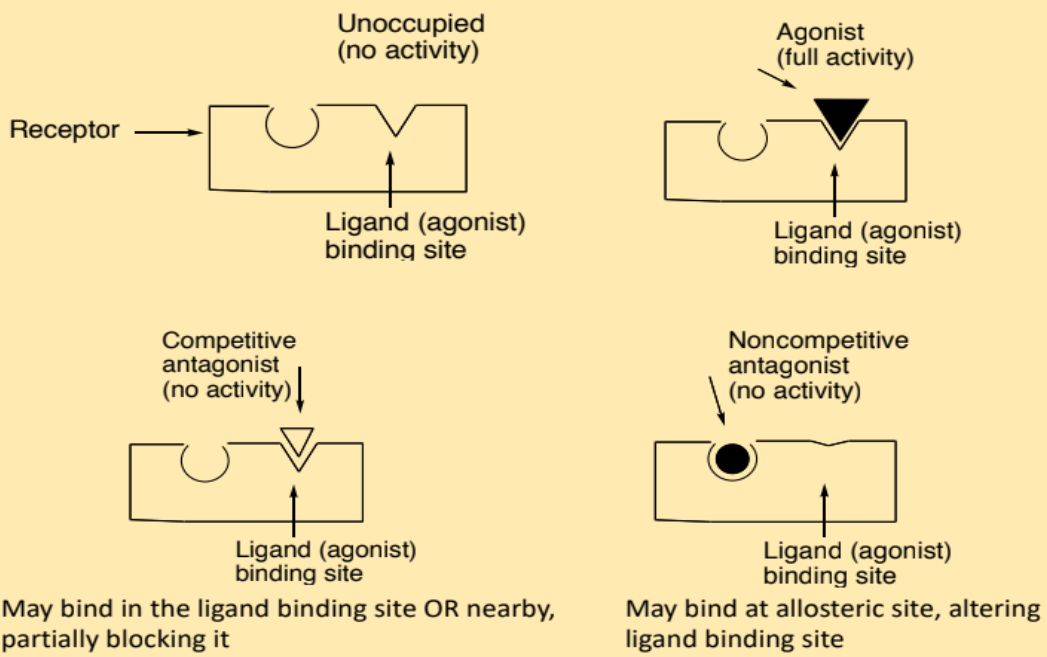
## RADIOLIGAND BINDING ASSAY

Subject: Biological Evaluation  
M. Pharm Semester II

**Nidhi Sapkal**

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### Occupancy Theory: Types of antagonists - one receptor



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## ECOSYSTEM

B.Pharm Sem II  
Environmental Sciences  
Session 2018:19  
Gurunanak College of Pharmacy, Nagpur  
Prepared by: Shobha Ubgade

1

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### Types

#### ➤ Natural

1. Terrestrial ecosystems (grasslands, forests, desert ecosystems)



2. Aquatic ecosystem

a. Lentic (Stagnant water) like lake, ponds etc.

b. Lotic (Flowing water) like river, ocean, sea, etc.



#### ➤ Artificial

1. A crop land, garden, aquarium, park, kitchen garden.

5

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## National AIDS Control Programme

**B.Pharm VIII Semester**  
**Gurunanak College of Pharmacy, Nagpur**  
**Prepared by: Shobha Ubgade**  
**Session: 2020:21**

**HIV** Human Immunodeficiency Virus / **AIDS** Acquired Immunodeficiency Syndrome

- HIV causes AIDS and interferes with the body's ability to fight infections.
- The virus can be transmitted through contact with infected blood, semen or vaginal fluids.
- Within a few weeks of HIV infection, flu-like symptoms such as fever, sore throat and fatigue can occur. Then the disease is usually asymptomatic until it progresses to AIDS. AIDS symptoms include weight loss, fever or night sweats, fatigue and recurrent infections.

  
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# Osteoarthritis

Clinical Pharmacotherapeutics I

B.Pharm VI Semester

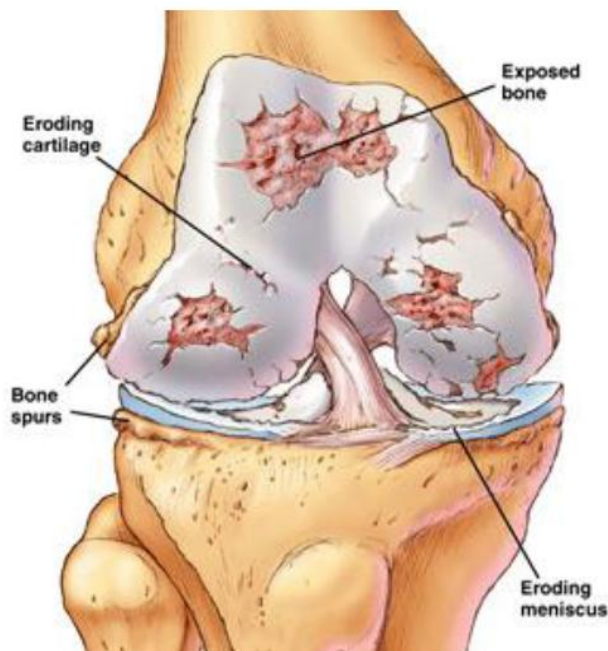
Session:2016:17

Gurunanak College of Pharmacy, Nagpur

Prepared by: Shobha Ubgade

GNCP

OA



GNCP

OA is a disease of joints that affects all of the weight-bearing components of the joint:

- Articular cartilage
- Menisci
- Bone

3

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# INDIAN PATENT ACT 1970

By – Dr. V. A. Kilor

Subject- Regulatory Affairs and Intellectual property Rights

Class- B.Pharm SEM-V

## Law and Regulations

- Patents Act, 1970
  - Amended in
    - 1999
    - 2002
    - 2005
- Patents Rules, 2003
  - Amended in
    - 2005
    - 2006

  
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# Controlled Release Oral Drug Delivery System

By

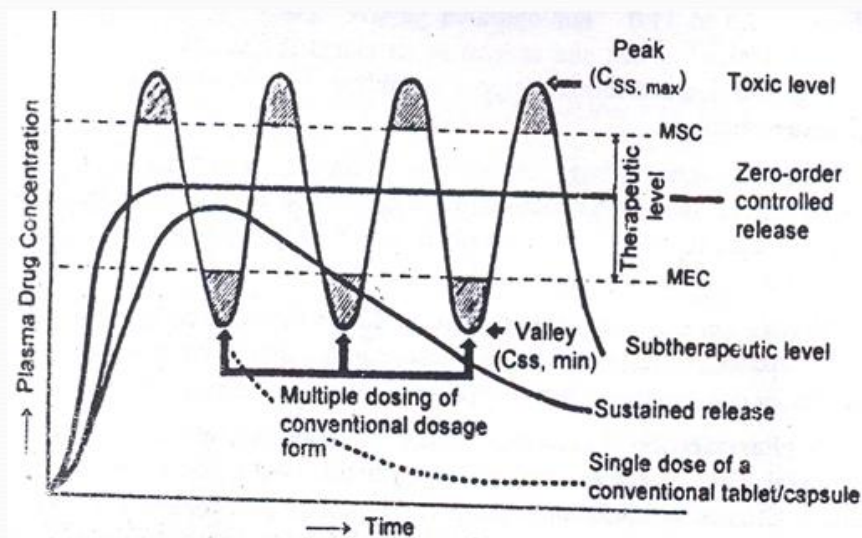
Keshav Moharir

Assistant professor

Gurunanak College of Pharmacy

Nagpur

## Plasma-drug concentration time profile

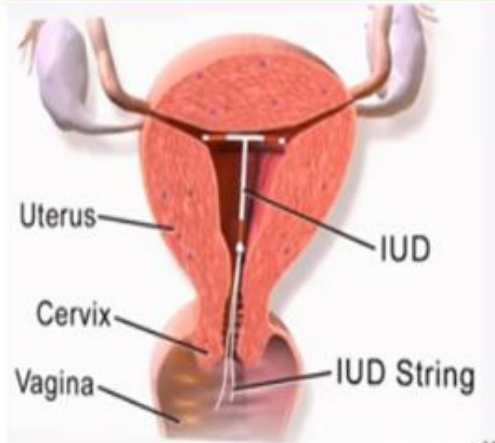


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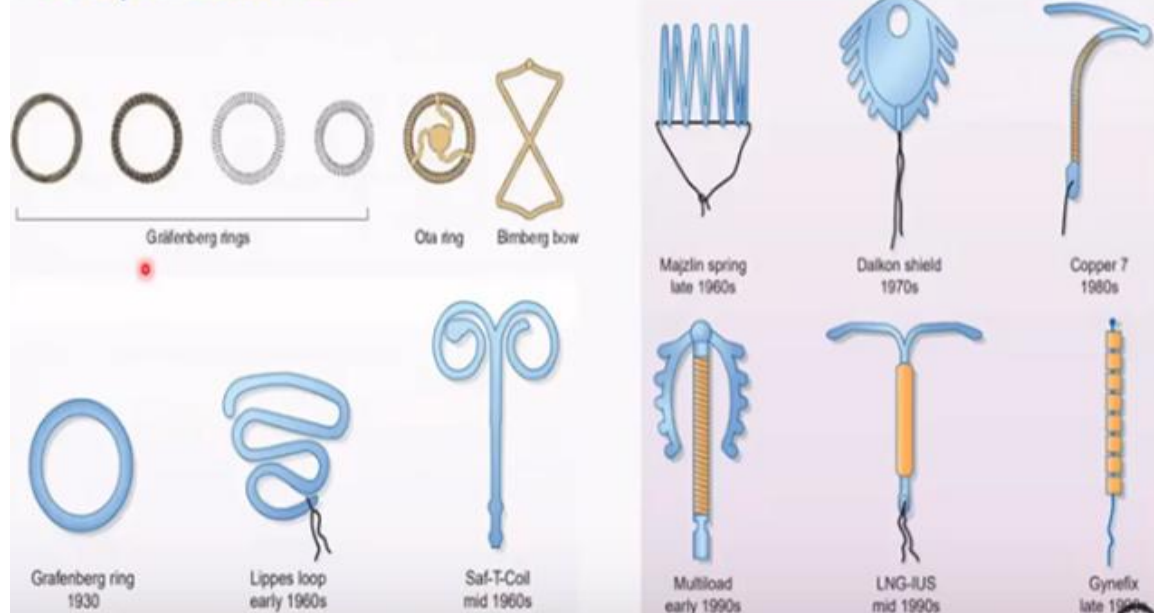
# Intrauterine Drug Delivery Systems



Keshav S. Moharir  
Assistant professor  
Gurunank College  
of Pharmacy

## Introduction- Development of Intra Uterine Devices

### Development of IUDs- 1920



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# Combinatorial Chemistry

Session 2017-18

B. Pharm. VI Sem.

PMC-II

Ms. Pradnya Gondane

Assistant Professor

Gurunanak College of Pharmacy,  
Nagpur



## Combinatorial library

Def: Collection of finally synthesized compounds

Size: depends on the number of building blocks used per reaction and the number of reaction steps, in which a new building block is introduced

Typical:  $10^2$  up to  $10^5$  compounds

### Random Libraries

- multiple libraries
- many targets
- highly diverse
- mixtures
- > 5,000 compounds
- solid phase synthesis
- non-purified compounds
- on bead screening, if possible

### Focused or targeted Libraries

- Template- scaffold library
- one target
- high structural similarity
- single compounds
- << 5,000 compounds
- synthesis in solution, solid phase
- pure compounds
- screening in solution

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Recording Room for lectures



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e-Content developed by faculty and available on YouTube/ Slide share platform

Sr. No.	Topic	Year	link
Videos by Dr. G.K. Lohiya			
1.	Student Activity by Radha Kapgate and Atharv Tithe_	IIIrd sem	<a href="https://youtu.be/fLeRQXbaXPc">https://youtu.be/fLeRQXbaXPc</a>
2.	Student Activity by Rutuja Sonwane and Urvashi Menghani	IIIrd sem	<a href="https://youtu.be/6MnuqjoC83A">https://youtu.be/6MnuqjoC83A</a>
3.	Student Activity by Asema Razi and Urvashi Menghani	IIIrd sem	<a href="https://youtu.be/dlFWxaZPA2Y">https://youtu.be/dlFWxaZPA2Y</a>
4.	Basics of Patent and How to do Patent search and	For	<a href="https://youtu.be/XnPA9wQSDsY">https://youtu.be/XnPA9wQSDsY</a>

	download from USPTO, WIPO, EPO and Indian Patent	PG	
5.	Effective and efficient use of MS Word in Thesis Writing Part 1	For PG	<a href="https://youtu.be/VXdZyuiPzLI">https://youtu.be/VXdZyuiPzLI</a>
6.	Effective and efficient use of MS Word in Thesis Writing Part 2	For PG	<a href="https://youtu.be/7QfjaRYXiw8">https://youtu.be/7QfjaRYXiw8</a>

  
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7.	Part 1 of unit 1 Solubility of drugs Physical Pharmaceutics I by Dr Govind Lohiya	IIIrd sem	<a href="https://youtu.be/IVK13SgulhQ">https://youtu.be/IVK13SgulhQ</a>
8.	Part 2 of unit 1 solubility of drugs Physical Pharmaceutics Mechanism of solute solvent interaction	IIIrd sem	<a href="https://youtu.be/hScYS-LlaxM">https://youtu.be/hScYS-LlaxM</a>
9.	Part 3 of unit 1 solubility of drugs Physical Pharmaceutics Ideal Solubility parameters	IIIrd sem	<a href="https://youtu.be/BYeRr6M0wMU">https://youtu.be/BYeRr6M0wMU</a>
10.	Part 4 of unit 1 solubility of drugs Solvation and Association Physical Pharmaceutics	IIIrd sem	<a href="https://youtu.be/hCWCMZp7qrg">https://youtu.be/hCWCMZp7qrg</a>
11.	Part 5 of unit 1 solubility of drugs Factors affecting solubility of drugs Physical Pharmaceutic	IIIrd sem	<a href="https://youtu.be/RE-jXfa_gzM">https://youtu.be/RE-jXfa_gzM</a>
12.	How to measure surface tension of liquid at home with homemade stalagmometer?	IIIrd sem	<a href="https://youtu.be/ndVxentXsQU">https://youtu.be/ndVxentXsQU</a>

  
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13.	Part 6 of unit 1, Diffusion principles in biological, Solubility of drugs Physical Pharmaceutics I	IIIrd sem	<a href="https://youtu.be/i-TloEbUGkk">https://youtu.be/i-TloEbUGkk</a>
14.	Part 7 of unit 1 solubility of gas in liquid , Solubility of drugs Physical Pharmaceutics I	IIIrd sem	<a href="https://youtu.be/qZTNwDLAsl4">https://youtu.be/qZTNwDLAsl4</a>
15.	Part 8-Unit 1 Solubility of drugs: solubility of liquid in liquid, Raoults law, Ideal solutuion PP-I	IIIrd sem	<a href="https://youtu.be/9FGkYwQFuWU">https://youtu.be/9FGkYwQFuWU</a>
16.	Part 9 of unit 1: Solubility of Drugs PP-I: Partial miscibility with Phenol water system	IIIrd sem	<a href="https://youtu.be/Yd8eAGFLuvq">https://youtu.be/Yd8eAGFLuvq</a>
17.	Part 10 of unit 1 Solubility of Drugs of PP I: Nernst's Distribution law or Distribution coefficient	IIIrd sem	<a href="https://youtu.be/BGqyD6sEY4E">https://youtu.be/BGqyD6sEY4E</a>
18.	Chemical Kinetics Part-1_ Dr G K Lohiya	IVth Sem	<a href="https://www.youtube.com/watch?v=TsfOjPi5qbQ&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJsGMkKfj&amp;index=2&amp;t=4s">https://www.youtube.com/watch?v=TsfOjPi5qbQ&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJsGMkKfj&amp;index=2&amp;t=4s</a>
19.	Chemical Kinetics Part 2 Dr G K Lohiya	IVth Sem	<a href="https://www.youtube.com/watch?v=170QobDhq6A&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJsGMkKfj&amp;index=7">https://www.youtube.com/watch?v=170QobDhq6A&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJsGMkKfj&amp;index=7</a>

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20.	Chemical Kinetics Part 3 Dr G K Lohiya	IVth Sem	<a href="https://www.youtube.com/watch?v=emtKLVHTrcA&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJSGMkKFj&amp;index=2">https://www.youtube.com/watch?v=emtKLVHTrcA&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJSGMkKFj&amp;index=2</a>
21.	Chemical Kinetics Part 4 Dr G K Lohiya	IVth Sem	<a href="https://www.youtube.com/watch?v=170QobDhq6A&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJSGMkKFj&amp;index=7">https://www.youtube.com/watch?v=170QobDhq6A&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJSGMkKFj&amp;index=7</a>
22.	Chemical Kinetics Part 5 Dr G K Lohiya	IVth Sem	<a href="https://www.youtube.com/watch?v=EOV12J-B-Bo&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJSGMkKFj&amp;index=9">https://www.youtube.com/watch?v=EOV12J-B-Bo&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJSGMkKFj&amp;index=9</a>
23.	Chemical Kinetics Part 6 Dr G K Lohiya	IVth Sem	<a href="https://www.youtube.com/watch?v=jXpkafBqS4s&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJSGMkKFj&amp;index=8">https://www.youtube.com/watch?v=jXpkafBqS4s&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJSGMkKFj&amp;index=8</a>

24.	Chemical Kinetics Part 7 Dr G K Lohiya	IVth Sem	<a href="https://www.youtube.com/watch?v=Px_LG0ozT4E&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJSGMkKFj&amp;index=4">https://www.youtube.com/watch?v=Px_LG0ozT4E&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJSGMkKFj&amp;index=4</a>
25.	Chemical Kinetics Part 8 Dr G K Lohiya Physical and chemical factors influencing the chemical degra	IVth Sem	<a href="https://www.youtube.com/watch?v=aJYBdKBJelY&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJSGMkKFj&amp;index=5">https://www.youtube.com/watch?v=aJYBdKBJelY&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJSGMkKFj&amp;index=5</a>
26.	Chemical Kinetics Part 9 Dr G K Lohiya Physical and chemical factors influencing the chemical degr	IVth Sem	<a href="https://www.youtube.com/watch?v=5HaolJFgywE&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJSGMkKFj&amp;index=6">https://www.youtube.com/watch?v=5HaolJFgywE&amp;list=PLRgh1O_4tPGd33muBaFpWN8mNJSGMkKFj&amp;index=6</a>
27.	Stability Testing Q1AR2 Part 1_Dr. Govind K. Lohiya	Vith Sem	<a href="https://www.youtube.com/watch?v=H45rjILfZ-Q&amp;list=PLRgh1O_4tPGc2fCC4LREQ_iVAllyJ4Wr8&amp;index=8">https://www.youtube.com/watch?v=H45rjILfZ-Q&amp;list=PLRgh1O_4tPGc2fCC4LREQ_iVAllyJ4Wr8&amp;index=8</a>

  
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28.	Stability Tersting Q1AR2 Part 2_Dr. Govind K. Lohiya	Vlth Sem	<a href="https://www.youtube.com/watch?v=ug2yce5lM28&amp;list=PLRgh1O_4tPGc2fCC4LREQ_iVAllyJ4Wr8&amp;index=7">https://www.youtube.com/watch?v=ug2yce5lM28&amp;list=PLRgh1O_4tPGc2fCC4LREQ_iVAllyJ4Wr8&amp;index=7</a>
29.	Stability Tersting Q1AR2 Part 3 Dr G K Lohiya	Vlth Sem	<a href="https://www.youtube.com/watch?v=bU39XnSC6Cg&amp;list=PLRgh1O_4tPGc2fCC4LREQ_iVAllyJ4Wr8&amp;index=6">https://www.youtube.com/watch?v=bU39XnSC6Cg&amp;list=PLRgh1O_4tPGc2fCC4LREQ_iVAllyJ4Wr8&amp;index=6</a>
30.	Photo Stability Testing Q1B Dr G K Lohiya	Vlth Sem	<a href="https://www.youtube.com/watch?v=6xtlS5nU5U0&amp;list=PLRgh1O_4tPGc2fCC4LREQ_iVAllyJ4Wr8&amp;index=5">https://www.youtube.com/watch?v=6xtlS5nU5U0&amp;list=PLRgh1O_4tPGc2fCC4LREQ_iVAllyJ4Wr8&amp;index=5</a>
31.	Stability Tersting Q1D Part 1 Dr G K Lohiya Bracketing and Matrixing Design	Vlth Sem	<a href="https://www.youtube.com/watch?v=eHUqFwnrH_o&amp;list=PLRgh1O_4tPGc2fCC4LREQ_iVAllyJ4Wr8&amp;index=2">https://www.youtube.com/watch?v=eHUqFwnrH_o&amp;list=PLRgh1O_4tPGc2fCC4LREQ_iVAllyJ4Wr8&amp;index=2</a>
32.	Stability Tersting Q1D Part 2 Dr G K Lohiya Bracketing and Matrixing Design	Vlth Sem	<a href="https://www.youtube.com/watch?v=TDNx1a-JtKc&amp;list=PLRgh1O_4tPGc2fCC4LREQ_iVAllyJ4Wr8&amp;index=1">https://www.youtube.com/watch?v=TDNx1a-JtKc&amp;list=PLRgh1O_4tPGc2fCC4LREQ_iVAllyJ4Wr8&amp;index=1</a>
34.	NABL Part 2 Dr G K Lohiya National Accreditation Board of Testing and Calibration Laboratories	Vlth Sem	<a href="https://www.youtube.com/watch?v=dsc2SqFhURE&amp;list=PLRgh1O_4tPGc2fCC4LREQ_iVAllyJ4Wr8&amp;index=3">https://www.youtube.com/watch?v=dsc2SqFhURE&amp;list=PLRgh1O_4tPGc2fCC4LREQ_iVAllyJ4Wr8&amp;index=3</a>
35.	How to Use Google class room to submit assignments?	Online content	<a href="https://www.youtube.com/watch?v=IIWrAm8v7Yc&amp;list=PLRgh1O_4tPGcMHPEpV8hZ5Ak1ZK1ptlme">https://www.youtube.com/watch?v=IIWrAm8v7Yc&amp;list=PLRgh1O_4tPGcMHPEpV8hZ5Ak1ZK1ptlme</a>
36.	Google Classroom Assignment rubrics creations and study material	Online content	<a href="https://www.youtube.com/watch?v=Vdnr-Db6au0&amp;list=PLRgh1O_4tPGcMHPEpV8hZ5Ak1ZK1ptlme&amp;index=3">https://www.youtube.com/watch?v=Vdnr-Db6au0&amp;list=PLRgh1O_4tPGcMHPEpV8hZ5Ak1ZK1ptlme&amp;index=3</a>

  
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37.	How to Create Google Forms MCQ Assignment through Google Classroom and Google Form?	Online content	<a href="https://www.youtube.com/watch?v=7C4FxbpPru8&amp;list=PLRgh1O_4tPGcMHPEpV8hZ5Ak1ZK1pt1me&amp;index=4">https://www.youtube.com/watch?v=7C4FxbpPru8&amp;list=PLRgh1O_4tPGcMHPEpV8hZ5Ak1ZK1pt1me&amp;index=4</a>
38.	How to conduct Online Exam through google classroom ?	Online content	<a href="https://www.youtube.com/watch?v=ayNBC1R8ssc&amp;list=PLRgh1O_4tPGcMHPEpV8hZ5Ak1ZK1pt1me&amp;index=5">https://www.youtube.com/watch?v=ayNBC1R8ssc&amp;list=PLRgh1O_4tPGcMHPEpV8hZ5Ak1ZK1pt1me&amp;index=5</a>
39.	How to use Google classroom App on mobile? A video Guide for the Teachers	Online content	<a href="https://www.youtube.com/watch?v=cVDaGM4RZ-o&amp;list=PLRgh1O_4tPGcMHPEpV8hZ5Ak1ZK1pt1me&amp;index=6">https://www.youtube.com/watch?v=cVDaGM4RZ-o&amp;list=PLRgh1O_4tPGcMHPEpV8hZ5Ak1ZK1pt1me&amp;index=6</a>
40.	Tribute to Corona Warriors from Dr Govind K Lohiya Nagpur	Social Awareness	<a href="https://www.youtube.com/watch?v=4CruI6zfHqE&amp;list=PLRgh1O_4tPGcMHPEpV8hZ5Ak1ZK1pt1me&amp;index=2">https://www.youtube.com/watch?v=4CruI6zfHqE&amp;list=PLRgh1O_4tPGcMHPEpV8hZ5Ak1ZK1pt1me&amp;index=2</a>
41.	Part 1 UNIT V PP I pH, buffers and Isotonic solutions Sorenson pH Scale	IIIrd sem	<a href="https://youtu.be/VqCsQMwfB0s">https://youtu.be/VqCsQMwfB0s</a>
42.	Part 2 UNIT V PP I pH, buffers and Isotonic solutions Measurement of pH Electrometric & colorimetric	IIIrd sem	<a href="https://youtu.be/IPQeSQNwupE">https://youtu.be/IPQeSQNwupE</a>
43.	Part 3 UNIT-V, PP-I: pH, buffers and Isotonic solutions Buffer equation, Henderson Hasselbalch eq	IIIrd sem	<a href="https://youtu.be/vizz5FzDBb4">https://youtu.be/vizz5FzDBb4</a>

  
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44.	Part 4 UNIT V PP I pH, buffers and Isotonic solutions Application of buffers in Pharmacy PP-I	IIIrd sem	<a href="https://youtu.be/mgl66Wu_V5M">https://youtu.be/mgl66Wu_V5M</a>
45.	Part 5 UNIT V PP I pH, buffers and Isotonic solutions Buffer capacity and maximum buffer capacity, P	IIIrd sem	<a href="https://youtu.be/bNTZmNPzk8c">https://youtu.be/bNTZmNPzk8c</a>
46.	Part 6 UNIT V PP I pH, buffers and Isotonic solutions: Buffer in pharmaceutical and biological system	IIIrd sem	<a href="https://youtu.be/T6k2aoGSoLA">https://youtu.be/T6k2aoGSoLA</a>
47.	Part 1: UNIT II of PP I : Physicochemical properties of the drug molecules: Optical rotation	IIIrd sem	<a href="https://youtu.be/v5Pj5lK9D_0">https://youtu.be/v5Pj5lK9D_0</a>
48.	Part 2 UNIT II PP I Physicochemical properties of the drug molecules Refractive Index	IIIrd sem	<a href="https://youtu.be/vSI mj8w8hOc">https://youtu.be/vSI mj8w8hOc</a>
Videos by Dr. S. K. Arora			
49.	How to use Mendeley- Reference Management Software	For PG	<a href="https://www.youtube.com/watch?v=5u-ugS3FZsE">https://www.youtube.com/watch?v=5u-ugS3FZsE</a>

  
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50.	How to Check Plagiarism?	For PG	<a href="https://www.youtube.com/watch?v=w4VtxmpGQQ4">https://www.youtube.com/watch?v=w4VtxmpGQQ4</a>
51.	How to Reduce Plagiarism?	For PG	<a href="https://www.youtube.com/watch?v=EyqV1ybrb74">https://www.youtube.com/watch?v=EyqV1ybrb74</a>
52.	Pharmacognosy of Senna leaflet	IVth Sem	<a href="https://www.youtube.com/watch?v=GvFJ72Zub8k">https://www.youtube.com/watch?v=GvFJ72Zub8k</a>
53.	Pharmacognosy of Digitalis	IVth Sem	<a href="https://www.youtube.com/watch?v=svzGWGimY_k">https://www.youtube.com/watch?v=svzGWGimY_k</a>
54.	Pharmacognosy of Clove Buds	IVth Sem	<a href="https://www.youtube.com/watch?v=vjipbugd8nU">https://www.youtube.com/watch?v=vjipbugd8nU</a>
55.	Pharmacognosy of Cinnamon	IVth Sem	<a href="https://www.youtube.com/watch?v=iZqgMp_oLCc">https://www.youtube.com/watch?v=iZqgMp_oLCc</a>
56.	Pharmacognosy of Rauwolfia	IVth Sem	<a href="https://www.youtube.com/watch?v=gEfQUA0zwkU">https://www.youtube.com/watch?v=gEfQUA0zwkU</a>
57.	Pharmacognosy of Opium	IVth Sem	<a href="https://www.youtube.com/watch?v=JKoH7Xb-ZZA&amp;t=2s">https://www.youtube.com/watch?v=JKoH7Xb-ZZA&amp;t=2s</a>
58.	Pharmacognosy of Belladonna	IVth Sem	<a href="https://www.youtube.com/watch?v=37fM-dvZess&amp;t=2s">https://www.youtube.com/watch?v=37fM-dvZess&amp;t=2s</a>
59.	Pharmacognosy of Ginger	IVth Sem	<a href="https://www.youtube.com/watch?v=II7A3U5GBkg">https://www.youtube.com/watch?v=II7A3U5GBkg</a>
60.	Pharmacognosy of Fennel	IVth Sem	<a href="https://www.youtube.com/watch?v=Ki0GJLRvWmQ">https://www.youtube.com/watch?v=Ki0GJLRvWmQ</a>

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61.	Pharmacognosy of Vinca	IVth Sem	<a href="https://www.youtube.com/watch?v=BvQQ9EDzgSw">https://www.youtube.com/watch?v=BvQQ9EDzgSw</a>
62.	Pharmacognosy of Coriander	IVth Sem	<a href="https://www.youtube.com/watch?v=TI3Sz_i5X9A">https://www.youtube.com/watch?v=TI3Sz_i5X9A</a>
63.	Pharmacognosy of Liquorice	IVth Sem	<a href="https://www.youtube.com/watch?v=VY0xCAVJBRk">https://www.youtube.com/watch?v=VY0xCAVJBRk</a>
64.	Pharmacognosy of Asafoetida	IVth Sem	<a href="https://www.youtube.com/watch?v=g2UEyRbTdf8">https://www.youtube.com/watch?v=g2UEyRbTdf8</a>
65.	Pharmacognosy of Aloe	IVth Sem	<a href="https://www.youtube.com/watch?v=WVUgNgI0Ekw">https://www.youtube.com/watch?v=WVUgNgI0Ekw</a>
66.	Pharmacognosy of Bitter Almond	IVth Sem	<a href="https://www.youtube.com/watch?v=eYY_IHvFBCE">https://www.youtube.com/watch?v=eYY_IHvFBCE</a>
67.	Mentha	IVth Sem	<a href="https://www.youtube.com/watch?v=E00enk9bYGI">https://www.youtube.com/watch?v=E00enk9bYGI</a>
68.	Pterocarpus	IVth Sem	<a href="https://www.youtube.com/watch?v=XU4jVVj3SDw">https://www.youtube.com/watch?v=XU4jVVj3SDw</a>
69.	Dioscorea	IVth Sem	<a href="https://www.youtube.com/watch?v=6r2DPJX7JWM">https://www.youtube.com/watch?v=6r2DPJX7JWM</a>
70.	Catechu	IVth Sem	<a href="https://www.youtube.com/watch?v=qw8p_FqcmAE">https://www.youtube.com/watch?v=qw8p_FqcmAE</a>
71.	Myrrh	IVth Sem	<a href="https://www.youtube.com/watch?v=f-dQZoqBnoI">https://www.youtube.com/watch?v=f-dQZoqBnoI</a>
72.	Colophony	IVth Sem	<a href="https://www.youtube.com/watch?v=G6apHYohYdg">https://www.youtube.com/watch?v=G6apHYohYdg</a>

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73.	Guggul	IVth Sem	<a href="https://www.youtube.com/watch?v=dRdLFTy7Zs0">https://www.youtube.com/watch?v=dRdLFTy7Zs0</a>
74.	Benzoin	IVth Sem	<a href="https://www.youtube.com/watch?v=7p296M1UGDk">https://www.youtube.com/watch?v=7p296M1UGDk</a>
75.	Phenylpropanoids and Flavonoids	IVth Sem	<a href="https://www.youtube.com/watch?v=jjKNyFBFAYk">https://www.youtube.com/watch?v=jjKNyFBFAYk</a>
76.	Iridoids and Naphthquinones	IVth Sem	<a href="https://www.youtube.com/watch?v=O9yYA6MRHNc&amp;t=18s">https://www.youtube.com/watch?v=O9yYA6MRHNc&amp;t=18s</a>
Videos by Dr. S. R. Yende			
77.	Preclinical Experimentation: An overview	PG	<a href="https://youtu.be/9Sokg3gAHOs">https://youtu.be/9Sokg3gAHOs</a>
78.	Approval of Preclinical Experimental Protocol	PG	<a href="https://www.youtube.com/watch?v=_r7Ff9aT7nQ">https://www.youtube.com/watch?v=_r7Ff9aT7nQ</a>
79.	Drug Discovery and Development	IV sem	<a href="https://www.youtube.com/watch?v=RBVDyWNHfNQ">https://www.youtube.com/watch?v=RBVDyWNHfNQ</a>
Slide share content by Dr. S. R. Yende			
80.	<a href="#">Mechanism of inflammation</a>		<a href="https://www.slideshare.net/SubhashR10">https://www.slideshare.net/SubhashR10</a>
81.	<a href="#">Preclinical experimentation: An overview</a>	VII sem	<a href="https://www.slideshare.net/SubhashR10">https://www.slideshare.net/SubhashR10</a>
82.	<a href="#">Commonly used Laboratory Animals</a>	VII sem	<a href="https://www.slideshare.net/SubhashR10">https://www.slideshare.net/SubhashR10</a>
83.	<a href="#">Hospitals and its organization</a>	VII sem	<a href="https://www.slideshare.net/SubhashR10">https://www.slideshare.net/SubhashR10</a>
84.	<a href="#">Drug distribution system in Hospital</a>	VII sem	<a href="https://www.slideshare.net/SubhashR10">https://www.slideshare.net/SubhashR10</a>
85.	<a href="#">Adverse drug reaction</a>	VII sem	<a href="https://www.slideshare.net/SubhashR10">https://www.slideshare.net/SubhashR10</a>
86.	<a href="#">Hospital Formulary</a>	VII sem	<a href="https://www.slideshare.net/SubhashR10">https://www.slideshare.net/SubhashR10</a>
87.	<a href="#">Therapeutic Drug Monitoring</a>	VII sem	<a href="https://www.slideshare.net/SubhashR10">https://www.slideshare.net/SubhashR10</a>

  
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88.	<a href="#">Medication adherence</a>	VII sem	<a href="https://www.slideshare.net/SubhashR10">https://www.slideshare.net/SubhashR10</a>
89.	<a href="#">Patients medication history interview</a>	VII sem	<a href="https://www.slideshare.net/SubhashR10">https://www.slideshare.net/SubhashR10</a>
90.	<a href="#">Community Pharmacy</a>	VII sem	<a href="https://www.slideshare.net/SubhashR10">https://www.slideshare.net/SubhashR10</a>
91.	<a href="#">Community Pharmacy Management</a>	VII sem	<a href="https://www.slideshare.net/SubhashR10">https://www.slideshare.net/SubhashR10</a>

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## ICT Techniques:

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**FLIPPED CLASSROOM ACTIVITY CONSTRUCTOR**

**Subject:- Pharmaceutical Organic Chemistry-II**

Topic Write structure and uses of Naphthalene, anthracene, phenanthrene, diphenylmethane, triphenylmethane and their derivatives.

Target Group : B.Pharm III Semester students

Contents:

1. Out-of-Class activity Design
2. In-the-Class activity Design
3. End of the class with summation

**1. Out-of-class Activity Design**

Learning objectives of the Out of class activity


- a. To get acquainted with the structures and uses of Naphthalene, anthracene, phenanthrene, diphenylmethane, triphenylmethane and their derivatives
- b. To be ready with their own PDF file of above mentioned topic.

Uploaded Video URL :

<https://www.youtube.com/watch?v=DEtISyvPQ6Y>

Duration of Screen cast: 10:17 min

Aligning Assessment with Learning Objective:

  
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Learning Objectives	Assessment Strategy	Expected duration	Additional Instructions (if any)
To get acquainted with the structures and uses of Naphthalene, anthracene, phenanthrene, diphenylmethane, triphenylmethane and their derivatives	On the basic of PDF file prepared from material collected from internet and YouTube	At least one week	If needed find other material related to the topic from Google as well as YouTube
	Remember structure,		
	its IUPAC name, its preparation and uses efficiently		

## 2. In-Class Activity Design

### Learning objectives

- Understanding of the topic with the help of e-Content using web as well as videos.
- Remember structure, its IUPAC name, its preparation and uses efficiently.
- Explaining it properly to their peers.

### Peer Instructions: (15 minutes)


Students are asked to be ready with their PDF file.

What Instructor does: Read PDF files, Poses Question, Let student pair and discuss, ask them to decide who will explain the topic and finally summarizes the topic.

What student does: Vote for question, Discuss with neighbor, Come to agreement, Listens to summary by instructor.

## 3. Assessment of the activity and end of the class with summation

Assessment (10 minutes): The best answer in the PDF file by student was selected by teacher. The excellent prepared PDF file was acknowledged and encouraged for the further participation.

  
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**FLIPPED CLASSROOM  
ACTIVITY**

**CONDUCTOR**

Gurunanak College of Pharmacy, Nagpur

CC BY SA

**Topic: Effective Use of MS Office in  
Pharmaceutical Sciences**

**Pharmaceutical Sciences**

Target Group : **B.Pharm** and  
**M.Pharm** students

**Contents:**

- Homework activities **Out-of-Class activity Design**
- Classroom activities **In-the-Class activity**

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### Out-of-class Activity

Learning objectives of the Out of class activity



To get acquainted with the various terminology used in the MS-Word.

### Out-of-class Activity

Uploaded Video URL :

Moodle Site : <https://gncpict.moodlecloud.com/>

License of Video : 

Duration of Screen cast : 10:17 min

\* Ensure that you give a Creative-Commons License to the uploaded video

### Out-of-class Activity

Aligning Assessment with Learning Objective:

  
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## Assessment of the activity and end of

**Assessment (10 minutes):** The rightly placed headings are considered as the rankers participants and the participants can correct the headings of the colleagues are also rankers. The excellent prepared MS-Word draft can acknowledged and encouraged for the further participation

The overall constructors prepare students for effectively creating the MS-Word Draft for their projects and thesis with reference to auto indexing.

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## Gurunanak College of Pharmacy, Nagpur 19<sup>th</sup> June 2021

*Instructor Resources*

Resource – <i>Think-Pair-Create-Share Activity constructor</i>	<b>June</b>
--	-------------

**Domain:**  
**Pharmacy**  
**Topic:**  
**Emulsion**

**Target: B. Pharm IV Semester Students (in the view of the COVID-19 situation the activity designed the experimentation part which can be performed at home)**

**Learning objectives:**


**To know about the emulsion definition and contents of emulsion formulation. To know about the surface tension and concept of surfactant.**

**To learn about available emulsion formulation (edible) and their properties (physical).**

**Think phase:**

<ol style="list-style-type: none"><li><b>1. What are the different factors to be considered during emulsion formulation?</b></li><li><b>2. In home do we have some edible emulsion formulation available (Like mayonnaise)?</b></li><li><b>3. Can we formulate this (home available emulsion formulation) with modification like some flavor addition and some colour change? YES/NO</b></li><li><b>4. What is the need of market? Can we fulfill the need by doing modification existing formulation? YES/NO</b></li></ol>	<b>Duration 12 hrs Today night up to 10:00pm</b>
Students to think and search about it and write an individual answer.	
Deliverable from this Phase: Students will know about different emulsion concept and parameters to be consider for emulsion formulation, problem analysis.	

**Pair phase:**

  
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By today evening after 10pm individual student can post the answer in our college whatsapp group about home available edible emulsion formulation. Whether it is possible to formulate this at home or not? Those having similar formulation answer and suitability can be included in one group	Duration 10 min only (to post the answers in group)
Make a group of 5-6 students to discuss about the further practical consideration part.	
Students need to do: Pairs up with classmate, check other person answers and discuss your answers with other person in your group and note down it in individual notebook.	
Deliverable from this Phase: Students can link between formulation consideration about emulsion and stability parameters.	

### Create phase:

<b>Those groups</b> having YES answer in above think phase Q. 3 can now design a concept paper. (group activity divide your task as per suitability)	Duration 12 hrs Sunday
--	------------------------------

<ol style="list-style-type: none"><li>1. Title of your project (Must be like a brand name which you would like to give your product)</li><li>2. Requirements:</li><li>3. Procurement: (Vendor qualification)</li><li>4. Detailed procedure and what modification you are going to make with reason.</li><li>5. Prepare check list before experimental setup.</li><li>6. Start the preparation step by step and record IPQC (in process quality control) if any applicable at home. (not necessary to use sophisticated lab instrument whatever available at home you can use)</li><li>7. Like optical measurement with I phone having zoom gadget can be used for texture and globule size analysis.</li><li>8. Fill into final container and prepare a label comparable to already available marketed formulation.</li></ol>	morning 9:00 am to 9:00pm
Students can link between theoretical and practical aspect, market search, product design and even some marketing aspect.	

  
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## Share phase

<p>Be ready with presentation and one presenter from your group. Consider this as opportunity and you are going to present your work in front of investor (who are willing to invest in this project and only one project will be selected from entire students groups of our class). Present your work only in 3 minute (no extra second will be provided above three minute). Presentation include Title, Group member, Mentor name, Procedure, Modification, advantages or reason to modify existing formulation, Proposed retail price (MRP) and cost to company. Also give the profit margin per 100 unit sell.</p>	<p>Duration :Tuesday morning (up to 9:10 am) We will go with presentation in our lecture timing</p>
<p>Deliverable from this Phase: This is the most critical phase at it deals with investor, presentation skills, market search and market potential.</p>	

**Result of the activity:**

  
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*Choose a product that supports  
your wellness & helps you feel GORGEOUS!*



FOR EACH 30ML :

INGREDIENTS	QUANTITY	BENEFITS
1. Aloe vera gel	19 ml	Cooling properties, anti-inflammatory properties, provides moisture, heals and reduces blemishes.
2. Glycerine	4ml	Humectant and a best natural preservative.
3. Almond oil	3ml	Rich in vitamin E.
4. Tea tree oil	1ml	Prevents skin infections, acne.
5. Rose water	2ml	Anti-bacterial properties and gives a sweet natural odour.
6. Beet root juice	1ml	Lightens the skin, rich in vitamins and gives a beautiful colour and texture to the product.

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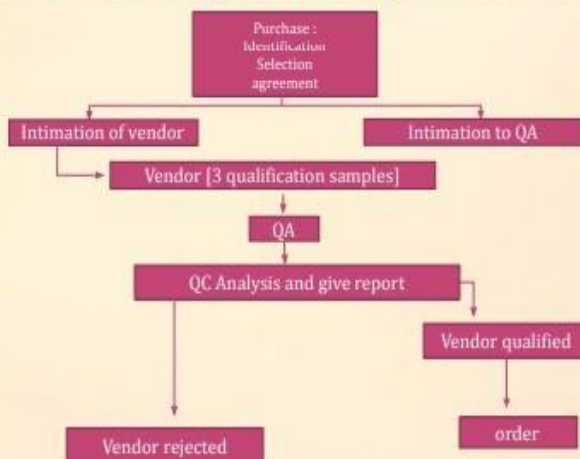
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## DESCRIPTION

- Aloe serum, with the power of aloe vera and tea tree oil, helps you achieve a radiant glow, reduce acne and gives immense nourishment to the face.
- The face serum is free from harmful chemicals such as parabens, silicones, etc. It is a pure natural product prepared with beauty of nature.
- **How to use :**
- Take a little amount of serum on your fingertip.
- Gently apply all over the face and neck and massage in a upward circular motion until completely absorbed.
- For the best results, apply twice a day.

## PROCUREMENT [VENDOR QUALIFICATION]



## PROCEDURE

1. Take the below ingredients

ALOEVERA GEL [19ML]

GLYCERINE [4ML]

ALMOND OIL [3ML]

ROSE WATER [2ML]

TEA TREE OIL [1ML]

BEE T ROOT JUICE [1ML]



2. In a bowl mix all the above ingredient and with the help of grinder machine prepare an emulsion.

## MODIFICATION

- What is modified?
- A standard natural aloe vera gel is modified into an aloe serum [emulsion].
- Reason : [advantages]
- To enhance its properties
- Adding almond oil make it rich in vitamin E
- Adding rose water and tea tree oil make it anti-bacterial, help in preventing skin infection and also give odour to the product.

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### COST TO THE COMPANY

#### FOR EACH 30 ML:

Ingredients	Qty	Cost
Aloevera gel	19ml	24.7/-
Glycerine	4ml	4.5/-
Almond oil	3ml	12.75/-
Rose water	2ml	6/-
Tea tree oil	1ml	23.32/-
Beet root juice	1ml	1.0/-
Total	30ml	72.27/-

#### RETAIL PRICE:

Total Manufacturing Cost	76.02₹   51.02% (manufacturing cost - 72.27₹ + labour, electricity, package, storage and others - 3.75₹)
Profit	31.26₹   20.79%
GST	41.72₹   28%
Maximum Retail Price	149/-
For 100 products	100 x 31.26
Profit	3,126/-

*Thank You!*

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### Use of Software for animal experimentation

### Pharmacology laboratory uses licensed software for demonstration of practicals



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Quantity	Description (Subscription)	Duration	Unit price	Discount	GST	Total
1.	Experimental Pharmacology Series (Ex-Pharm Series) Software	3 Years	25,040 ₹ (Full Pack- For all active modules)	2,504 ₹	4,056 ₹	26,592 ₹
Sub Total						26,592 ₹
Remarks						-
Total Due						26,592 ₹

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E-mail : [gncp2004@yahoo.com](mailto:gncp2004@yahoo.com)

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**Bureau for Health and Education Status Upliftment**

(Constitutionally Entitled as Health-Education, Bureau)

55/20, Rajat Path, Mansarovar, Jaipur

Rajasthan, Pin : 302020

Contact : Basic : 0141-2783681, Mob. : 8690723563

Mail : [support@heb-nic.in](mailto:support@heb-nic.in), [serviceheb@gmail.com](mailto:serviceheb@gmail.com)

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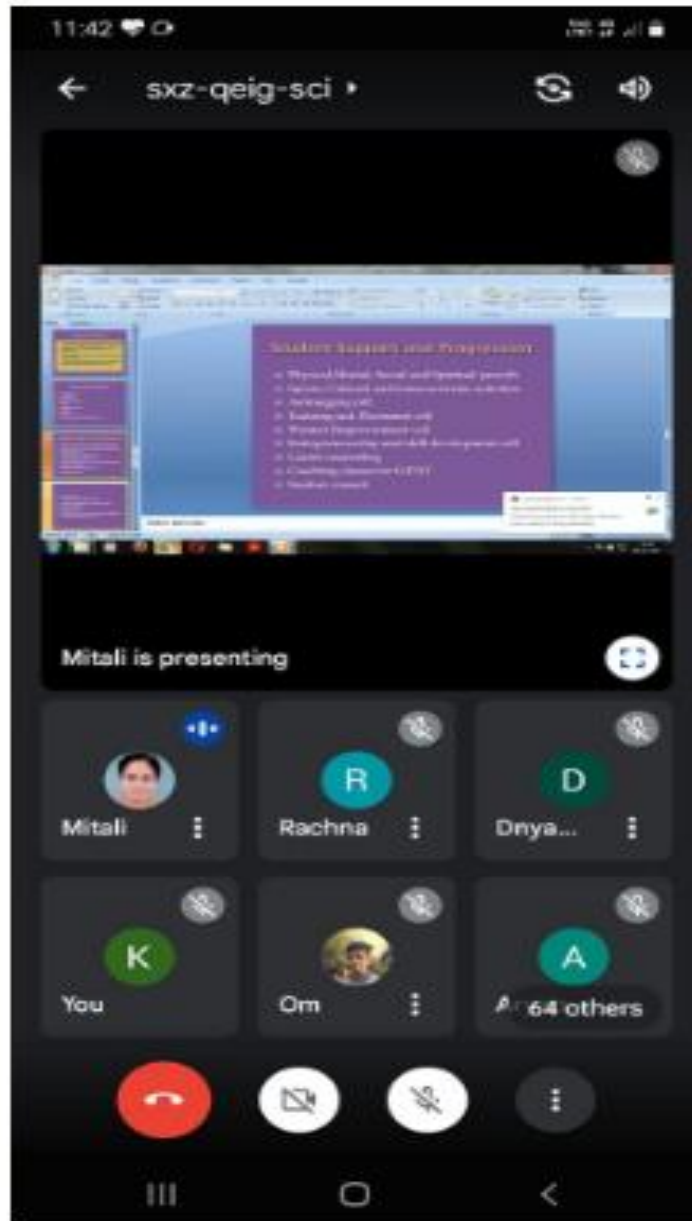
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### Google classroom based exam and classes



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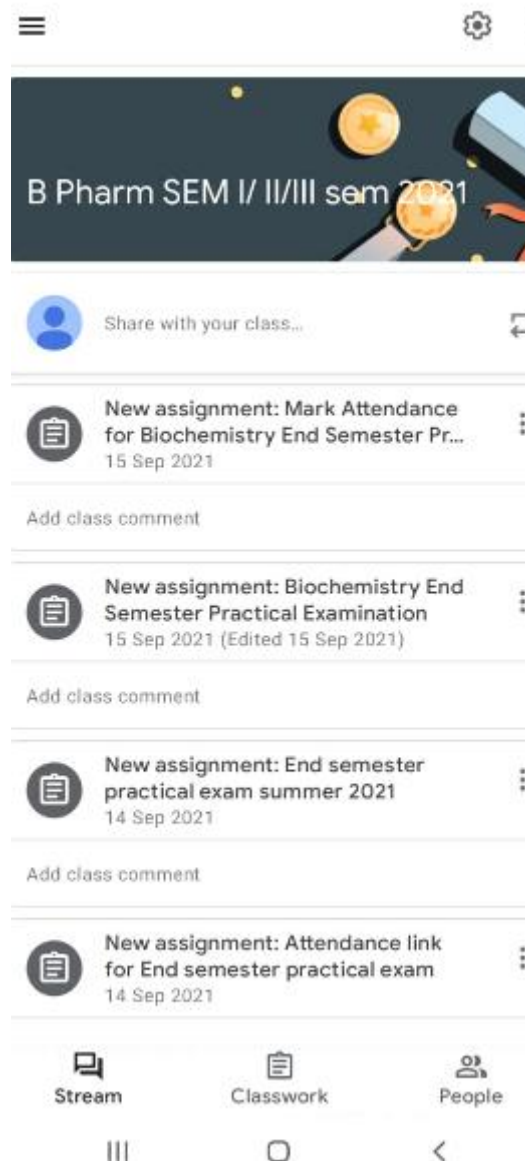




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7th SEMESTER B.Pharm NDDS

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**Keshav Moharir**  
1 Dec 2021

Dear students, Go through the following link describing basics of Implantable Drug Delivery Systems  
<https://www.slideshare.net/pareshbharodiya/implantable-drug-delivery-system>

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**Keshav Moharir**  
13 May 2021 (Edited 20 Nov 2021)

This will be our permanent Google Meet link for joining QA class.

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