Criteria:	Teaching-Learning and evaluation
Key Indicator: 2.3	**Teaching-Learning Process**
Metric No :2.3.1	Student centric methods, such as experiential learning, participativelearning and problem solving methodologies are used for enhancinglearning experiences using ICT tools

Summary of Various Student centric methods followed for enhancing learning experiences

Method	Description	Page
Experiential Learning	The curriculum of B. Pharmacy is divided in Theory and practical. The main purpose of experiential learning is majorly fulfilled by practical curriculum.	02-28
Experiential Learning	Internship-Every student shall be required to work for at least 150 hours spread over four weeks in a Pharmaceutical Industry/Hospital.	29-32
Experiential Learning	Project work	33-37
Experiential Learning	Practice school	38-42
Experiential Learning	Industrial visit	43-52
Experiential Learning	Hospital visit / blood bank visit	53-75
Participative Learning	Student-led seminar	76-85
Participative Learning	Blended teaching-learning	86-94
Problem solving methodology	Practical based on problems	95-101
Problem solving methodology	Differential assignment based on problem solving ability	102-172
Problem solving methodology	Open Book tests	173-177

Pharmacy Council of India

New Delhi

Rules & Syllabus for the Bachelor of Pharmacy (B. Pharm) Course

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[Framed under Regulation 6, 7 & 8 of the Bachelor of Pharmacy (B. Pharm) course regulations 2014]

CHAPTER- I: REGULATIONS

1. Short Title and Commencement

These regulations shall be called as "The Revised Regulations for the B. Pharm. Degree Program (CBCS)of the Pharmacy Council of India, New Delhi". They shall come into effect from the Academic Year 2016-17. The regulations framed are subject to modifications from time to time by Pharmacy Council of India.

2. Minimum qualification for admission

2.1 First year B. Pharm:

Candidate shall have passed 10+2 examination conducted by the respective state/central government authorities recognized as equivalent to 10+2 examination by the Association of Indian Universities (AIU) with English as one of the subjects and Physics, Chemistry, Mathematics (P.C.M) and or Biology (P.C.B / P.C.M.B.) as optional subjects individually. Any other qualification approved by the Pharmacy Council of India as equivalent to any of the above examinations.

2.2. B. Pharm lateral entry (to third semester):

A pass in D. Pharm. course from an institution approved by the Pharmacy Council of India under section 12 of the Pharmacy Act.

3. Duration of the program

The course of study for B.Pharm shall extend over a period of eight semesters (four academic years) and six semesters (three academic years) for lateral entry students. The curricula and syllabi for the program shall be prescribed from time to time by Pharmacy Council of India, New Delhi.

4. Medium of instruction and examinations

Medium of instruction and examination shall be in English.

5. Working days in each semester

Each semestershall consist of not less than 100 working days. The odd semesters shall be conducted from the month of June/July to November/December and the even semesters shall be conducted from December/January to May/June in every calendar year.

6. Attendance and progress

A candidate is required to put in at least 80% attendance in individual courses considering theory and practical separately. The candidate shall complete the prescribed course satisfactorily to be eligible to appear for the respective examinations.

7. Program/Course credit structure

As per the philosophy of Credit Based Semester System, certain quantum of academic work viz. theory classes, tutorial hours, practical classes, etc. are measured in terms of credits. On satisfactory completion of the courses, a candidate earns credits. The amount of credit associated with a course is dependent upon the number of hours of instruction per week in that course. Similarly, the credit associated with any of the other academic, co/extra-curricular activities is dependent upon the quantum of work expected to be put in for each of these activities per week.

7.1. Credit assignment

7.1.1. Theory and Laboratory courses

Courses are broadly classified as Theory and Practical. Theory courses consist of lecture (L) and /or tutorial (T) hours, and Practical (P) courses consist of hours spent in the laboratory. Credits (C) for a course is dependent on the number of hours of instruction per week in that course, and is obtained by using a multiplier of one (1) for lecture and tutorial hours, and a multiplier of half (1/2) for practical (laboratory) hours. Thus, for example, a theory course having three lectures and one tutorial per week throughout the semester carries a credit of 4. Similarly, a practical having four laboratory hours per week throughout semester carries a credit of 2.

7.2. Minimum credit requirements

The minimum credit points required for award of a B. Pharm. degree is 208. These credits are divided into Theory courses, Tutorials, Practical, Practice School and Projectover the duration of eight semesters. The credits are distributed semester-wise as shown in Table IX. Courses generally progress in sequences, building competencies and their positioning indicates certain academic maturity on the part of the learners. Learners are expected to follow the semester-wise schedule of courses given in the syllabus.

The lateral entry students shall get 52 credit points transferred from their D. Pharm program. Such students shall take up additional remedial courses of 'Communication Skills' (Theory and Practical) and 'Computer Applications in Pharmacy' (Theory and Practical) equivalent to 3 and 4 credit points respectively, a total of 7 credit points to attain 59 credit points, the maximum of I and II semesters.

8. Academic work

A regular record of attendance both in Theory and Practical shall be maintained by the teaching staff of respective courses.

9. Course of study

The course of study for B. Pharm shall include Semester Wise Theory & Practical as given in Table – I to VIII. The number of hours to be devoted to each theory, tutorial and practical course in any semester shall not be less than that shown in Table – I to VIII.

Table-I: Course of study for semester I

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP101T	Human Anatomy and Physiology I– Theory	3	1	4
BP102T	Pharmaceutical Analysis I – Theory	3	1	4
BP103T	Pharmaceutics I – Theory	3	1	4
BP104T	Pharmaceutical Inorganic Chemistry – Theory	3	1	4
BP105T	Communication skills – Theory *	2	-	2
BP106RBT BP106RMT	Remedial Biology/ Remedial Mathematics – Theory*	2	-	2
BP107P	Human Anatomy and Physiology – Practical	4	-	2
BP108P	Pharmaceutical Analysis I – Practical	4	-	2
BP109P	Pharmaceutics I – Practical	4	-	2
BP110P	Pharmaceutical Inorganic Chemistry – Practical	4	-	2
BP111P	Communication skills – Practical*	2	-	1
BP112RBP	Remedial Biology – Practical*	2	-	1
	Total	**32/34$/36#**	**4**	**27/29$/30#**

#Applicable ONLY for the students who have studied Mathematics / Physics / Chemistry at HSC and appearing for Remedial Biology (RB)course.

$Applicable ONLY for the students who have studied Physics / Chemistry / Botany / Zoology at HSC and appearing for Remedial Mathematics (RM)course.

* Non University Examination (NUE)

Table-II: Course of study for semester II

Course Code	Name of the course	No. of hours	Tutorial	Credit points
BP201T	Human Anatomy and Physiology II – Theory	3	1	4
BP202T	Pharmaceutical Organic Chemistry I – Theory	3	1	4
BP203T	Biochemistry – Theory	3	1	4
BP204T	Pathophysiology – Theory	3	1	4
BP205T	Computer Applications in Pharmacy – Theory *	3	-	3
BP206T	Environmental sciences – Theory *	3	-	3
BP207P	Human Anatomy and Physiology II –Practical	4	-	2
BP208P	Pharmaceutical Organic Chemistry I– Practical	4	-	2
BP209P	Biochemistry – Practical	4	-	2
BP210P	Computer Applications in Pharmacy – Practical*	2	-	1
	Total	**32**	**4**	**29**

*Non University Examination (NUE)

Table-III: Course of study for semester III

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP301T	Pharmaceutical Organic Chemistry II – Theory	3	1	4
BP302T	Physical Pharmaceutics I – Theory	3	1	4
BP303T	Pharmaceutical Microbiology – Theory	3	1	4
BP304T	Pharmaceutical Engineering – Theory	3	1	4
BP305P	Pharmaceutical Organic Chemistry II – Practical	4	-	2
BP306P	Physical Pharmaceutics I – Practical	4	-	2
BP307P	Pharmaceutical Microbiology – Practical	4	-	2
BP 308P	Pharmaceutical Engineering –Practical	4	-	2
	Total	**28**	**4**	**24**

Table-IV: Course of study for semester IV

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP401T	Pharmaceutical Organic Chemistry III– Theory	3	1	4
BP402T	Medicinal Chemistry I – Theory	3	1	4
BP403T	Physical Pharmaceutics II – Theory	3	1	4
BP404T	Pharmacology I – Theory	3	1	4
BP405T	Pharmacognosy and Phytochemistry I– Theory	3	1	4
BP406P	Medicinal Chemistry I – Practical	4	-	2
BP407P	Physical Pharmaceutics II – Practical	4		2
BP408P	Pharmacology I – Practical	4	-	2
BP409P	Pharmacognosy and Phytochemistry I – Practical	4	-	2
	Total	**31**	**5**	**28**

Table-V: Course of study for semester V

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP501T	Medicinal Chemistry II – Theory	3	1	4
BP502T	Industrial PharmacyI– Theory	3	1	4
BP503T	Pharmacology II – Theory	3	1	4
BP504T	Pharmacognosy and Phytochemistry II– Theory	3	1	4
BP505T	Pharmaceutical Jurisprudence – Theory	3	1	4
BP506P	Industrial PharmacyI – Practical	4	-	2
BP507P	Pharmacology II – Practical	4	-	2
BP508P	Pharmacognosy and Phytochemistry II – Practical	4	-	2
	Total	**27**	**5**	**26**

Table-VI: Course of study for semester VI

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP601T	Medicinal Chemistry III – Theory	3	1	4
BP602T	Pharmacology III – Theory	3	1	4
BP603T	Herbal Drug Technology – Theory	3	1	4
BP604T	Biopharmaceutics and Pharmacokinetics – Theory	3	1	4
BP605T	Pharmaceutical Biotechnology – Theory	3	1	4
BP606T	Quality Assurance –Theory	3	1	4
BP607P	Medicinal chemistry III – Practical	4	-	2
BP608P	Pharmacology III – Practical	4	-	2
BP609P	Herbal Drug Technology – Practical	4	-	2
	Total	**30**	**6**	**30**

Table-VII: Course of study for semester VII

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP701T	Instrumental Methods of Analysis – Theory	3	1	4
BP702T	Industrial PharmacyII – Theory	3	1	4
BP703T	Pharmacy Practice – Theory	3	1	4
BP704T	Novel Drug Delivery System – Theory	3	1	4
BP705P	Instrumental Methods of Analysis – Practical	4	-	2
BP706PS	Practice School*	12	-	6
	Total	**28**	**5**	**24**

* Non University Examination (NUE)

Table-VIII: Course of study for semester VIII

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP801T	Biostatistics and Research Methodology	3	1	4
BP802T	Social and Preventive Pharmacy	3	1	4
BP803ET	Pharma Marketing Management	3 + 3 = 6	1 + 1 = 2	4 + 4 = 8
BP804ET	Pharmaceutical Regulatory Science			
BP805ET	Pharmacovigilance			
BP806ET	Quality Control and Standardization of Herbals			
BP807ET	Computer Aided Drug Design			
BP808ET	*Cell and Molecular Biology*			
BP809ET	Cosmetic Science			
BP810ET	Experimental Pharmacology			
BP811ET	Advanced Instrumentation Techniques			
BP812ET	Dietary Supplements and Nutraceuticals			
BP813PW	Project Work	12	-	6
	Total	**24**	**4**	**22**

Table-IX: Semester wise credits distribution

Semester	Credit Points
I	**27/29$^{\$}$/30$^{\#}$**
II	29
III	26
IV	28
V	26
VI	26
VII	24
VIII	22
Extracurricular/ Co curricular activities	01*
Total credit points for the program	**209/211$^{\$}$/212$^{\#}$**

* The credit points assigned for extracurricular and or co-curricular activities shall be given by the Principals of the colleges and the same shall be submitted to the University. The criteria to acquire this credit point shall be defined by the colleges from time to time.

$^{\$}$Applicable ONLY for the students studied Physics / Chemistry / Botany / Zoology at HSC and appearing for Remedial Mathematics course.

$^{\#}$Applicable ONLY for the students studied Mathematics / Physics / Chemistry at HSC and appearing for Remedial Biology course.

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PRINCIPAL
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Laboratory work Assessment Rubrics for Pharmaceutical Organic Chemistry I (BP208P) (Sem-II)

(to be filled by faculty once in a semester)

Performance Criteria	CO	Excellent 5	Average 4-3	Poor 2-1	Grading
1. Basic knowledge about the experiments performed (PO1)	CO208.1 CO208.3 CO208.4 CO208.5	• Able to explain principle and procedure related to synthesis of compounds, qualitative tests of compounds, molecular models. • Able to explain percentage purity of synthesized compounds	• Able to principle and procedure related to synthesis of compounds, qualitative tests of compounds, molecular models. • Require assistance while explaining percentage purity of synthesized compounds	• Wasn't able to explain the principle and procedure of the experiments and molecular models construction. • Can't recall set of given instructions.	
2. Basic Knowledge of Equipment and apparatus used in practical (PO1)	CO208.1 CO208.2 CO208.4	• Better explain basic role of reflux condenser, Hot air oven, Melting point apparatus, glasswares and chemicals, atomic model set. • Aware about other equipment which can do the similar work of same equipment.	• Knows basic role of reflux condenser, Hot air oven, Melting point apparatus, glasswares and chemicals. • Aware about other practical can be performed with same equipment	• Hardly able to explain role of glasswares, chemicals and equipment used in practical • Confused in applications of apparatus and equipment	
3. Planning Ability (PO2) and Problem analysis (PO3)	CO208.2 CO208.3 CO208.4 CO208.5	• Completes practical work within specified time by prioritizing tasks and using available resources efficiently. • Solve the practical problem by thinking critically and applying knowledge gained during the course and justify the same.	• Completes practical work within specified time using available resources. • Solve the practical problem based on the knowledge gained during the course	• Fail to demonstrate the ability to follow instructions and complete the task within specified time. • Need assistance in applying knowledge gained during course to solve the problems	
4. Able to handle all the equipment and tools needed for practical (PO4)	CO208.2 CO208.3 CO208.4 CO208.5	• Precisely handle all glassware and instruments • Can troubleshoot problems related with instruments • Take good care of apparatus and instrumants.	• Properly handles Conductometer and PH meter • Unable to troubleshoot, need assistance • Try to take care of apparatus and instruments	• Careless handling • Unaware about handling Glasswares and instruments • Don't pay attention in taking care of equipment	

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5. Leadership skills (PO5)and Ethical behavior in laboratory (PO7)	CO208.2 CO208.3 CO208.4 CO208.5	• Help others for completion of given task by guiding them. • Motivate others to do the practical with accuracy • Always follows procedure • Always interacts for better understanding • Always punctual neat and tidy	• Participate with others and play responsible role in completion of given task • Frequently follows procedure • Frequently interacts • Frequently neat and tidy • Most of the time Punctual	• Don't cooperate with others during the laboratory hours • Never follows procedure • Never interacts • Never neat and tidy • Poor Punctuality	
6. Oral and Written Communication (PO8)	CO208.1 CO208.2 CO208.3 CO208.4 CO208.5	• Explain the principle and procedure with confidence • Always communicates with loud and clear tone • Completes the laboratory journal on time with own intellect.	• Able to explain procedures • Frequently communicate with teacher • Complete the laboratory journal on time but need support	• Don't able to communicate the theme of practical • Never interact with teacher • Never meet deadlines for completion of laboratory records	
7. Lifelong learning attitude (PO11)	CO208.1 CO208.2 CO208.3 CO208.4 CO208.5	• Good in self-learning • Interacting to know the impacts of changing technology on employment, environment.	• Fair in self-learning • Curious during demonstration • Know about change in technology but not able to interact about its impact	• Don't pay much attention to learn new things • Never interacted to know their impacts	

35 to 28 marks then 3 marks, 27 to 23 then 2.5 marks, 22 to 18 then 2 marks, 17 to 12 then 1.5 marks, 11 to 8 then 1 mark, 7 or less 0.5 mark

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B. Pharmacy, Ashta.

Sant Dnyaneshwar Shikshan Sanstha's

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Laboratory work Assessment Sheet for A. Y. 2021–2022

Subject: Pharmaceutical Organic Chemistry I
Class: F.Y.B.Pharm (Sem-II) **Division: I and II** **Date:** 02/7/22

Roll No	Name of Student	Performance Criteria									
		1	2	3	4	5	6	7	8	*Total*	*Marks*
1)	Ahir Sanika Rajendra	04	05	04	04	05	05	05		32	03
2)	Amane Radha Kiran	04	05	05	05	05	05	05		34	03
3)	Atpadkar Snehal Ananda	05	05	05	05	05	05	04		34	03
4)	Atugade Trupti Chandrakant	04	04	05	05	05	05	02		30	03
5)	Bakare Yashashree Yogesh	05	05	04	04	05	04	05		32	03
6)	Bandapatte Punam Suresh	04	03	05	04	03	05	05		29	03
7)	Bhosale Deepak Sanjay	05	05	05	04	04	05	04		32	03
8)	Bhosale Megha Nandkishor	04	05	04	05	04	05	05		32	03
9)	Bichitkar Namrata Sanjay	05	04	05	05	05	05	05		34	03
10)	Chavan Rupesh Ravindra	04	05	05	05	04	03	03		29	03
11)	Chavan Rutuja Mansing	04	05	05	03	05	04	03		32	03
12)	Chavan Vishal Shivaji	04	04	05	05	05	05	02		30	03
13)	Chikodikar Veena Vijay	05	04	03	05	05	05	04		31	03
14)	Chougule Sanika Vijay	05	04	05	03	04	05	03		29	03
15)	Dangare Mariya Samir	05	05	04	04	04	03	05		30	03
16)	Deshmane Shreya Avinash	05	05	04	05	05	04	04		32	03
17)	Deshmukh Sakshi Ramesh	05	04	05	04	05	05	02		30	03
18)	Dhabugade Kajal Suresh	03	04	05	04	03	05	05		29	03
19)	Dhage Megharani Narayan	05	05	04	04	05	05	04		32	03
20)	Dharme Vaishnavi Bajirao	05	05	05	05	05	04	05		34	03
21)	Dhobale Suyash Shivbhushan	04	05	04	04	05	05	05		32	03
22)	Gaikwad Pallavi Sandeep	03	04	04	04	05	05	05		30	03
23)	Ganthade Pranali Pran	05	04	04	05	05	03	03		29	03
24)	Ghaste Vishal Anil	03	04	04	03	05	05	05		29	03
25)	Ghat Anuj Anil	03	03	05	04	05	04	05		29	03

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26)	Ghatage Sayali Subhash	04	05	05	04	04	05	05		32	03
27)	Ghuli Prerana Gurudev	04	05	04	04	05	05	05		32	03
28)	Giri Sachin Mohankumar	05	04	04	05	05	03	03		29	03
29)	Godase Ashwini Rajendra	03	03	05	04	05	04	05		29	03
30)	Godase Sanskar Sukdeo	04	04	04	05	05	05	03		30	03
31)	Gouraje Omkar Rajandra	04	03	04	05	05	03	05		29	03
32)	Hable Pranav Vijay	03	04	04	04	05	05	05		30	03
33)	Herwade Harshal Annaso	04	04	04	05	05	05	04		31	03
34)	Hulwan Madhuri Ashok	05	04	04	05	05	05	02		30	03
35)	Ichur Shivani Parashuram	05	04	04	05	05	05	02		30	03
36)	Ingale Shruti Hanamant	05	04	03	05	05	05	04		31	03
37)	Jadhav Manisha Tanaji	05	05	04	05	05	05	05		34	03
38)	Jadhav Shradha Laxman	04	05	05	05	05	05	05		34	03
39)	Jamadar Najiya Rafik	05	04	04	05	05	05	02		30	03
40)	Kalyani Sakshi Yogesh	04	04	05	05	05	05	05		33	03
41)	Kamble Shruti Bajirao	04	05	04	05	05	05	04		32	03
42)	Karve Prathmesh Sunil	04	03	04	05	05	03	05		29	03
43)	Katare Sneha Sanjay	05	04	04	05	05	03	03		29	03
44)	Katare Vrushali Vijay	04	04	05	05	05	05	05		33	03
45)	Kazi Najiya Ayub	05	04	06	05	05	05	05		34	03
46)	Khade Vishwanand Dajiram	04	05	05	05	04	03	03		29	03
47)	Khaire Kajal Ankush	05	04	04	05	05	05	02		30	03
48)	Khandekar Akansha Ajitsinha	04	04	05	05	05	05	02		30	03
49)	Khandekar Ashish Lavhaji	05	04	05	03	04	05	03		29	03
50)	Khochare Sanika Shripad	05	06	04	05	05	05	05		34	03
51)	Khot Sanika Suhas	05	04	03	05	05	05	04		31	03
52)	Kokil Tejaswini Dilip	04	05	04	04	05	05	05		32	03
53)	Kolekar Rutika Prakash	04	04	05	05	05	05	05		33	03
54)	Kolekar Sakshi Shitalnath	03	05	04	05	03	05	04		29	03
55)	Madabhave Snehal Sagar	05	05	04	05	05	04	04		32	03
56)	Magdum Tabassum Isak	04	04	05	05	05	05	05		33	03
57)	Mali Gayatri Mahadev	05	05	04	05	05	05	03		34	03

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58)	Mane Prithviraj Shrikant	05	05	04	05	05	05	03			34	03
59)	Miraje Sanjana Hemant	04	04	05	05	05	05	05			33	03
60)	Mohite Sakshi Dilip	04	05	05	05	04	03	03			29	03
61)	Arfin Shakil Momin	05	04	05	03	04	05	03			29	03
62)	Mudegol pratiksha	04	05	03	05	05	04	03			29	03
63)	Mohammad Atif RiyazMushrif	05	05	04	05	05	05	05			34	03
64)	Nalawade Aishwarya Anil	05	05	04	04	04	03	05			30	03
65)	Nandgaonkar Om Shirish	05	05	04	05	05	04	04			32	03
66)	Amruta Suresh Nangare	05	04	03	04	04	05	05			30	03
67)	Somraj Bajirao Nangare	03	05	04	05	03	05	04			29	03
68)	Tejashri Tanaji Nikam	03	03	02	03	03	03	03			20	02
69)	Palkar Gaurav Shivaji	05	04	03	05	05	05	04			31	03
70)	Pathan Jainab Abdulmujib	05	04	05	05	05	05	05			34	03
71)	Aditya patil	04	04	05	05	05	05	02			30	03
72)	Patil Mrudula vikas	05	04	04	05	05	04	05			32	03
73)	Omkar Patil	04	05	05	03	05	04	03			29	03
74)	Patil pranjali prabhakar	04	05	04	04	05	05	05			32	03
75)	Prashant Manohar patil	03	03	03	02	03	03	03			20	02
76)	Patil Sangram sharad	04	05	05	05	04	03	03			29	03
77)	Shreya Keshav Patil	04	05	04	05	05	05	04			32	03
78)	Patil Supriya Rajgonda	05	04	05	05	05	05	05			34	03
79)	Patil suyash bhimrao	04	05	04	04	05	05	05			32	03
80)	Patil Vaishnavi Laxman	04	04	05	05	05	05	05			33	03
81)	Saniya Najir Pattekari	04	05	05	04	05	04	05			32	03
82)	Pawar Apurva Ajay	05	05	05	04	04	05	04			32	03
83)											AB	AB
84)	Pawar Chinmay	03	04	05	04	03	05	05			29	03
85)	Pawar prerana gorakhanath	05	05	04	04	05	05	04			32	03
86)	Yash Pramod Pawar	05	04	04	05	05	05	02			30	03
87)	Pethkar Ganesh Jagannath	05	05	05	05	05	05	04			34	03
88)	Pharne Sanket Shankar	04	05	05	05	05	05	05			34	03
89)	Ankita dadaso pol	04	05	04	04	05	05	05			32	03

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90)	Pukale pavan namadeo	04	04	04	05	05	05	03		30	03
91)	Rajge karuna Shankar	04	03	03	04	05	05	05		29	03
92)	Ramayane Vedashri Vaibhav	05	05	04	05	05	05	05		34	03
93)	Pratik Sharad Raut	05	05	05	05	05	03	03		31	03
94)	Bhaskar Prasad Regoti	05	04	04	05	05	04	05		32	03
95)	Sagare Rushikesh Somnath	05	05	05	05	05	04	04		33	03
96)	Aditya arvind salunkhe Patil	03	03	05	04	05	04	05		29	03
97)	Sanket bajirao sargar	05	05	05	03	03	04	04		29	03
98)	Sarvade Arpita Vikas	05	05	04	04	05	05	04		32	03
99)	Sawant Nikita Dhanaji	04	04	05	05	05	05	5		33	03
100)	Sharma Kanak Prashant	05	04	04	04	03	05	05		30	03
101)	Shelake Sakshi Shrikant	05	05	05	05	05	05	04		34	03
102)	Shinde Kiran Sampat	05	05	05	05	05	04	05		34	03
103)	Shinde Nandini Rajaram	04	04	04	05	05	05	04		31	03
104)	Shinde pratiksha chandrakant	03	04	04	04	05	05	05		30	03
105)	Shinge vishvajeet ramesh	04	04	05	05	05	04	03		30	03
106)	Pragati Rajendra suryawanshi	03	04	05	05	05	04	05		31	03
107)	Shrishail Teli	04	05	04	05	04	03	05		30	03
108)	Vage Avani Hasmukhlal	05	04	04	05	05	03	03		29	03
109)	Vastre Smita Mahadev	05	04	04	05	04	03	05		30	03
110)	Pranav Vibhute	03	04	03	04	05	05	05		29	03
111)	Vijaya Lakshmi S	04	03	04	05	05	03	05		29	03
112)	Waghmare Harshada Bharat	04	05	05	04	04	05	05		32	03
113)	Zambre Mayuri Bhanudas	04	05	04	04	05	05	05		32	03

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

2/07/2022
Momin Y.Y.

2/7/2022
M.S. S. P. Desai

Teacher I/C
Name with Signature and Date

Laboratory work Assessment Rubrics for Pharmacognosy and phytochemistry-I (BP409P) (Sem-IV)

(to be filled by faculty once in a semester)

Performance Criteria	CO	Excellent	Average	Poor	Grading
		5	4-3	2-1	
1. Basic knowledge about the experiments performed (PO1)	CO409.1 CO409.3 CO409.5	• Able to explain principle and procedure related to morphological, microscopical evaluation of crude drugs • Able to explain applications quality control of crude drugs	• Able to explain procedure of handling microscope, camera lucida • Need assistance in explaining importance of microscopical, physical evaluation of crude drugs	• Wasn't able to explain the procedure of the experiments • Can't recall set of given instructions • Confused in various types of evaluation of crude drugs	
2. Basic Knowledge of Equipment and apparatus used in practical (PO1)	CO409.1 CO409.3 CO409.5	• Knows basic role of compound microscope, camera lucida, muffle furnace etc. • Aware about other equipment which can do the similar work and other applications of same equipment.	• Know about basic role of compound microscope, camera lucida, muffle furnace etc • Aware about other practical can be performed with same equipment	• Hardly able to explain role of apparatus and equipment used in practical • Confused in applications of apparatus and equipment	
3. Planning Ability (PO2) Problem analysis (PO3)	CO409.2 CO409.3 CO409.4	• Completes practical work within specified time by prioritizing tasks and using available resources efficiently. • Solve the practical problem by thinking critically and applying knowledge gained during the course and justify the same.	• Completes practical work within specified time using available resources. • Solve the practical problem based on the knowledge gained during the course	• Fail to demonstrate the ability to follow instructions and complete the task within specified time. • Need assistance in applying knowledge gained during course to solve the problems	
4. Able to handle all the equipment and tools needed for practical (PO4)	CO409.2 CO409.4	• Precisely handle compound microscope, camera lucida, extraction unit. • Can trouble shoot problems related with microscope	• Properly handles sophisticated equipment compound microscope, camera lucida, extraction unit	• Careless handling • Unaware about handling techniques of compound microscope, camera lucida, extraction unit	

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 415 301

		• Take good care of apparatus and instruments.	• Unable to troubleshoot, need assistance • Try to take care of apparatus and instruments	• Don't pay attention in taking care of equipment	
5. Ethics and behavior in laboratory (PO7)	CO409.2 CO409.4	• Always follows procedure • Always interacts for better understanding • Always punctual neat and tidy	• Frequently follows procedure • Frequently interacts • Frequently neat and tidy • Most of the time Punctual	• Never follows procedure • Never interacts • Never neat and tidy • Poor Punctuality	
6. Oral and Written Communication (PO8)	CO409.2 CO409.4 CO409.5	• Explain the principle and procedure with confidence • Always communicates with loud and clear tone • Completes the laboratory journal on time with own intellect.	• Able to explain procedures • Frequently communicate with teacher • Complete the laboratory journal on time but need support	• Don't able to communicate the theme of practical • Never interact with teacher • Never meet deadlines for completion of laboratory records	
7. Lifelong learning attitude (PO11)	CO409.2 CO409.3 CO409.4	• Good in self-learning • Interacting to know the impacts of changing technology on employment, environment.	• Fair in self-learning • Curious during demonstration • Know about change in technology but not able to interact about its impact	• Don't pay much attention to learn new things • Never interacted to know their impacts	

35 to 28 marks then 3 marks, 27 to 23 then 2.5 marks, 22 to 18 then 2 marks, 17 to 12 then 1.5 marks, 11 to 8 then 1 mark, 7 or less 0.5 mark

ANNASAHEB DANGE COLLEGE OF B. PHARMACY • ASHTA 416 301

Sant Dnyaneshwar Shikshan Sanstha's

Annasaheb Dange College of B Pharmacy, Ashta

INTERNAL QUALITY ASSURANCE CELL

Assessment Rubrics Academic Year 2021-2022

DISTINCTION THROUGH CONSTRUCTIVISM

Laboratory work Assessment Sheet for A. Y. 2021 – 2022

Subject: Pharmacognosy and phytochemistry-I

Class: Second year B. Pharmacy (Sem-IV) **Division: I** **Date:** 21/07/2022

Roll No	Name of Student	Performance Criteria									
		1	2	3	4	5	6	7	8	*Total*	*Out of 3*
1)	Admuthe Gauri Sachin	3	3	3	3	5	5	5		27	2.5
2)	Awaghade Rudreshwari J	3	4	3	3	3	3	3		22	2
3)	Bagade Pratiksha S	4	4	4	4	4	4	4		28	3
4)	Bagale Kaveri Gangaram	5	4	4	4	4	4	4		29	3
5)	Bagi Rutuja Ajit	4	4	4	3	3	3	3		24	2.5
6)	Bandal Pranav Bajirao	3	3	3	2	2	2	2		17	1.5
7)	Bandpatte Ambika Arjun	5	4	4	4	4	4	4		29	3
8)	Bhalekar Sankalp Krishna	3	3	3	3	3	3	2		20	2
9)	Bhosale Prerana Raju	4	4	4	4	3	3	3		25	2.5
10)	Bhute Harshvardhan Ashok	4	4	4	4	4	3	4		27	2.5
11)	Bilage Prasad Sidram	5	5	4	4	4	4	4		30	3
12)	Birnale Anurag Rajkumar	5	5	4	4	4	4	4		30	3
13)	Bobalade Pallavi Rajkumar	5	4	5	4	4	4	4		30	3
14)	Budhavale Manisha Ramdas	3	3	3	3	3	3	3		21	2.5
15)	Chavan Akash Bhojaling	5	5	5	4	4	4	4		31	3
16)	Chavan Prajakta Bhagwan	5	5	4	4	4	4	4		30	3
17)	Chougule Madhura Rajendra	5	5	5	5	4	4	4		32	3
18)	Chougule Vishakha Sanjay	5	5	5	5	4	4	4		32	3
19)	Deshmukh Prajakta D	5	5	5	4	4	4	4		31	3
20)	Dhabugade Abhijeet Suresh	4	4	3	3	3	3	3		23	2.5
21)	Dhole Prathamesh Prakash	4	4	4	3	3	3	2		23	2.5

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Assessment Rubrics Academic Year 2021-2022

DISTINCTION THROUGH CONSTRUCTIVISM

22)	Dhumale Sushant Datta	5	5	4	4	3	2	2		25	2.5
23)	Etam Snehal Himmat	5	5	4	4	4	3	3		28	3
24)	Gadache Rutuja Ravindra	5	5	4	4	4	3	3		28	3
25)	Gadve Yash Girish	5	5	4	4	4	2	2		26	2.5
26)	Gaikwad Aishwarya Shahaji	5	5	4	4	4	4	3		29	3
27)	Gavade Rutuja Rajaram	4	4	4	4	4	3	3		26	2.5
28)	Gavade Snehal Popat	4	4	4	4	4	3	3		26	2.5
29)	Ghutugade Avinash Kashinath	5	5	5	4	4	4	3		30	3
30)	Gurav Sarang Shahaji	5	5	5	5	4	3	3		30	3
31)	Gurav Shraddha Baburav	5	5	5	4	4	4	3		30	3
32)	Jadhav Gourav Rajendra	5	5	4	4	4	4	3		29	3
33)	Jadhav Parimal Suresh	5	5	4	4	4	4	3		29	3
34)	Jadhav Patil Rohit Rajesh	5	5	5	5	4	3	3		30	3
35)	Jadhav Rohit Satish	5	5	5	4	4	4	3		30	3
36)	Jagadale Vrushali Rajesh	5	5	5	5	4	4	3		31	3
37)	Jagtap Aditi Shivaji	5	5	5	5	4	4	3		31	3
38)	Jagtap Manisha Deepak	5	5	5	4	4	4	4		30	3
39)	Jagtap Shirish Shankar	5	5	5	5	4	4	3		31	3
40)	Jamadade Arpita Rajaram	5	5	5	4	4	4	4		30	3
41)	Jamadade Dhanashri Sanjay	5	5	5	4	4	4	4		30	3
42)											—
43)	Kadam Shruti Bajrang	5	5	5	4	4	4	3		29	3
44)	Kamble Chinmayee Ekanath	5	5	5	4	4	4	4		30	3
45)	Kamble Pratiksha Pradip	5	5	5	4	4	4	4		30	3
46)	Kapase Shwetali Ravindra	5	5	5	4	4	4	4		30	3

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DISTINCTION THROUGH CONSTRUCTIVISM

47)	Kashyap Tanvi Diwakar	5	5	5	4	4	4	3		29	3
48)	Khade Swapnali Shivaji	5	5	5	4	4	4	3		29	3
49)	Khavare Anushka Sudhir	5	5	5	4	4	4	4		30	3
50)	Kulkarni Nikita Vidyasagar	5	5	5	5	4	3	3		30	3
51)	Kulkarni Shivam Amol	5	5	5	5	4	3	3		30	3
52)	Kumbhar Shivani Dattatray	5	5	5	4	4	4	2		29	3
53)	Lokhande Sakshi Shamasunder	5	5	5	4	4	4	2		29	3
54)	Mahipati Aditya Raju	5	5	5	4	4	4	3		30	3
55)	Mali Dhanashree Maruti	5	5	5	5	4	4	3		31	3
56)	Mane Ashwini Maruti	5	5	5	5	4	4	3		31	3
57)	Mane Prajakta Ravindra	5	5	5	4	4	4	3		30	3
58)	Mane Prathamesh Maruti	5	5	5	4	4	4	3		30	3
59)	Mane Sakshi Vijay	5	5	4	4	4	4	3		29	3
60)	Mane Swagat Suhas	5	5	4	4	4	4	3		29	3

Teacher I/C
Name with Signature and Date

21/07/2022

(Dr. Tamboli E.F)

ANNASAHEB DANGE COLLEGE OF B. PHARMACY • ASHTA 416 301

Sant Dnyaneshwar Shikshan Sanstha's

Annasaheb Dange College of B Pharmacy, Ashta

INTERNAL QUALITY ASSURANCE CELL

Assessment Rubrics Academic Year 2021-2022

DISTINCTION THROUGH CONSTRUCTIVISM

Laboratory work Assessment Sheet for A. Y. 2021 – 2022

Subject: Pharmacognosy and phytochemistry-I

Class: Second year B. Pharmacy (Sem-IV) **Division: II** **Date:** 11/07/2022

Roll No	Name of Student	Performance Criteria									
		1	2	3	4	5	6	7	8	*Total*	*Out of 3*
61)	Metkari Akshata Tatoba	5	5	5	5	5	4	4		33	3
62)	Mohite Aarti Tanaji	5	5	5	5	5	4	4		33	3
63)	Mohole Rajashri Rajendra	5	5	5	5	5	4	4		33	3
64)	Momin Afrin Alnasir	5	5	5	4	4	4	3		30	3
65)	More Amruta Ramesh	5	5	5	4	4	3	4		30	3
66)	Mote Akshata Nagendra	5	5	5	5	5	4	4		33	3
67)	Mulani Joya Nadar	5	5	4	4	4	4	4		30	3
68)	Mulla Khadija Dastagir	5	5	4	4	4	4	3		29	3
69)	Nanaware Nandini Balasaheb	5	5	4	4	4	3	3		28	3
70)	Nandanwade Roshani Bhima	5	5	4	4	4	4	3		29	3
71)	Nangare Sushant Manohar	5	5	4	4	4	4	3		29	3
72)	Olekar Madhura Bharat	5	5	4	4	4	4	4		30	3
73)	Pasale Sonali Dattatray	5	5	4	4	4	4	4		30	3
74)	Patil Akash Satish	5	5	4	4	4	4	4		30	3
75)	Patil Akshata Ramchandra	5	5	5	4	4	4	4		31	3
76)	Patil Prajakta Ashok	5	5	4	4	4	4	4		30	3
77)	Patil Preeti Ashok	5	5	5	4	4	4	2		29	3
78)	Patil Samruddhi Hanmant	5	5	5	4	3	3	3		28	3
79)	Patil Sayali Suryakant	5	5	5	4	4	3	3		29	3
80)	Patil Shital Dattatraya	5	5	4	4	4	4	4		30	3
81)	Patil Suyash Subhash	5	5	4	4	4	4	3		29	3

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82)	Patil Vaishnavi Adhikrao	4	4	4	4	4	4	4		28	3
83)	Patil Vikas Vilas	5	4	4	4	4	4	4		29	3
84)	Patil Viraj Uday	5	4	4	4	4	4	4		29	3
85)	Patole Priyanka Ramdas	5	4	4	4	4	4	4		29	3
86)	Pawane Supriya Prakash	5	5	4	4	4	4	3		29	3
87)	Pawar Amruta Vilas	5	5	5	4	4	4	3		30	3
88)	Pawar Aniket Arvind	5	5	5	5	4	4	3		31	3
89)	Salunkhe Pravin Dnyaneshwar	5	5	5	5	4	4	3		31	3
90)	Sargar Akshata Vijay	5	5	4	4	4	4	4		30	3
91)	Sawant Shriyesh Anil	5	5	4	4	4	4	4		30	3
92)	Shete Pranali Rahul	5	5	5	4	4	4	4		31	3
93)	Shete Saurabh Shankar	5	5	5	4	4	4	4		31	3
94)	Shinde Abhay Laxman	5	5	5	5	4	4	3		31	3
95)	Shinde Prajakta Dhondiram	5	5	4	4	4	4	4		30	3
96)	Shinde Sandhya Subhash	5	5	5	4	4	4	3		30	3
97)	Shinde Shreya Pravin	5	5	5	4	4	4	4		31	3
98)	Shinde Vinay Raghunath	5	5	4	4	4	4	4		30	3
99)	Shinde Yash Jayant	5	5	5	4	4	4	4		31	3
100)	Shindure Abhishek Mahadev	5	5	4	4	4	4	4		30	3
101)	Sid Bhagyashree Tanaji	5	5	5	4	4	4	4		31	3
102)	Suryawanshi Anisha Vikas	5	5	4	4	4	4	4		30	3
103)	Tamboli Sophiya Chandsaheb	5	5	5	4	4	4	4		31	3
104)	Tamboli Ubed Mujib	5	5	5	4	4	4	4		29	3
105)	Tandale Vivek Chandrakant	5	5	5	5	4	3	2		29	3
106)	Tawate Sanika Rajendra	5	5	5	4	4	3	3		29	3

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

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Annasaheb Dange College of B Pharmacy, Ashta

INTERNAL QUALITY ASSURANCE CELL

Assessment Rubrics Academic Year 2021-2022

DISTINCTION THROUGH CONSTRUCTIVISM

107)	Wadgaonkar Sneha Dilip	4	4	4	4	4	4	4		28	3
108)	Waware Rutuja Rajaram	5	4	4	4	4	4	3		28	3
109)	Waychal Aniruddha Anandrao	5	5	4	4	4	3	3		28	3
110)	Yelmar Akanksha Pralhad	5	5	4	4	4	3	3		28	3
111)	Ahire Pratiksha Kashinath	5	5	4	4	4	4	3		29	3
112)	Bandgar Sakshi Sacchidanand	5	5	4	4	4	3	3		28	3
113)	Chougule Aishwarya Sanjay	5	5	4	4	4	4	3		29	3
114)	Chougule Anuja Ashok	5	5	5	4	4	4	3		30	3
115)	Gambhir Ankita Shashikant	5	5	4	4	4	4	3		29	3
116)	Jadhav Ajinkya Vasant	5	5	5	4	4	4	3		30	3
117)	More Sakshi Satish	5	5	4	4	4	4	3		29	3
118)	Morkal Pranjal Ramesh	5	4	4	4	4	4	3		28	3
119)	Patil Aniket Arvind	5	4	4	4	4	4	4		29	3
120)	Patil Arati Tanaji	5	5	4	4	4	4	4		30	3
121)	Patil Shrinivas Jayasing	5	5	5	4	4	4	3		30	3
122)	Patil Shruti Shantinath	5	5	5	4	4	4	3		30	3
123)	Pawar Ashutosh Dnyandeo	5	5	5	4	4	4	3		30	3
124)	Pradnyawant Rutuja Vijaykumar	5	5	5	4	4	4	3		30	3
125)	Sutar Shreya Sunil	5	5	5	4	4	4	4		31	3
126)	Tamboli Sapura Naushad	5	5	4	4	4	4	4		30	3
127)	Waingade Tejashri Rajendra	5	5	5	4	4	3	3		29	3
128)	Yadav Rutika Shashikant	5	4	4	4	4	4	3		28	3

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 413 301

PRINCIPAL
Annasaheb Dange College of B.Pharmacy,Ashta.

11/04/2022
Teacher I/C
Name with Signature and Date
(Dr. Tamboli E.T.)

Sant Dnyaneshwar Shikshan Sanstha's

Annasaheb Dange College of B Pharmacy, Ashta

INTERNAL QUALITY ASSURANCE CELL

Assessment Rubrics Academic Year 2021-2022

DISTINCTION THROUGH CONSTRUCTIVISM

Laboratory Work Assessment Rubrics for Physical Pharmaceutics –II (sem-IV)

(to be filled by faculty once in a semester)

Performance Criteria	CO	Excellent	Average	Poor	Grading
		5	4-3	2-1	
1. Basic knowledge about the experiments performed (PO1)	CO306.1 CO306.2 CO306.3 CO306.4 CO306.5	• Able to explain principle and procedure related to micromeritic properties, viscosity, disperse system, sedimentation, & chemical kinetics. • Able to explain applications of above physicochemical properties in the development of dosage form.	• Able to explain principle of micromeritic properties, viscosity, disperse system, sedimentation, & chemical kinetics. • Need assistance in explaining importance of above physicochemical properties in the development of dosage form.	• Wasn't able to explain the procedure of the experiments • Can't recall set of given instructions • Confused in various types of physicochemical properties.	
2. Basic Knowledge of Equipment and apparatus used in practical (PO1)	CO306.1 CO306.2 CO306.3 CO306.4 CO306.5	• Knows basic principle and use of weighing balance, hot air oven, thermometer, sieve shaker, microscope, bulk density apparatus etc. • Aware about other equipment which can do the similar work and other applications of same equipment.	• Know about basic role of c weighing balance, hot air oven, thermometer, sieve shaker, microscope, bulk density apparatus etc. • Aware about other practical can be performed with same equipment	• Hardly able to explain role of apparatus and equipment used in practical • Confused in applications of apparatus and equipment	
3. Planning Ability (PO2) and Problem analysis (PO3)	CO306.3 CO306.4 CO306.5	• Completes practical work within specified time by prioritizing tasks and using available resources efficiently. • Solve the practical problem by thinking critically and applying knowledge gained during the course and justify the same.	• Completes practical work within specified time using available resources. • Solve the practical problem based on the knowledge gained during the course.	• Fail to demonstrate the ability to follow instructions and complete the task within specified time. • Need assistance in applying knowledge gained during course to solve the problems.	
4. Able to handle all the equipment and tools	CO306.3 CO306.4	• Know the careful handling of weighing balance, weighing balance,	• Know the handling of sophisticated equipment like	• Careless handling • Unaware about handling	

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

needed for practical (PO4)	CO306.5	hot air oven, thermometer, sieve shaker, microscope, bulk density apparatus • Able to trouble shoot problems related with weighing balance, sieve shaker, microscope, and bulk density apparatus. • Take good care of apparatus and instruments.	sieve shaker, microscope, bulk density apparatus etc. • Unable to troubleshoot, need assistance • Try to take care of apparatus and instruments	techniques of sieve shaker, microscope, bulk density apparatus etc. • Don't pay attention in taking care of equipment	
5. Leadership skills (PO5)and Ethical behavior in laboratory (PO7)	CO306.3 CO306.4 CO306.5	• Help others for completion of given task by guiding them. • Motivate others to do the practical with accuracy • Always follows procedure • Always interacts for better understanding • Always punctual neat and tidy	• Participate with others and play responsible role in completion of given task. • Frequently follows procedure • Frequently interacts • Frequently neat and tidy • Most of the time Punctual	• Don't cooperate with others during the laboratory hours. • Never follows procedure • Never interacts • Never neat and tidy • Poor Punctuality	
6. Oral and Written Communication (PO8)	CO306.1 CO306.2 CO306.3 CO306.4 CO306.5	• Explain the principle and procedure with confidence • Always communicates with loud and clear tone • Completes the laboratory journal on time with own intellect.	• Able to explain procedures • Frequently communicate with teacher • Complete the laboratory journal on time but need support	• Don't able to communicate the theme of practical • Never interact with teacher • Never meet deadlines for completion of laboratory records	
7. Lifelong learning attitude (PO11)	CO306.1 CO306.2 CO306.3 CO306.4 CO306.5	• Good in self-learning • Interacting to know the impacts of changing technology on employment, environment.	• Fair in self-learning • Curious during demonstration • Know about change in technology but not able to interact about its impact	• Don't pay much attention to learn new things • Never interacted to know their impacts	

35 to 28 marks then 3 marks, 27 to 23 then 2.5 marks, 22 to 18 then 2 marks, 17 to 12 then 1.5 marks, 11 to 8 then 1 mark, 7 or less 0.5 mark

ANNASAHEB DANGE COLLEGE OF B PHARMACY ASHTA 416 301

Sant Dnyaneshwar Shikshan Sanstha's

Annasaheb Dange College of B Pharmacy, Ashta

INTERNAL QUALITY ASSURANCE CELL

Assessment Rubrics Academic Year 2021-2022

DISTINCTION THROUGH CONSTRUCTIVISM

Laboratory work Assessment Sheet for A. Y. 2021- 2022

Subject: Physical Pharmaceutics –II

Class: S. Y. B. Pharm (Sem-IV) **Division:** I **Date:** 29/06/2022

Roll No	Name of Student	Performance Criteria								
		1	2	3	4	5	6	7	*Total*	*Marks*
1)	Admuthe Gauri Sachin	5	5	5	5	4	4	4	32	03
2)	Awaghade Rudreshwari J	3	3	3	3	3	3	2	20	02
3)	Bagade Pratiksha S	4	4	4	4	4	3	3	26	2.5
4)	Bagale Kaveri Gangaram	4	4	4	4	4	3	2	25	2.5
5)	Bagi Rutuja Ajit	4	4	4	4	4	3	3	26	2.5
6)	Bandal Pranav Bajirao	3	3	2	2	2	2	2	16	1.5
7)	Bandpatte Ambika Arjun	3	3	3	3	3	3	2	20	02
8)	Bhalekar Sankalp Krishna	4	4	4	4	4	3	2	25	2.5
9)	Bhosale Prerana Raju	5	4	4	4	4	4	3	28	03
10)	Bhute Harshvardhan A	4	3	3	3	3	3	2	21	02
11)	Bilage Prasad Sidram	4	4	4	4	3	3	3	25	2.5
12)	Birnale Anurag Rajkumar	5	5	5	5	5	4	4	33	03
13)	Bobalade Pallavi R	5	5	5	5	5	4	4	33	03
14)	Budhavale Manisha R	4	4	4	4	4	3	3	26	2.5
15)	Chavan Akash Bhojaling	4	4	4	4	4	3	3	26	2.5
16)	Chavan Prajakta Bhagwan	4	4	4	4	4	3	3	26	2.5
17)	Chougule Madhura R	4	4	4	4	4	4	2	26	2.5
18)	Chougule Vishakha Sanjay	5	5	5	4	4	4	4	31	03
19)	Deshmukh Prajakta D	4	4	4	4	3	3	3	25	2.5
20)	Dhabugade Abhijeet S	5	5	5	5	4	4	4	32	03
21)	Dhole Prathamesh P	4	4	4	4	3	3	3	25	2.5
22)	Dhumale Sushant Datta	4	3	3	3	3	3	3	22	2.0
23)	Etam Snehal Himmat	4	4	4	4	3	3	3	25	2.5
24)	Gadache Rutuja Ravindra	4	4	4	4	3	3	3	25	2.5

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

25)	Gadve Yash Girish	5	5	5	4	4	4	4	31	03
26)	Gaikwad Aishwarya S	3	3	3	3	2	2	2	18	02
27)	Gavade Rutuja Rajaram	3	3	3	3	2	2	2	18	02
28)	Gavade Snehal Popat	4	4	4	4	3	3	3	25	2.5
29)	Ghutugade Avinash K	5	5	5	5	4	4	4	32	03
30)	Gurav Sarang Shahaji	4	4	4	4	3	3	3	25	2.5
31)	Gurav Shraddha Baburav	3	3	3	3	3	2	2	19	02
32)	Jadhav Gourav Rajendra	4	4	4	4	4	3	3	26	2.5
33)	Jadhav Parimal Suresh	3	3	3	3	3	3	2	20	02
34)	Jadhav Patil Rohit Rajesh	04	4	4	4	3	3	3	25	2.5
35)	Jadhav Rohit Satish	5	4	4	4	3	3	3	26	2.5
36)	Jagadale Vrushali Rajesh	4	4	4	4	3	3	3	25	2.5
37)	Jagtap Aditi Shivaji	5	4	4	4	3	3	3	26	2.5
38)	Jagtap Manisha Deepak	5	4	4	3	3	3	3	25	2.5
39)	Jagtap Shirish Shankar	4	4	4	3	3	3	3	24	2.5
40)	Jamadade Arpita Rajaram	5	5	5	5	4	4	4	32	03
41)	Jamadade Dhanashri S	5	5	5	5	5	5	4	34	03
42)	Jundale Pushpalata Sunil	-	-	-	-	-	-	-	-	AB
43)	Kadam Shruti Bajrang	5	5	5	5	5	4	4	33	03
44)	Kamble Chinmayee E	4	3	3	3	3	3	2	20	02
45)	Kamble Pratiksha Pradip	5	5	5	5	5	5	4	34	03
46)	Kapase Shwetali Ravindra	4	4	4	4	4	4	3	27	2.5
47)	Kashyap Tanvi Diwakar	4	4	4	4	3	3	3	25	2.5
48)	Khade Swapnali Shivaji	5	4	4	4	3	3	3	26	2.5
49)	Khavare Anushka Sudhir	4	4	4	4	3	3	3	25	2.5
50)	Kulkarni Nikita V	5	4	4	3	3	3	3	25	2.5
51)	Kulkarni Shivam Amol	5	4	4	3	4	3	2	25	2.5
52)	Kumbhar Shivani D	5	4	4	4	3	3	3	26	2.5
53)	Lokhande Sakshi S	5	4	4	4	3	3	3	26	2.5
54)	Mahipati Aditya Raju	4	4	4	3	3	3	3	24	2.5

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55)	Mali Dhanashree Maruti	4	4	4	4	3	3	3	25	2.5
56)	Mane Ashwini Maruti	4	3	3	3	3	3	2	21	02
57)	Mane Prajakta Ravindra	4	4	4	4	3	3	3	25	2.5
58)	Mane Prathamesh Maruti	3	3	3	3	3	3	2	20	02
59)	Mane Sakshi Vijay	3	3	3	3	3	2	2	19	02
60)	Mane Swagat Suhas	4	4	4	3	3	3	3	24	2.5

Honmane 29/06/22

Teacher I/C

Name with Signature and Date

(Mr. S. M. Honmane)

ANNASAHEB DANGE COLLEGE OF B. PHARMACY • ASHTA 416 301

PRINCIPAL
Annasaheb Dange College of B. Pharmacy, Ashta.

Sant Dnyaneshwar Sikshan Sanstha's
Annasaheb Dange College of B. Pharmacy, Ashta
Ashta, Tal: Walwa, Dist: Sangli, Maharashtra, India – 416301

DETAILS OF INTERNSHIP 2021-2022

Total No. of Third Year B. Pharm. Students: 120
Duration: 30 Days

Sr. No.	Company/ Hospital Name	Student Names	Date		Total Students
			from	to	
1.	**Ripcord Pharmaceutical Pvt. Ltd.** I 5 Star MIDC, Kagal, Kolhapur	1. Miss. Priyanka Shankar Rajge 2. Miss. Gauri Sanjay Randive 3. Miss. Dhanashri Dattatraya Jugadar 4. Miss. Sayee Diliprao Jagdale 5. Mr. Digvijay Pruthviraj Patil 6. Miss. Nikita Pratap Bodare 7. Miss. Shreya Sharad Mohite 8. Miss. Sonali Ashok Bhavar 9. Miss. Akanksha Ramchandra Sawant 10. Mr. Saniket Bajirao Wadgaonkar	12/08/2022	11/09/2022	**10**
2.	**Ajit laboratories pvt ltd, Miraj**	1. Ms. Thorat Monali Sanjay 2. Mr. Padolkar Vaibhav Shivaji 3. Mr. Sabale Saurabh Sakharam 4. Mr. Kore Pravin Savanta 5. Mr. Shinde Rohit Babasaheb 6. Miss. Mane Dhanshree Sampatrao 7. Miss. Sutar Swati Ashok 8. Miss. Patil Swapnali Sukumar 9. Miss. Mali Shrutika Sanjay 10. Miss. Patil Priya Vijaykumar 11. Ms. Vadar Tejashree Bharat 12. Mr. Sagare Atish Anil 13. Mr. Sindure Prashant Prakash 14. Mr. Mulla Mujib Basir 15. Miss. Mane Ankita Dattatray 16. Miss. Zodge Monali Ashok 17. Mr. Mane Anand Gangaram 18. Miss. Mali Bhagyashri Rajendra 19. Miss. Londhe Pratiksha Shrikrishna 20. Miss. Patil Supriya Suraj 21. Miss. Chaudhary Supriya laxman 22. Miss. Jamadar Sana Dastagir 23. Miss. Shruti Ratnakar Nangare 24. Miss. Pragati Ravindra Mone 25. Miss. Saloni Ankush Kamble 26. Mr. Ahsish Landage	10/08/2022	09/09/2022	**26**

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

2.	**Idomax Chemicals, Miraj**	1. Miss. Karuna Jadhav 2. Miss. Shweta Bagwat 3. Miss. Swaliya Chaus 4. Miss. Dipti Tambavekar 5. Miss. Pritee Ghanvat 6. Mr. Shubham Adhikrao Gaikwad 7. Mr. Aniket Sudhakar Undare 8. Mr. Varad Gurunath Ganmukhi 9. Mr. Bagal Nitin Laxman 10. Mr. Dethe Prasad Vilas 11. Mr. Khandzode Rushikesh Ganesh 12. Mr. Sathe Ganesh Ramesh 13. Ms. Kazi Ujma Maroof 14. Ms. Shinde Sonali Vijay 15. Ms. Sanika Bhujang Narwade 16. Ms. Sayali Sambhaji Patil 17. Ms. Shraddha Bhupesh Lipare 18. Mr. Bandgar Vinayak Ramchandra 19. Mr. Makamale Sanket Kisan 20. Mr. Chavan Shreyash Amrut 21. Mr. Sabale Vishwajeet Vinayak 22. Mr. Tate Pratik Rajaram 23. Mr. Kamble Abhishek Balasaheb 24. Ms. Siddhi Madan Dixit 25. Ms. Nikita Machindra Mhetre 26. Ms. Shreya Gajanan Jamdade 27. Ms. Gosavi Sukanya Dasharath 28. Miss. Kadam Chaitali Vijay 29. Mr. Shedage Karan Dinkar 30. Ms. Vadar Pranjal Pandurang 31. Mr. Pawar Gopal Kavarsing 32. Mr. Vedpathak Anant Rajendra 33. Miss. Jadhav Bhavna Raghunath 34. Miss. Akshata Bharat Jadhav 35. Miss. Sneha Suresh Dethe 36. Ms. Patil Jyotsna Jaysing 37. Miss. Rutuja Bharat Sawant 38. Miss. Aishwarya Babasaheb Kashid 39. Miss. Sonali Laxman Yadav 40. Miss. Kamble Rutuja Rakesh 41. Miss. Shruti Vishnu Parit 42. Miss. Dhanshri Madhukar Shinde 43. Miss. Harshada Popat Sajagane 44. Mr. Pratik Satyen Jadhav 45. Miss. Vaishnavi Raju Kadam 46. Miss. Komal Kanhaiyalal Choudhary 47. Miss. Shrutika Mansing Sandage	10/08/2022	10/09/2022	**58**

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

		48. Miss. Nisha Anandrao Jagtap 49. Miss, Rutuja Mahesh Kadam 50. Miss. Sneha Shivaji Kharat			
		51. Mr. Patil Abhijeet Prakash 52. Ms. Karagane Preeti Chandrakant 53. Ms. Momin Ishrat Salim 54. Ms. Waghmare Mugdha V. 55. Miss. Pranjal Shantaram Patil 56. Miss. Mali Pranali Sanjay 57. Mr. Vibhute Satyajeet Prabhakar	12/08/2022	12/09/2022	
		58. Mr. Pukale Harsh Prasanna	01/09/2022	15/09/2022	
3.	**Nulife Pharmaceuticals,** 203, Pleasant apartment, 15th Lane, Prabhat Road, Shivajinagar, Pune, Maharashtra 411004	1. Miss. Sakshi Satish Gondkar 2. Miss. Shreya Shyam Jagtap	10/08/2022	09/09/2022	**02**
4.	**Shree Pharma,** 386/2, 23A Inam Dhamani, Sangli, Maharashtra. 416416.	1. Mr. Basugade Rushikesh Balasaheb 2. Mr. Kumbhar Pritam Subhash	10/08/2022	09/09/2022	**02**
5.	**Haffkine Bio-Pharmaceutical Corporation Ltd.,** Bombay Pune Road, Pimpri, Next To Hindustan Antibiotics, Pune, MH 411018	1. Mr. Rushikesh Dake 2. Mr. Prajwal Patil 3. Mr. Rushikesh Chormale 4. Mr. Siddhant Nandgavkar 5. Mr. Abhishek Chougule 6. Mr. Shriram Chikode 7. Mr. Shyamlesh Dafure 8. Mr. Akshay Sadule 9. Mr. Prathmesh Patil 10. Miss. Pranali Ananda Chavan 11. Miss. Snehal Waman Darade 12. Miss. Sanjana Suhas Deshmukh 13. Miss. Priyanka Vitthal Shikhare	23/08/2022	22/09/2022	**13**
6.	**S. G. Phyto pharma Pvt. Ltd., Kolhapur, Maharashtra**	1. Mr. Pawar Gopal Kavarsing 2. Mr. Pukale Harsh Prasanna	16/09/2021	30/09/2022	**02**
7.	**Symbiosis Co-Op Pharmaceuticals Ltd,** Plot No. J-89, MIDC Kupwad Block, Sangli, Maharashtra 416436.	1. Miss. Rutika Suryawanshi 2. Miss. Kulkarni Apurva P 3. Miss, Dnyaneshwari Gurav 4. Miss. Yadav Anuja Arjun	11/08/2022	10/09/2022	**04**
8.	**Vatsal Ayurvedik Products Pvt. Ltd.,** 18 Siddhivinayak Industrial Estate, Ojhar, MH 422206	1. Mr. Rehan Hasim Chaus	10/08/2022	09/09/2022	**01**

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9.	**Cox Resarch Center Pvt. Ltd.,** Near Mahila Vikas Co-operative Bank, Ambad Village, Nashik	1. Miss. Dnyaneshwari Balasaheb Vagare	09/08/2022	09/09/2022	**01**
10.	**Raptakos Brett & Company,** C-2, Taswade Industrial Area, Karad, Dist- Satara, Maharashtra.	1. Miss. Pratibha Tanaji Patil	10/08/2022	09/09/2022	**01**
11.	**Primary Health Care Centre,** A/P- Udhawa, Tal- Talasari, Dist- Palghar Maharashtra.	1. Mr. Dakshesh Prakash Gavit	10/08/2022	09/09/2022	**01**
12.	**Primary Health Care Centre,** A/P- Kinhan, Tal- Koregao, Dist- Satara Maharashtra.	2. Miss. Saniya Momin	10/08/2022	09/09/2022	**01**

Data Verified by:

Principal	

THE B DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

PRINCIPAL
Annasaheb Dange College of B. Pharmacy, Ashta.

Sant Dnyaneshwar Sikshan Sanstha's
Annasaheb Dange College of B. Pharmacy, Ashta
Ashta, Tal: Walwa, Dist: Sangli, Maharashtra, India – 416301

DETAILS OF PROJECT 2021-2022

Total No. of Final Year B. Pharm. Students: 115
Duration: 6 months
Place: ADCBP, Ashta

Sr. No.	Roll No.	Name of Student	Name of Project Guide	Title of Project
1.	7	Chabukswar Anjali Vitthal	Dr. M. G. Saralaya	In vitro anticancer activity of plant metallic nano particles of coccinea grandis leaves extract
2.	8	Chandane Bhagyashri Ananda		Efficacy of few potential herbal therapies for Alleviating the symptoms of kidney stone : A Systematic Review and Meta- Analysis of Randomized Clinical trials.
3.	52	Kundale Prathamesh Dilip		A Systematic or research Literature review of potential medicinal Plant used for the treatment of Thyroid disorder
4.	62	Mali Neha Sanjay		Efficacy of few potential herbal therapies for alleviating the symptoms of rheumatoid arthritis : A systematic review and meta- analysis of randomised clinical trials.
5.	27	Jadhav Pallavi Sanjay	Mr. S. J. Sajane	Evaluationh of anti-inflammatory activity of Bilva
6.	96	Sathe Mandar Vijay		Formulation and evaluation of Pediatric Herbal Chocolate
7.	36	Kadam Sangram Narendra	Mr. G. V. Sutar	Anticoagulant Activity of Indian medicinal plant
8.	38	Kamble Ritesh Suresh		Anti-inflammatory activity of Indian medicinal plant
9.	39	Karape Chaitanya Dattatraya		Anticoagulant Activity Of Indian Medicinal Plants
10.	71	Pange Prathamesh Sanjay		Anti-inflammatory activity of indian medicinal plant.
11.	68	Naikwadi Prashant Pramod	Mr. G. V. Sutar	Review on natural immunity booster
12.	101	Shinde Madhura Siddheshwar		Evaluation of analgesic activity of Bougainvillea spectabilis
13.	15	Deshmukh Pooja Dattatraya	Mr. S. J. Patil	Comparative and combination study of antimicrobial activity of medicinal plants.
14.	37	Kale Nivas Sampat		
15.	90	Phatak Priti Sudhir		
16.	61	Mali Landage Narendra Sanjay	Mr. S. J. Patil	Strategies to Improve the Generic market and its awareness among the Peoples
17.	104	Tanna Janvi Bharat		
18.	1	Ashtekar Ankita Mahendra	Ms. A. M. Bhaiji	Preperation and evaluation of Plumeria alba and Rose perfume
19.	4	Bhingardeve Akshata Shekhar		
20.	17	Dhumal Samruddhi Manik		

ANNASAHEB DANGE COLLEGE OF PHARMACY ASHTA 416 301

21.	35	Kadam Rutuja Ganpatrao		
22.	18	Doijad Shital Ravindra	Dr. E. T. Tamboli	Pharmacognostic evaluation and bioactivity screening of Tecoma stans leaves and stems
23.	67	Nadaf Zinat Shamashuddin		
24.	76	Patil Kedar Vijaykumar		
25.	100	Shinde Komal Baburao		
26.	32	Jamadade Pratiksha Kantilal	Mr. N. D. Patil	Phytochemical screening & antibacterial activity of I. Balsamina Leaves
27.	50	Kore Snehal Sambhaji		
28.	93	Revale Sahil Sandeep		
29.	107	Tupe Amisha Dilip		
30.	45	Khandekar Nimish Shirish	Dr. R. S. Jagtap	Formulation and evaluation of groundnut oilcake based protein powder as potential alternative for dietary supplement
31.	58	Mali Ankita Arun		Formulation and evaluation of polyherbal anti acne gel
32.	92	Raval Dhanashree Shital		
33.	13	Dangare Musaif Jamir	Mr. S. M. Honmane	Survey on strategies used for enhancement of medical business
34.	19	Dudhal Ravindra Ramchandra		Development and optimization of nanosuspension by anti-solvent precipitation technique
35.	41	Kengar Namrata Kundalik		
36.	111	Yadav Kunal Rajaram		UV-Spectrophotometric method development and validation for estimation of piroxicam from bulk and formulation.
37.	47	Kininge Shubham Vidyasagar	Mr. S. M. Honmane	Comparitive Evaluation of Generic & Branded Medicine
38.	57	Magdum Ashish Ajit		
39.	59	Mali Dhanashri Rajendra	Mr. S. N. Pattekari	Solubility enhancement of a Class II drug
40.	74	Patil Arpita Ashok		
41.	98	Sawairam Namrata Santosh		
42.	14	Desai Mayur Shamrao	Mr. K. M. Thorawade	Preparation, evaluation and optimization of multifunctional herbal shampoo
43.	43	Khade Omkar Tanaji		
44.	78	Patil Pranoti Prataprao		
45.	97	Satpute Shruti Umesh		
46.	3	Bhangare Aarti H	Mr. K. M. Thorawade	Formulation, Evaluation of Herbal Mouthwash and Comparison with Marketed Preparation
47.	22	Gadade Rohit Janappa		Formulation, Evaluation of Herbal Toothpaste and Comparison with Marketed Preparation
48.	49	Koli Vishakha Prakash	Mr. A. R. [illegible]	Formulation and evaluation of Biodegradable packing materials
49.	105	Todkar Shraddha Sandeep		

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

50.	55	Lawand Suyash Sanjay		Survey of retail medical shops and strategies to increase business
51.	80	Patil Prathamesh Annaso		A basics of global survey of pharmaceutical market
52.	34	Kadam Kundan Vasant	Mr. R. D. Patil	Preparation and evaluation of herbal hair oil.
53.	51	Kumbhar Raj Jagnnath		
54.	56	Linge Prathamesh Dilip		
55.	81	Patil Pritish Pradeep		
56.	66	Muli Harshal Sanjay	Mr. R. D. Patil	Formulation and Evaluation of multipurpose Herbal Cream
57.	82	Patil Rutika Prakash		
58.	28	Jadhav Pooja Shashikant	Ms. S. S. Kharat	Formulation and Evaluation of Herbal Multipurpose Cream
59.	44	Khandekar Harsahda Y		
60.	69	Padalkar Dada Bhiva		
61.	79	Patil Pranoti Sunil		
62.	89	Pawar Vaishnavi Vishwanath	Ms. S. S. Kharat	development and evaluation of carbopol based tooth strip for oral hygiene
63.	99	Shinde Kajal Pandit		Formulation and evaluation of toothpaste containing combination of aloe and sodium chloride
64.	2	Attar Mahek Kadar	Mr. S. S. Patil	Phytochemical Study of Nutritional Potential of tamrind seed
65.	21	Erandole Basavaraj Mohan		
66.	64	Mandake Saurabh Arjun		
67.	72	Patil Adarsh Balasaheb		
68.	6	Bhosale Santosh Vishnu	Ms. P. R. Shelake	Formulation and evaluation of diclofenac sodium table.
69.	65	Mane Aishwarya Ashvinkumar		
70.	86	Patil Shivani Gajanan		
71.	88	Pawar Payal Dasu		
72.	24	Ghadge Aniruddha Eknath	Mr. P. V. Chavan	Survey on attitude of pharmacist towatds patients safety: A cross sectional study from society and pharmacist.
73.	31	Jagtap Vinmay Satish		
74.	48	Koli Manasi Umesh		Awareness of diabetic patients towards Diabetes Mellitus: A survey based study
75.	60	Mali Gayatri Sanjay		
76.	11	Chavan Snehal Mahadev	Ms. Y. H. Momin	Analytical Method Development of Synthesized Silver Nanoparticles of Rifabutin As Antitubercular drug
77.	12	Chougule Utkarsha Atmaram		Analytical Method Development of Itraconazole nanoparticles as antifungal drug
78.	42	Khade Komal Satish		Analytical Method Development of Canagliflozin Nanoparticles as Antidiabetic Drug
79.	53	Lade Samiksha Sanjay	Ms. Y. H. Momin	Evaluation of Anticoagulant activity of Medicinal Plant
80.	106	Tondare Sangmeshwar Shivraj		Advertisement is tool to improve brand performance

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

81.	85	Patil Sayali Sanjay	Mr. A. K. Mullani	Design & Development of Pyridyl Triazole Derivatives
82.	95	Sargar Swapnil Madhukar		Designing, Synthesis & Biological evaluation of Pyridin Imidazole Derivatives
83.	112	Yamgar Pratima Dilip		
84.	5	Bhor Vedant Balasaheb	Mr. G. D. Mote	Method Development for assay of carmusrine by HPLC
85.	33	Joshi Akankasha Sunil		Design and synthesis of new Antifungal Agents
86.	110	Vhasukale Nitesh Prakash		Development of some new antitubercular agents by SAR studies
87.	10	Chavan Omkar Anna	Mr. G. D. Mote	Survey on Effect of Online Pharmacy on Retail Pharmacies
88.	109	Vayadande Aradhana S.		Formulation and Stndardization of Avaleha preparation from herbal origin Vitis vinifera linn
89.	25	Jadhav Ankush Ravindra	Ms S. P. Desai	Survey on pharmaceutical waste management of hospitals ashta region
90.	70	Palsande Mukta Pandurang		Synthesis of Guar gum derivatives and its Pharmacological Evaluation.
91.	108	Urane Smruti Rajesh		
92.	114	Sid Bhagyashri Pandurang		Review on formulation & evaluation of dental gel
93.	20	Dudhane Priya Ravsaheb	Mr. H. P. Khade	Comparison of product yield by conventional & green synthesis
94.	73	Patil Ankita Arvind		Phytochemical & Pharmacological Evaluation of Extract of Annona reticulata Seeds
95.	84	Patil Sakshi Dhanaji		Analytical Method Development & Validation of Diuretic Drug
96.	113	Khot Pravin Prabhakar		Comparative study on Antimicrobial Activity of Diuretic on different bacteria.
97.	30	Jadhav Sourabh Prakash	Dr. P.S. Gaikwad	Preparation and evaluation of herbal chewable tablets for the treatment of cough
98.	75	Patil Harshda Dinkar		Preparation and characterization of curcumin muoadhesive gel
99.	91	Pise Rutwik Vitthal		Formulation and evaluation of an opthalmic in-situ gel
100.	102	Surve Pradnya Deepak		
101.	83	Patil Sachin Shankar	Dr. P.S. Gaikwad	Development of herbal lotion(Curcuma Amanda) and it's evaluations
102.	115	Tambavekar Digvijay Dilip		
103.	16	Dhobale Ganesh Yashwant	Mr. R. D. Mali	Design & synthesis of benzimidazole derivatives for possible biological activity
104.	29	Jadhav Rohit Jayavant		Design & synthesis of sulphonamide derivatives through condensation of amino group containing drug
105.	77	Patil Neha Anand		
106.	87	Pawar Panjabrao Sunil		Formulation & evaluation of aloe Vera tooth gel
107.	46	Kharde Rustam Himmat	Mr. R. D. Mali	Formulation and Evaluation of Herbal Lipstick From Beetroot
108.	63	Mali Sakshi Santosh		
109.	23	Gaikwad Sanket Sandeep	Ms. N. M. Jadhav	Survey and counselling of patient for the use of medicines and its disposal
110.	40	Katkar Mrunal		Formulation and evaluation of herbal face wash for acne

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

		Hanmant		
111.	103	Suryawanshi Shubhada J		formulation and evaluation of herbal shampoo powder
112.	9	Chandanshive Akshata Sugat	Ms. A. S. Patil	Synthesis of cinamic acid and its antimicrobial activity
113.	26	Jadhav Lilavati Ashok		Formulation and determination of SPF by using lyopersicum fruit extract
114.	54	Lambe Omkar Anil		Formulation and evaluation of Herbal cream from tulasi extract
115.	94	Sargar Gauri Vijay		Formulation and determination of SPF by using punica granatum fruit extract

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

PRINCIPAL
Annasaheb Dange College of
B. Pharmacy, Ashta.

FINAL YEAR B. PHARM. (SEM-VII) 2021-22

PRACTICE SCHOOL SUBJECT DOMAIN LIST

Pharmaceutics

Sr. No.	Roll no.	Name of Student
1.	2	Attar Mahek Kadar
2.	6	Bhosale Santosh Vishnu
3.	10	Chavan Omkar Anna
4.	13	Dangare Musaif Jamir
5.	14	Desai Mayur Shamrao
6.	19	Dudhal Ravindra R.
7.	22	Gadade Rohit Janappa
8.	23	Gaikwad Sanket Sandeep
9.	24	Ghadge Aniruddha Eknath
10.	25	Jadhav Ankush Ravindra
11.	28	Jadhav Pooja Shashikant
12.	31	Jagtap Vinmay Satish
13.	34	Kadam Kundan Vasant
14.	37	Kale Nivas Sampat
15.	40	Katkar Mrunal Hanmant
16.	41	Kengar Namrata Kundalik
17.	43	Khade Omkar Tanaji
18.	44	Khandekar Harsahda Y
19.	46	Kharde Rustam Himmat
20.	47	Kininge Shubham V.
21.	48	Koli Manasi Umesh
22.	49	Koli Vishakha Prakash
23.	51	Kumbhar Raj Jagnnath
24.	55	Lawand Suyash Sanjay
25.	56	Linge Prathamesh Dilip
26.	57	Magdum Ashish Ajit
27.	58	Mali Ankita Arun
28.	59	Mali Dhanashri Rajendra
29.	60	Mali Gayatri Sanjay
30.	63	Mali Sakshi Santosh
31.	64	Mandake Saurabh Arjun
32.	65	Mane Aishwarya A.
33.	69	Padalkar Dada Bhiva
34.	70	Palsande Mukta P
35.	74	Patil Arpita Ashok
36.	75	Patil Harshda Dinkar
37.	78	Patil Pranoti Prataprao
38.	79	Patil Pranoti Sunil
39.	80	Patil Prathamesh Annaso
40.	81	Patil Pritish Pradeep
41.	82	Patil Rutika Prakash

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

42.	**83**	Patil Sachin Shankar
43.	**86**	Patil Shivani Gajanan
44.	**88**	Pawar Payal Dasu
45.	**89**	Pawar Vaishnavi Vishwanath
46.	**91**	Pise Rutwik Vitthal
47.	**92**	Raval Dhanashree Shital
48.	**96**	Sathe Mandar Vijay
49.	**97**	Satpute Shruti Umesh
50.	**98**	Sawairam Namrata Santosh
51.	**99**	Shinde Kajal Pandit
52.	**102**	Surve Pradnya Deepak
53.	**103**	Suryawanshi Shubhada J
54.	**105**	Todkar Shraddha Sandeep
55.	**109**	Vayadande Aradhana S.
56.	**115**	Tambavekar Digvijay Dilip

ANNASAHEB DANGE COLLEGE OF B. PHARMACY • ASHTA 416 301

FINAL YEAR B. PHARM. (SEM-VII) 2021-22

PRACTICE SCHOOL SUBJECT DOMAIN LIST

Pharmaceutical Chemistry

Sr. No.	Roll no.	Name of Student
57.	9	Chandanshive Akshata S.
58.	5	Bhor Vedant Balasaheb
59.	11	Chavan Snehal Mahadev
60.	12	Chougule Utkarsha A.
61.	16	Dhobale Ganesh Y.
62.	20	Dudhane Priya Ravsaheb
63.	26	Jadhav Lilavati Ashok
64.	29	Jadhav Rohit Jayavant
65.	30	Jadhav Sourabh Prakash
66.	33	Joshi Akankasha Sunil
67.	42	Khade Komal Satish
68.	54	Lambe Omkar Anil
69.	77	Patil Neha Anand
70.	87	Pawar Panjabrao Sunil
71.	84	Patil Sakshi Dhanaji
72.	94	Sargar Gauri Vijay
73.	95	Sargar Swapnil Madhukar
74.	108	Urane Smruti Rajesh
75.	110	Vhasukale Nitesh Prakash
76.	112	Yamgar Pratima Dilip
77.	113	Khot Pravin Prabhakar
78.	114	Sid Bhagyashri Pandurang

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FINAL YEAR B. PHARM. (SEM-VII) 2021-22

PRACTICE SCHOOL SUBJECT DOMAIN LIST

Pharmacology

Sr. No.	Roll no.	Name of Student
79.	7	Chabukswar Anjali Vitthal
80.	8	Chandane Bhagyashri A.
81.	21	Erandole Basavaraj M.
82.	35	Kadam Rutuja Ganpatrao
83.	38	Kamble Ritesh Suresh
84.	39	Karape Chaitanya D.
85.	45	Khandekar Nimish Shirish
86.	52	Kundale Prathamesh Dilip
87.	61	Mali Landage Narendra Sanjay
88.	62	Mali Neha Sanjay
89.	68	Naikwadi Prashant P
90.	72	Patil Adarsh Balasaheb
91.	85	Patil Sayali Sanjay
92.	104	Tanna Janvi Bharat
93.	106	Tondare Sangmeshwar Shivraj
94.	111	Yadav Kunal Rajaram
95.	1	Ashtekar Ankita M.
96.	15	Deshmukh Pooja D.
97.	17	Dhumal Samruddhi Manik
98.	53	Lade Samiksha Sanjay
99.	66	Muli Harshal Sanjay
100.	71	Pange Prathamesh Sanjay
101.	90	Phatak Priti Sudhir
102.	93	Revale Sahil Sandeep

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FINAL YEAR B. PHARM. (SEM-VII) 2021-22

PRACTICE SCHOOL SUBJECT DOMAIN LIST

Pharmacognosy

Sr. No.	Roll no.	Name of Student
103.	3	Bhangare Aarti H
104.	18	Doijad Shital Ravindra
105.	36	Kadam Sangram N.
106.	76	Patil Kedar Vijaykumar
107.	4	Bhingardeve Akshata S.
108.	27	Jadhav Pallavi Sanjay
109.	32	Jamadade Pratiksha K.
110.	50	Kore Snehal Sambhaji
111.	67	Nadaf Zinat
112.	73	Patil Ankita Arvind
113.	100	Shinde Komal Baburao
114.	101	Shinde Madhura Siddheshwar
115.	107	Tupe Amisha Dilip

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

PRINCIPAL
Annasaheb Dange College of
B. Pharmacy, Ashta.

Industrial Visits-

Academic Year 2021-22

Sr. No.	Date	Name of the Pharmaceutical Industry	No. of Students participated	Level of Participant
1.	25.05.2022	**Indoco Ltd.,** Verna Industrial estate, Goa.	33	Third Year B. Pharm Students
3.	26.05.2022	**DCI Pharmaceuticals ltd.**, Goa.	33	Third Year B. Pharm Students

Academic Year 2019-20

Sr. No.	Date	Name of the Pharmaceutical Industry	No. of Students participated	Level of Participant
1.	19.02.2020	**Lupin Ltd.,** Verna Industrial estate, Goa.	27	Third Year B. Pharm Students
2.	19.02.2020	**Abbot India Ltd.**, Verna Industrial estate, Goa.	30	Third Year B. Pharm Students
3.	17.02.2020	**DCI Pharmaceuticals ltd.**, Goa.	30	Third Year B. Pharm Students
4.	06.09.2019	Mistair Health & Hygiene Kolhapur, Maharashtra	55	Third Year B. Pharm (Div- I) Students

Academic Year 2018-19

Sr. No.	Date	Name of the Pharmaceutical Industry	No. of Students participated	Level of Participant
1.	30.01.2019	Ashland India Pvt. Ltd., Hyderabad, Karnataka.	45	Third Year B. Pharm Students
2.	08.09.2018	S. G. Phytopharma Pvt. Ltd., Kolhapur, Maharashtra.	50	Second Year B. Pharm (Div- II)

Academic Year 2017-18

Sr. No.	Date	Name of the Pharmaceutical Industry	No. of Students participated	Level of Participant
1.	05.08.2017	Aaheli Healthcare Pvt Ltd., Karad, Maharashtra.	48	Second Year B. PharmStudents

Academic Year 2016-17

Sr. No.	Date	Name of the Pharmaceutical Industry	No. of Students participated	Level of Participant
1.	31.12.2016	Dhanvantari Ayurved Pharma, Ashta, Tal. Walwa, Sangli, Maharashtra	49	First Year B. PharmStudents

Annasaheb Dange College Of B. Pharmacy ASHTA 416 301

Report on Industrial Visit to DCI Pharmaceuticals Goa, Indoco Remedies Ltd., Goa.

Date of visit	25th and 27th May 2022
Place of visit	**1. Indoco Ltd., Verna Industrial estate, Goa** **2. DCI Pharmaceuticals ltd., Goa.**
Coordinators from college	Mr. Ashish K. Mullani
Approved by	Ex. Director: Prof. R. A. Kanai and Principal: Dr. M. G. Saralaya
Participating students	66 students of Third Year B. Pharmacy & Final Year B. Pharmacy
Accompanying faculty Members	Mr. Ramling D. Mali, Miss. Nisha Jagtap, Miss. Ashwini Patil
Coordinators from industry	**Indoco Remedies Ltd., Verna Industrial estate, Goa,** Mr. Vaibhav Lole (QA, Manager) (vaibhav.lole@indoco.com)
	DCI Pharmaceuticals Goa. Mr. Vaidya Sir (General Manager) (spvaidya@dcipharma.co.in) Ms. Trupti Vernekar (HR) (dci@dcipharma.co.in)

The Educational visit to **Indoco Remedies Ltd., Verna Industrial estate, Goa** and DCI Pharmaceuticals ltd., Goa was organized by Annasaheb Dange College of B. Pharmacy, Ashta on **25th and 27th May 2022**. We 4 faculty members along with 66 students of Third Year B. Pharmacy & Final Year B. Pharmacy were benefited in the visit which was successfully coordinated by Mr. Ashish K. Mullani.

1) Indoco Remedies Ltd., Verna Industrial estate, Goa, (Plant-I) visited on 25th May 2022

Initially we 2 staff members (Mr. Ashish Mullani & Ms. Nisha Jagtap) and 34 students were

taken in the conference room where a brief introduction about industry (Indoco ltd.) was given by Mr. Vaibhav Lole Sir. Indoco Remedies Goa Plant-I manufactures Solid Dosages, Creams, Ointments and Liquid Dosages and is located in a non-pollutant area, with a vertical flow system, monolithic flooring, fully air-conditioned RM and FG stores. It has a separate Pilot Plant. The plant has capability to manufacture Aqueous, Non-aqueous and Photosensitive products. It has HVAC system that maintains Relative Humidity to 55% +/- 5%. The facility has now been expanded to meet the growing demands by our customers from the regulated markets.

The facility is approved by UK-MHRA (for Solid Dosages and Creams & Capsules), TGA-Australia (for Solid Dosages, Liquid Orals and Creams & Ointments) and by Darmstadt Germany (for Solid Dosages). The Plant also holds the WHO-GMP approval.

Dosages manufactured and their annual capacities:

Solid Orals (Tablets Coated / Uncoated) : 2 Billion Tablets

Liquid Orals : 6 Million Bottles

Creams & Ointments : 10 Million Tubes

Capsules (Hard Gelatin) : 60 Million Capsules

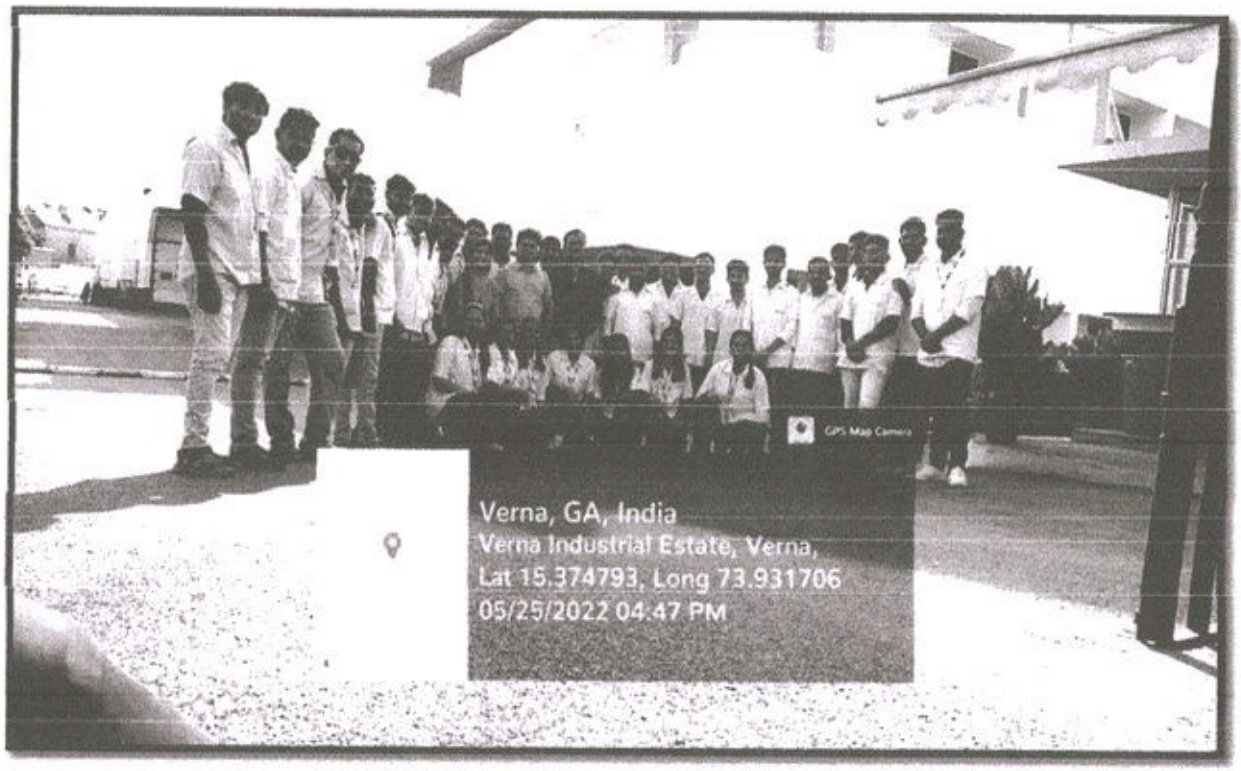
Industry coordinator Mr. Vaibhav Lole Sir and we all staff members along with our students were went to gowning room separate for male and female and provided with gowns and caps, several photographs and SOPs were there instructing proper gowning procedure. The first department visited was raw material and packaging material warehousing area where we got to learn how the raw and packaging materials are stored and labeled and we have seen different types of labels with different colors fixed on containers indicating its batch number, lot number, issue date, expiration date, retest date, and storage conditions. They were using in-house software for digital data maintenance. We were also informed about SAB system which they are going to use in future for warehousing data maintenance. Then we were taken to dispensing area where we got to know about the procedure for dispensing of raw and packaging material according to given MRO (material request order) provided by production area. After that we visited granulation area where we saw different granulation equipment such as rapid mixer granulator, fluidized bed drier. Furthermore, we were also informed about different steps used during granulation such as sifting, sizing, drying etc. Different types of granulation process were used like wet granulation and dry granulation. Meanwhile we got to know about how the sampling has been carried out for IPQC test and what different kind of analysis

techniques they were using. After visiting granulation area we moved towards compression area, where we saw compression machine where he explained about different parts of compression machine like stations, tooling, hoppers, and feeders. He also explained about different defects of tablets due to compression variation and its remedies and whole procedure for compression was explained in detail.

The next area was capsule filling area where we got to know about different types of filings like powder, granules, pellets, and mini tablets that are being filled in capsule shell, the next step explained after filling was polishing. After filling area we have seen the coating area where Mr. Sagar Patil explained that coating is the most crucial step in tablet manufacturing two coating equipment. He gave us details about fluid bed equipment used for the coating of pellets and granules. He shared an incident regarding the tablet coating defect that leads to a great loss. The whole coating principle was described in detail. In sequence saw the tablet and capsule inspection by manually an auto inspection machines with their rejection and pass mechanism. Then we moved towards packaging area, the whole packaging area was divided into two parts like primary packaging area and secondary packaging area in primary packaging area different packaging systems were there like blister packaging and bottle packaging, the bottle packaging was in process so we informed about the procedure in detail, we learnt about how the packaging material is selected and tested for its appropriateness and in accordance with the foreign market requirement for the packaging and labelling. In blister packaging area the process used for blistering was semi-automated. Brief information was given about the secondary packaging of the tablets and capsules. After this we were move toward QC section, where we saw the QC equipment's like HPLC, moisture analyzer, Dissolution test apparatus with their principles and applications and seen some QC reports.

Finally we gathered in the conference room where the Mr. Vaibhav Lole (QA Manager), gave us the overview about different plants of Indoco Remedies Ltd., Goa and their growth, achievements and cultural activities. He has guided our students how to face interviews, communication skill, confidence, interview techniques and expectations of industry from graduate peoples. After that Mr. Ashish K. Mullani, TPO, ADCBP proposed vote of thanks to all industry coordinators for permitted to us for industrial visit and spent their valuable time. Ashish K. Mullani, TPO, ADCBP had requested to HR to make collaboration with ADCP family and provide in-plant training to our students and campus interviews. Lastly, we ended the visit by clicking a group photograph at 5.30 PM and we moved out of the plant.

@Glimpses-



2) DCI Pharmaceuticals ltd., Goa visited on 26th May 2022-

Initially we were taken in the conference room where a brief introduction about industry was given by General Manager, Vaidya Sir. We 2 staff members (Ms. Ashwini Patil & Mr. Ramling Mali) and 32 students were visited Production Corridor, Quality Assurance & Quality Control departments

A) The manufacturing unit has three manufacturing sections viz. Ampoule manufacturing section, vial manufacturing section and ophthalmic manufacturing section. Entries to these sections are restricted. All areas are accessed through air locks. The areas are categorized in three classes viz.

The manufacturing unit has a state of the art Parenterals manufacturing department categorized in to three units

Manufacturing department ophthalmic section

1) Corridor of ophthalmic section
2) Ophthalmic Manufacturing Area

3) Ophthalmic Filling Area

B) Quality Assurance section involved in implementation of good manufacturing and good laboratory practices. Its other functions include inspection of sanitation processes, general cleanliness, personal hygiene, process validation, calibration of instruments/equipments and preparation of SOP / MMFM / BMR and other documentation as well as carrying out IPQC checks in production and packing operations.

C) Quality Control Laboratory, which is well equipped with highly sophisticated automatic instruments like HPLC, FTIR, UV-VIS Spectrophotometer, Auto Titrator, Karl Fischer instrument etc. It has facility for microbiological analysis and Endotoxin Testing (LAL). Quality Control Department analyses all the incoming raw materials, packaging materials, conducts inprocess quality control, analyses all the batches of the finished products both chemically and microbiologically, wherever applicable. Stability tests are conducted as per ICH guidelines.

D) Microbiological testing is performed under Laminar Air Flow equipped with HEPA filters. The microbiology area is categorized in two classe viz. Class 100 and Class 10,000. The entry into microbiology section is restricted. The testing areas have access through air locks. There is separate testing area for sterility testing and other microbiological testing. Autoclaves are used for sterilization of glassware, media, accessories and decontamination of used media.

E) Packaging: There were 3 levels of packaging. The basic aim is to provide highest quality care.

a) Primary

b) Secondary (blister packaging is done)

c) Tertiary

After packaging, Leak Test was carried out. QC was governed by QA which decides GMP, SOP with safety and FDA rules and regulations

a) HPLC

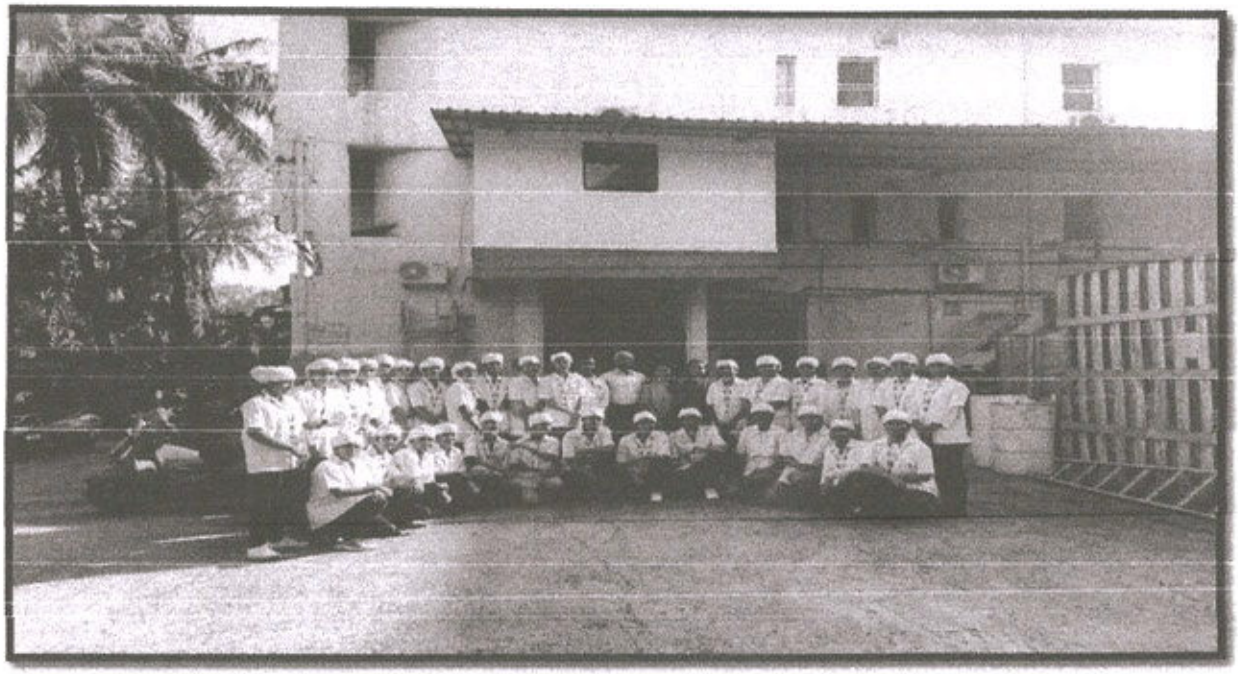
b) Total organic carbon (TOC) – to test hardness of water used (Pure and Ultrapure). For purified water hardness- NMT 1 ppm

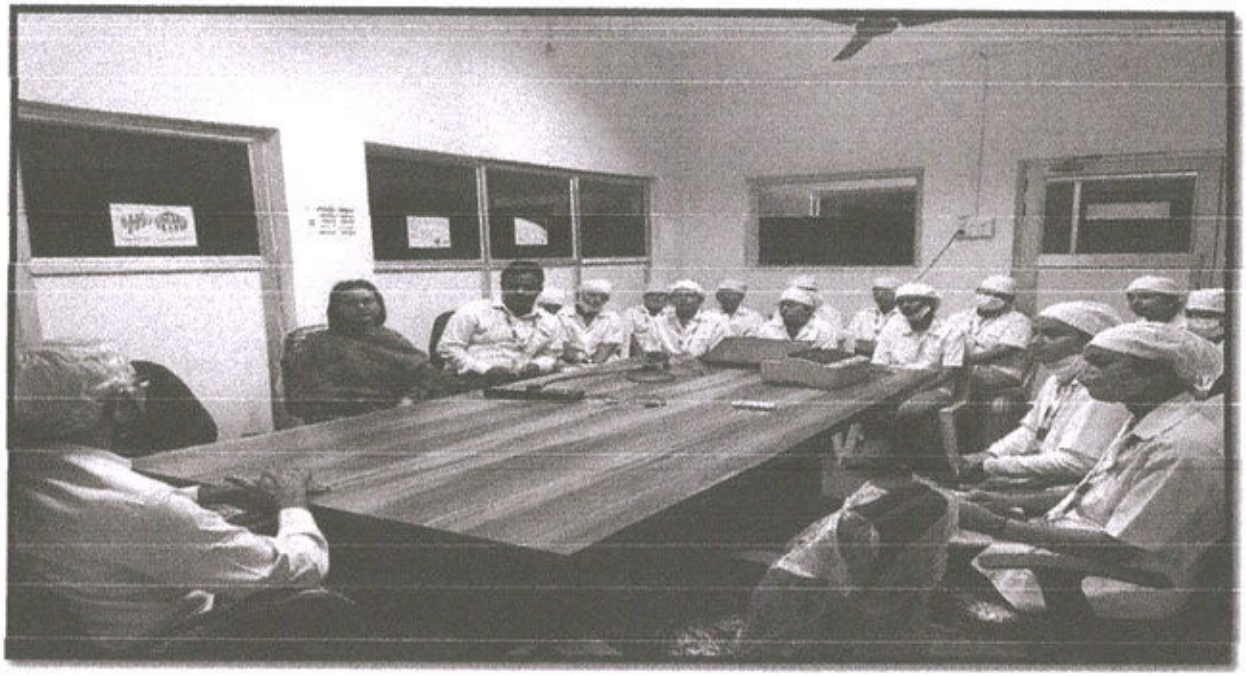
c) Accelerated stability control chamber- products were subjected to exaggerated conditions of temperature, humidity - degradation pattern was observed - was used to determine shelf life under normal conditions of transport and storage.

d) Microbiological evaluation: Extent of microbial contamination was estimated using different techniques like Petri plate method.

At the end of visit Ms. Ashwini Patil, Assistant Professor, ADCBP has proposed vote of thanks to General Manager, Vaidya Sir and Miss. Trupti Vernekar. Industrial Visit was ended with photographs.

@Glimpses-





Prepared By: Mr. Ashish K. Mullani
TPO, ADCBP, Ashta

DR. M. G. Saralaya
Principal
Annasaheb Dange College of
B. Pharmacy, Ashta.

Sant Dnyaneshwar Shikshan Sanstha's

Annasaheb Dange College of B Pharmacy Ashta

Industrial Visit @ Goa -2022

BUS NO 1					
Sr. No,	Name of the students	Age	Sr. No,	Name of the students	Age
1	Deshmukh Sanjana Suhas	20	24	Rajge Priyanka Shankar	21
2	Chavan Pranali Ananda	21	25	Mohite Shreya Sharad	21
3	Bodare Nikita Pratap	21	26	Momin Saniya Javed	21
4	Bhavar Sonali Ashok	21	27	Shikhare Priyanka Vitthal	21
5	Jugdar Dhanashri Dattatray	21	28	Shinde Dhanashri Madhukar	21
6	Darade Snehal Waman	21	29	Sajgane Harshada Popat	21
7	Jagtap Nisha Anandarao	21	30	Randive Gauri Sanjay	21
8	Kadam Vaishnavi Raju	21	31	Sawant Akanksha Ramchandra	21
9	Jadhav Bhavana Raghunath	21	32	Sabale Vishwajit Vinayak	21
10	Jadhav Karuna Maruti	21	33	Sathe Ganesh Ramesh	21
11	Kashid Aishwarya Babasaheb	21	34	Tate Pratik Rajaram	21
12	Kamble Rutuja Rakesh	21	35	Pukale Harsh Prasanna	21
13	Ghanvat Pritee Prakash	21	36	Shedage Karan Dinakar	21
14	Bhagvat Shweta Deepak	21	37	Pawar Gopal Kawarsingh	21
15	Gurav Dnyaneshwari Abhay	21	38	Patil Abhijit Prakash	21
16	Kumbhar Pritam Shubhash	21	39	Patil Digvijay Pruthviraj	21
17	.Bagal Nitin Laxman	21	40	Patil Pranjal Shantaram	21
18	Bandgar Vinayak Ramchandra	21	41	Patil Priya Vijaykumar	21
19	Chavan Shreyash Amrut	21	42	Patil Jyotsna jaysingh	21
20	Dethe Prasad Vilas	21	43	Parit Shruti vishnu	21
21	Makamale Sanket Kisan	21	44	Suryavanshi Rutika Bajirav	21
22	Khandzode Rushikesh Ganesh	21	45	Momin Ishrat salim	21
23	Basugade Rushikesh Balasaheb	21	46	Nangre Shruti Ratnakar	22
		21	47	Patil Supriya Suraj	22

Dnyaneshwar Shikshan Sanstha's

Annasaheb Dange College of B Pharmacy Ashta

Industrial Visit @ Goa -2022

BUS NO 2		
Sr No	**Name of the students**	**Age**
1	Shruti Satpute	22
2	Mukta Palsande	22
3	Vishakha Koli	22
4	Mansi Koli	22
5	Dhanashri Mali	22
6	Gayatri Mali	22
7	Santosh Bhosale	22
8	Narendra Mali	22
9	Payal Pawar	22
10	Nitesh Vasukale	22
11	Shriram Chikode	22
12	Rushikesh Dake	22
13	Rushikesh Chormule	22
14	Shyamlesh Dafure	22
15	Abhishek Chougule	21
16	Prajwal Patil	22
17	Prathmesh Patil	22
18	Akshay Sadule	22
19	Sidhant Nandgaonkar	22

ASHTA

PRINCIPAL
Annasaheb Dange College of
B. Pharmacy, Ashta.

09/10/2022

Notice

This is to inform all the students of Final Year B. Pharm that as per the curriculum activity under Pharmacy Practice subject, we are visiting to Shashwat Blood Bank, Miraj which is scheduled on Saturday (15/10/2022). All the students are instructed to be present at Shashwat Blood Bank, Miraj by 10:30 am.

Your attendance is mandatory.

Bharat

Subject Incharge

(Ms. Kharat S.S.)

PRINCIPAL

Principal

Annasaheb Dange College of B. Pharmacy, Ashta.

Annasaheb Dange College Of B. Pharmacy ASHTA 416 301

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

Sant Dnyaneshwar Shikshan Santha's
ANNASAHEB DANGE COLLEGE OF B PHARMACY, ASHTA
(Approved by AICTE, New Delhi, Govt. of Maharashtra and Affiliated to Shivaji University, Kolhapur)

Ref: ADCBP/2022-23/40

Date: 24.09.2022

To,
Sou. Asha Kishor Adate
Shashwat Blood Bank,
Miraj-416410
Dist. Sangli.

Sub: Requesting for Visit to your esteemed Blood Bank.....

Dear Sir/Madam,

We introduce ourselves as Annasaheb Dange College of B. Pharmacy, Ashta, running Four Year Degree Course in Pharmacy (B. Pharm) from 2016.As a part of educational curriculum; students have to gain the knowledge about blood bank, various techniques & procedures. Our students belong to *Final year B.Pharmacy, are very eager to learn about various instruments and equipments.*

We kindly request you to grant us permission to visit your esteemed blood bank. Please convey your convenience.

Thanking you and looking forward for your positive reply.

Yours Faithfully,

PRINCIPAL
Annasaheb Dange College of
B.Pharmacy, Ashta.

ANNASAHEB DANGE COLLEGE OF PHARMACY ASHTA 416 301

Annasaheb Dange College Of B. Pharmacy ASHTA 416 301

24.09.2022

Sant Dnyaneshwar Shikshan Santha's
ANNASAHEB DANGE COLLEGE OF B PHARMACY, ASHTA
(Approved by AICTE, New Delhi, Govt. of Maharashtra and Affiliated to Shivaji University, Kolhapur)

Ref: ADCBP/2022-23/64 Date: 15/10/2022

To,
Sou. Asha Kishor Adate
Public Relation Officer
Shashwat Blood Bank, Miraj- 416410.

THANKS GIVING LETTER

Respected Sir/Madam,

On behalf of Annasaheb Dange College of B. Pharmacy, Ashta, we are exceedingly pleased for accepting our request for Blood Bank Visit. We have successfully completed the blood bank visit by auspicious presence of your team. They have interacted with students very nicely. They have shown all the procedures, equipment for blood component separation, storage, etc.

We sincerely express our deep gratitude for this valuable information and visit. It will be very useful for our final year B. Pharm students in their curriculum and lifelong learning.

Thanking You.

Subject In-charge
(Ms. Kharat S.S.)

PRINCIPAL
Annasaheb Dange College of
B. Pharmacy, Ashta.

SHASHWAT BLOOD CENTRE MIRAJ 97 Asha Adate 15.10.22

ANNASAHEB DANGE COLLEGE OF B. PHARM. ASHTA 416 301

Ashta, Tal.-Walwa, Dist-Sangli, Maharashtra - 416 301. Ph. 02342-241125, E-mail: info@adcbp.in www.adcbp.in

Sant Dnyaneshwar Shikshan Santha's

Annasaheb Dange College of B.Pharmacy, Ashta

Tal.-Walwa, Dist.-Sangli, Maharashtra, India 416 301

Date: 18/10/2022

Report on Blood Bank visit

Date of visit: 15/10/2022	**Place of visit:** Shashwat Blood Bank, Plot No. 5/13, Nama Building, Behind Sarvmangal Hospital, Miraj Road, Vantmure Corner, Miraj-416410, Dist. Sangli.
Participating students: Final year B. Pharmacy	**Number of participants:** 120
Incharge faculty: Ms. Kharat. S. S.	**Coordinator from Blood Bank:** Sou. Asha Kishor Adate Public Relation Officer

The curriculum of final year B. Pharm contains the subject named Pharmacy Practice which involves blood analysis, blood collection, its storage, dispensing and disposal of expired blood bags, etc as a part of syllabus. Hence for achieving this goal the visit was conducted at Shashwat Blood Bank on 15/10/2022. Total 120 students were present for the visit. The visit was completed under the supervision of Ms. Kharat S. S., Assist. Prof. ADCBP, Ashta. Prof. (Dr) M. G. Saralaya, Principal, ADCBP, Ashta supported and guided for the visit.

Students were enthusiastic to gain knowledge about blood collection technique & its storage, isolation technique, etc. Students were asking their queries, doubts and get nicely addressed by the team of Shashwat Blood Bank. Sou. Asha Kishor Adate was coordinator from the blood bank.

The visit was helpful for experiential learning of the subject.

Subject Incharge
(Ms. Kharat S.S.)

Annasaheb Dange College of B. Pharmacy, Ashta 416 301

ANNASAHEB DANGE COLLEGE OF B. PHARMACY • ASHTA 416 301

Principal
PRINCIPAL
Annasaheb Dange College of B. Pharmacy, Ashta.

Sant Dnyaneshwar Shikshan Santha's

Annasaheb Dange College of B.Pharmacy, Ashta

Tal.-Walwa, Dist.-Sangli, Maharashtra, India 416 301

BLOOD BANK VISIT

Academic Year : 2022-23

Class : Final Year B.Pharmacy

Date: 15/10/2022

Hospital Name: Shashwat Blood Bank, Miraj

UNDERTAKING

We students of Final Year B. Pharmacy, Annasaheb Dange College of B. Pharmacy, Ashta assures that, during the visit we will maintain discipline and proper behavior. We will not indulge in any activity that will cause harm to us or others. If any misbehavior by us is noticed, we will be ready for any action taken by authority.

ROLL NO	NAME Of STUDENT	SIGN
01	Bagal Nitin Laxman	
02	Bandgar Vinayak R	
03	Basugade Rushikesh B	
04	Bhagvat Shweta Deepak	
05	Bhavar Sonali Ashok	
06	Bodare Nikita Pratap	
07	Chaus Rehan Hasim	
08	Chaus Swaliya Shakil	
09	Chavan Pranali Ananda	
10	Chavan Shreyash Amrut	
11	Chikode Shriram Ishwar	
12	Chormale Rushikesh B	
13	Choudhari Supriya	
14	Choudhary Komal Kanhaiyalal	
15	Chougule Abhishek R	
16	Dafure Shyamlesh P	
17	Dake Rushikesh Shital	
18	Darade Snehal Waman	
19	Deshmukh Sanjana Suhas	
20	Dethe Prasad Vilas	
21	Dethe Sneha Suresh	
22	Dixit Siddhi Madan	
23	Gaikwad Shubham Adhikrao	
24	Ganmukhi Varad Gurunath	

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

ROLL NO	NAME Of STUDENT	SIGN
25	Gavit Dakshesh Praksh	
26	Ghanvat Pritee Prakash	
27	Gondkar Sakshi Satish	
28	Gosavi Sukanya Dasharath	
29	Gurav Dnyaneshwari	
30	Jadhav Akshata Bharat	
31	Jadhav Bhavana Raghunath	
32	Jadhav Karuna Maruti	
33	Jadhav Pratik Satyen	
34	Jagdale Sayee Diliprao	
35	Jagtap Nisha Anandrao	
36	Jagtap Shreya Sham	
37	Jamadar Sana Dastagir	
38	Jamdade Shreya Gajanan	
39	Jugadar Dhanashri D	
40	Kadam Chaitali Vijay	
41	Kadam Rutuja Mahesh	
42	Kadam Vaishnavi Raju	
43	Kamble Abhishek Balasaheb	
44	Kamble Rutuja Rakesh	
45	Kamble Saloni Ankush	
46	Karagane Preeti C	
47	Kashid Aishwarya Babasaheb	
48	Kazi Ujma Maroof	
49	Khandzode Rushikesh Ganesh	
50	Kharat Sneha Shivaji	
51	Kore Pravin Savanta	
52	Kulkarni Apurva P	
53	Kumbhar Pritam Subhash	
54	Landage Ashish Baban	
55	Lipare Shraddha Bhupesh	
56	Londhe Pratiksha Shrikrishna	
57	Makamale Sanket Kisan	
58	Mali Bhagyashri Rajendra	
59	Mali Pranali Sanjay	
60	Mali Shrutika Sanjay	

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

Name & Signature of Incharge-

(Ms. Kharat S.S.)

Annasaheb Dange College Of B. Pharmacy ASHTA 416 301

Sant Dnyaneshwar Shikshan Santha's

Annasaheb Dange College of B.Pharmacy, Ashta

Tal.-Walwa, Dist.-Sangli, Maharashtra, India 416 301

BLOOD BANK VISIT

Academic Year : 2022-23

Class : Final Year B.Pharmacy

Date: 15/10/2022

Hospital Name: Shashwat Blood Bank, Miraj

UNDERTAKING

We students of Final Year B. Pharmacy, Annasaheb Dange College of B. Pharmacy, Ashta assures that, during the visit we will maintain discipline and proper behavior. We will not indulge in any activity that will cause harm to us or others. If any misbehavior by us is noticed, we will be ready for any action taken by authority.

ROLL NO	NAME Of STUDENT	SIGN
61	Mane Anand Gangaram	
62	Mane Ankita Dattatray	
63	Mane Dhanashri Sampatrao	
64	Mhetre Nikita Machindra	
65	Mohite Shreya Sharad	
66	Momin Ishrat Salim	
67	Momin Saniya Javed	
68	Mone Pragati Ravindra	
69	Mulla Mujib Bashir	
70	Nandgaonkar Siddhant A	
71	Nangare Shruti R	
72	Narwade Sanika Bhujang	
73	Padolkar Vaibhav Shivaji	
74	Parit Shruti Vishnu	
75	Patil Abhijeet Prakash	
76	Patil Digvijay Pruthviraj	
77	Patil Jyotsna Jaysing	
78	Patil Prajwal Prabhakar	
79	Patil Pranjal Shantaram	
80	Patil Prathamesh Pradip	
81	Patil Pratibha Tanaji	
82	Patil Priya Vijaykumar	
83	Patil Sayali Sambhaji	
84	Patil Supriya Suraj	

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

85	Patil Swapnali Sukumar	
86	Pawar Gopal Kavarsing	
87	Pukale Harsh Prasanna	
88	Rajge Priyanka Shankar	
89	Randive Gauri Sanjay	
90	Sabale Saurabh Sakharam	
91	Sabale Vishwajeet Vinayak	
92	Sadule Akshay Sanjay	
93	Sagare Atish Anil	
94	Sajagane Harshada Popat	
95	Sandage Shrutika Mansing	
96	Sathe Ganesh Ramesh	
97	Sawant Akanksha R	
98	Sawant Rutuja Bharat	
99	Shedage Karan Dinkar	
100	Shikhare Priyanka V	
101	Shinde Dhanshri M	
102	Shinde Rohit Babasaheb	
103	Shinde Sonali Vijay	
104	Sindure Prashant P	
105	Suryawanshi Rutika B	
106	Sutar Swati Ashok	
107	Tambavekar Dipti Dilip	
108	Tate Pratik Rajaram	
109	Thorat Monali Sanjay	
110	Undare Aniket S	
111	Vadar Pranjal P	
112	Vadar Tejashree Bharat	
113	Vagare Dnyaneshwari	
114	Vedpathak Anant R	
115	Vibhute Satyajeet P	
116	Wadgaonkar Saniket B	
117	Waghmare Mugdha V	
118	Yadav Anuja Arjun	
119	Yadav Sonali Laxman	
120	Zodage Monali Ashok	

ANNASAHEB DANGE COLLEGE OF B. PHARMACY • ASHTA 416 301

Name & Signature of Incharge- (Ms. Kharat S.S.)

Annasaheb Dange College Of B. Pharmacy • ASHTA 416 301

SantDnyaneshwarShikshanSantha's

Annasaheb Dange College of B.Pharmacy, Ashta

Tal.-Walwa, Dist.-Sangli, Maharashtra, India 416 301

BLOOD BANKVISIT

Academic Year :2022-23

Class: Final Year, B.Pharmacy

Date:14/10/2022

Hospital Name: Shashwat Blood Bank, Miraj

ATTENDANCE

ROLL NO	NAMEOf STUDENT	SIGN
01	Bagal Nitin Laxman	
02	BandgarVinayakR	
03	BasugadeRushikeshB	
04	Bhagvat Shweta Deepak	
05	BhavarSonali Ashok	
06	Bodare Nikita Pratap	
07	ChausRehanHasim	
08	ChausSwaliyaShakil	
09	ChavanPranali Ananda	
10	ChavanShreyashAmrut	
11	ChikodeShriramIshwar	
12	ChormaleRushikesh B	
13	ChoudhariSupriya	
14	ChoudharyKomalKanhaiyalal	
15	Chougule Abhishek R	
16	DafureShyamlesh P	
17	DakeRushikeshShital	
18	DaradeSnehalWaman	
19	DeshmukhSanjanaSuhas	
20	Dethe Prasad Vilas	
21	DetheSneha Suresh	
22	Dixit Siddhi Madan	
23	Gaikwad ShubhamAdhikrao	
24	GanmukhiVaradGurunath	
25	GavitDaksheshPraksh	
26	GhanvatPritee Prakash	
27	GondkarSakshi Satish	
28	GosaviSukanyaDasharath	
29	Gurav Dnyaneshwari	
30	JadhavAkshata Bharat	

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

ROLL NO	NAME Of STUDENT	SIGN
31	JadhavBhavanaRaghunath	
32	JadhavKarunaMaruti	
33	Jadhav Pratik Satyen	
34	JagdaleSayeeDiliprao	
35	JagtapNishaAnandrao	
36	Jagtap Shreya Sham	
37	Jamadar Sana Dastagir	
38	Jamdade Shreya Gajanan	
39	JugadarDhanashriD	
40	KadamChaitali Vijay	
41	KadamRutuja Mahesh	
42	KadamVaishnavi Raju	
43	Kamble Abhishek Balasaheb	
44	KambleRutuja Rakesh	
45	KambleSaloniAnkush	
46	KaraganePreetiC	
47	KashidAishwaryaBabasaheb	
48	KaziUjmaMaroof	
49	KhandzodeRushikesh Ganesh	
50	KharatSnehaShivaji	
51	Kore PravinSavanta	
52	Kulkarni Apurva P	
53	KumbharPritamSubhash	
54	Landage Ashish Baban	
55	Lipare Shraddha Bhupesh	
56	LondhePratikshaShrikrishna	
57	MakamaleSanketKisan	
58	Mali BhagyashriRajendra	
59	Mali Pranali Sanjay	
60	Mali Shrutika Sanjay	

Name & Signature of Incharge- 14.10.2022

(Ms. Kharat S.S.)

Annasaheb Dange College Of B. Pharmacy ASHTA 416 301

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

SantDnyaneshwarShikshanSantha's

Annasaheb Dange College of B.Pharmacy, Ashta

Tal.-Walwa, Dist.-Sangli, Maharashtra, India 416 301

BLOOD BANK VISIT

Academic Year :2022-23

Class : Final YearB.Pharmacy

Date: 14/10/2022

Hospital Name: Shashwat Blood Bank, Miraj

ATTENDANCE

ROLL NO	NAMEOf STUDENT	SIGN
61	Mane AnandGangaram	
62	Mane AnkitaDattatray	
63	Mane DhanashriSampatrao	
64	Mhetre Nikita Machindra	
65	Mohite Shreya Sharad	
66	MominIshrat Salim	
67	Momin Saniya Javed	
68	MonePragatiRavindra	
69	MullaMujib Bashir	
70	NandgaonkarSiddhant A	
71	NangareShruti R	
72	NarwadeSanikaBhujang	
73	PadolkarVaibhavShivaji	
74	ParitShruti Vishnu	
75	PatilAbhijeet Prakash	
76	PatilDigvijayPruthviraj	
77	Patil Jyotsna Jaysing	
78	PatilPrajwalPrabhakar	
79	PatilPranjalShantaram	
80	PatilPrathameshPradip	
81	PatilPratibhaTanaji	
82	PatilPriyaVijaykumar	
83	PatilSayaliSambhaji	
84	PatilSupriyaSuraj	
85	PatilSwapnaliSukumar	
86	Pawar Gopal Kavarsing	
87	Pukale Harsh Prasanna	
88	Rajge Priyanka Shankar	
89	RandiveGauri Sanjay	
90	SabaleSaurabhSakharam	

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

ROLL NO	NAME Of STUDENT	SIGN
91	SabaleVishwajeetVinayak	
92	SaduleAkshay Sanjay	
93	SagareAtish Anil	
94	SajaganeHarshadaPopat	
95	SandageShrutikaMansing	
96	Sathe Ganesh Ramesh	
97	SawantAkanksha R	
98	SawantRutuja Bharat	
99	Shedage Karan Dinkar	
100	Shikhare Priyanka V	
101	ShindeDhanshri M	
102	ShindeRohitBabasaheb	
103	ShindeSonali Vijay	
104	Sindure Prashant P	
105	SuryawanshiRutika B	
106	Sutar Swati Ashok	
107	TambavekarDiptiDilip	
108	Tate Pratik Rajaram	
109	ThoratMonali Sanjay	
110	UndareAniket S	
111	VadarPranjal P	
112	VadarTejashree Bharat	
113	Vagare Dnyaneshwari	
114	VedpathakAnant R	
115	VibhuteSatyajeet P	
116	WadgaonkarSaniket B	
117	WaghmareMugdha V	
118	Yadav Anuja Arjun	
119	Yadav SonaliLaxman	
120	ZodageMonali Ashok	

Name & Signature of Incharge-

(Ms. Kharat S.S.)

Annasaheb Dange College of B. Pharmacy ASHTA 416 301

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

PRINCIPAL
Annasaheb Dange College of
B.Pharmacy, Ashta

Sant Dnyaneshwar Shikshan Santha's
ANNASAHEB DANGE COLLEGE OF B PHARMACY, ASHTA
(Approved by AICTE, New Delhi, Govt. of Maharashtra and Affiliated to Shivaji University, Kolhapur)

Date: 23.11.2021

Notice

All the students of B. Pharm final year are here by informed that your hospital visit is scheduled on 25/11/2021 to 26/11/2021 at Hon. Shri Annasaheb Dange Ayurved Medical College and Research centre, Ashta.

Schedule is given below:

Day and Date	Division	Timing	Strength
Thursday, 25/11/2021	Division II	1.00 pm to 3.00 pm	28
		3.00 pm to 5.00 pm	27
Friday, 26/11/2021	Division I	1.00 pm to 3.00 pm	30
		3.00 pm to 5.00 pm	30

Note: It is mandatory to all students to attend the scheduled Hospital Visit. Further instructions will be provided during the visit.

25.11.2021
Subject Incharge
(Mr Kharat S.S.)

Principal

PRINCIPAL
Annasaheb Dange College of
B. Pharmacy, Ashta.

Annasaheb Dange College Of B. Pharmacy ASHTA 416 301

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

Sant Dnyaneshwar Shikshan Santha's
ANNASAHEB DANGE COLLEGE OF B PHARMACY, ASHTA
(Approved by AICTE, New Delhi, Govt. of Maharashtra and Affiliated to Shivaji University, Kolhapur)

Ref; ADCBP 21-22/35

Date: 23.11.2021

To,

Principal,

Hon. Shri. Annasaheb Dange Ayurved Medical College,

Post Graduate & Research Centre,Ashta.

Tal-Walwa, Dist-Sangli.

Sub: Requesting for Hospital Visit.....

Dear Sir/Madam,

We introduce ourselves as Annasaheb Dange College of B. Pharmacy, Ashta, running Four Year Degree Course in Pharmacy (B. Pharm) from 2016.As a part of educational curriculum; students have to gain the knowledge of hospital *setup. Our students* are very eager to visit various departments of hospital. All the students belong to Final year B. Pharmacy.

We kindly request you to grant us permission to visit your esteemed hospital on 25/11/2021 and 26/11/2021.

Thanking you and looking forward for your positive reply.

Day and Date	Timing	Strength
Thursday, 25/11/2021	1.00 pm to 3.00 pm	28
	3.00 pm to 5.00 pm	27
Friday, 26/11/2021	1.00 pm to 3.00 pm	30
	3.00 pm to 5.00 pm	30

Yours Faithfully,

Bharat
23.11.2021

Subject Incharge

(Mr. Kharat S.S.)

Received
23/11/2021

Annasaheb Dange College of B. Pharmacy ASHTA 416 301

PRINCIPAL
Annasaheb Dange College of
B. Pharmacy, Ashta.

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

Sant Dnyaneshwar Shikshan Santha's
ANNASAHEB DANGE COLLEGE OF B PHARMACY, ASHTA
(Approved by AICTE, New Delhi, Govt. of Maharashtra and Affiliated to Shivaji University, Kolhapur)

Ref: ADCBP/21-22/47 Date: 26/11/2021

To,

The Principal,

Hon. Shri. Annasaheb Dange Ayurved Medical College,

Post Graduate & Research Centre, Ashta.

Tal-Walwa, Dist-Sangli.

THANKS GIVING LETTER

Respected Sir,

On behalf of Annasaheb Dange College of B. Pharmacy, Ashta, we are exceedingly pleased for accepting our request for Hospital Visit. We have successfully completed the hospital visit by auspicious presence of your medical team. They have interacted with students very nicely. They have shown all the departments of hospital.

We sincerely express our deep gratitude for this valuable information and hospital visit. It will be very useful for our final year B Pharm students for their career prospect.

Thanking You.

Yours Truly

Subject In-charge
(Ms. Kharat S.S.)

Received

Annasaheb Dange College of B. Pharmacy, ASHTA 416 301

PRINCIPAL
Annasaheb Dange College of B. Pharmacy, Ashta.

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

Sant Dnyaneshwar Shikshan Santha's

Annasaheb Dange College of B.Pharmacy, Ashta

Tal.-Walwa, Dist.-Sangli, Maharashtra, India 416 301

Report on Hospital visit

Date of visit	25/11/2021 to 26/11/2021
Place of visit	Hon. Shri. Annasaheb Dange Ayurved Medical College and Post- Graduate &Research center, Ashta.
Participating students	Final year B. Pharmacy
Number of participating students	113
Incharge faculty	Ms. S. S. Kharat
Coordinators from hospital	1. Dr. Vijaymala S. Chougule, Deputy Superintendent. 2. Dr. Sayali S. Surve, Medical Officer.

The hospital visit to Hon. Shri. Annasaheb Dange Ayurved Medical College, Post- Graduate & Research center, Ashta was conducted on 25th Nov 2021 to 26th Nov 2021.

The visit was organized for the final year students as part of their curriculum of the subject Pharmacy Practice which deals with the hospital, hospital organization, drug distribution systems to outpatients and inpatients, etc.

Students were able to gain knowledge about the subject. Students were assigned with the task that is preparation of hospital visit report on their own to express their knowledge.

Total 113 students were benefited with this field trip. The visit was successfully completed under the supervision of Ms. Kharat S. S. Assist. Prof. ADCBP, Ashta.

Dr. Vijaymala S. Chougule, Deputy Superintendent and Dr. Sayali S. Surve, Medical Officer of Hon. Shri. Annasaheb Dange Ayurved Medical College, Post- Graduate & Research center, Ashta were coordinated the visit from hospital.

The visit was beneficial to students for improvement of their skills.

Subject Co-ordinator.
(Ms. Kharat S.S.)

PRINCIPAL
Annasaheb Dange College of B. Pharmacy, Ashta.

Annasaheb Dange College Of B. Pharmacy • ASHTA 416 301

ANNASAHEB DANGE COLLEGE OF B. PHARMACY • ASHTA 416 301

Sant Dnyaneshwar Shikshan Santha's

Annasaheb Dange College of B.Pharmacy, Ashta

Tal.-Walwa, Dist.-Sangli, Maharashtra, India 416 301

HOSPITAL VISIT

Academic Year : 2021-22

Class : Final Year B.Pharmacy

Date: 20/11/2021

Hospital Name: Annasaheb Dange Ayurved Medical College, Ashta.

UNDERTAKING

We students of Final Year B. Pharmacy, Annasaheb Dange College of B. Pharmacy, Ashta assures that, during the visit we will maintain discipline and proper behavior. We will not indulge in any activity that will cause harm to us or others. If any misbehavior by us is noticed, we will be ready for any action taken by authority.

ROLL NO	NAME Of STUDENT	SIGN
01	Ashtekar Ankita Mahendra	
02	Attar Mahek Kadar	
03	Bhangare Aarti H	
04	Bhingardeve Akshata Shekhar	
05	Bhor Vedant Balasaheb	
06	Bhosale Santosh Vishnu	
07	Chabukswar Anjali Vitthal	
08	Chandane Bhagyashri Ananda	
09	Chandanshive Akshata Sugat	
10	Chavan Omkar Anna	
11	Chavan Snehal Mahadev	
12	Chougule Utkarsha Atmaram	
13	Dangare Musaif Jamir	
14	Desai Mayur Shamrao	
15	Deshmukh Pooja Dattatraya	
16	Dhobale Ganesh Yashwant	
17	Dhumal Samruddhi Manik	
18	Doijad Shital Ravindra	
19	Dudhal Ravindra Ramchandra	
20	Dudhane Priya Ravsaheb	
21	Erandole Basavaraj Mohan	
22	Gadade Rohit Janappa	
23	Gaikwad Sanket Sandeep	
24	Ghadge Aniruddha Eknath	
25	Jadhav Ankush Ravindra	
26	Jadhav Lilavati Ashok	
27	Jadhav Pallavi Sanjay	
28	Jadhav Pooja Shashikant	

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

29	Jadhav Rohit Jayavant	
30	Jadhav Sourabh Prakash	
31	Jagtap Vinmay Satish	
32	Jamadade Pratiksha Kantilal	
33	Joshi Akankasha Sunil	
34	Kadam Kundan Vasant	K.V. kadam
35	Kadam Rutuja Ganpatrao	
36	Kadam Sangram Narendra	
37	Kale Nivas Sampat	
38	Kamble Ritesh Suresh	
39	Karape Chaitanya Dattatraya	
40	Katkar Mrunal Hanmant	M.H. Katkar
41	Kengar Namrata Kundalik	
42	Khade Komal Satish	
43	Khade Omkar Tanaji	
44	Khandekar Harsahda Y	H.Y. Khandekar
45	Khandekar Nimish Shirish	
46	Kharde Rustam Himmat	
47	Kininge Shubham Vidyasagar	
48	Koli Manasi Umesh	
49	Koli Vishakha Prakash	
50	Kore Snehal Sambhaji	
51	Kumbhar Raj Jagnnath	
52	Kundale Prathamesh Dilip	
53	Lade Samiksha Sanjay	
54	Lambe Omkar Anil	
55	Lawand Suyash Sanjay	
56	Linge Prathamesh Dilip	
57	Magdum Ashish Ajit	
58	Mali Ankita Arun	
59	Mali Dhanashri Rajendra	
60	Mali Gayatri Sanjay	
61	Mali Landage Narendra Sanjay	
62	Mali Neha Sanjay	
63	Mali Sakshi Santosh	
64	Mandake Saurabh Arjun	
65	Mane Aishwarya Ashvinkumar	A.A. Mane.
66	Muli Harshal Sanjay	
67	Nadaf Zinat Shamashuddin	
68	Naikwadi Prashant Pramod	
69	Padalkar Dada Bhiva	
70	Palsande Mukta Pandurang	Palsande
71	Pange Prathamesh Sanjay	
72	Patil Adarsh Balasaheb	
73	Patil Ankita Arvind	
74	Patil Arpita Ashok	

75	Patil Harshda Dinkar	
76	Patil Kedar Vijaykumar	
77	Patil Neha Anand	
78	Patil Pranoti Prataprao	
79	Patil Pranoti Sunil	
80	Patil Prathamesh Annaso	
81	Patil Pritish Pradeep	
82	Patil Rutika Prakash	
83	Patil Sachin Shankar	
84	Patil Sakshi Dhanaji	
85	Patil Sayali Sanjay	
86	Patil Shivani Gajanan	
87	Pawar Panjabrao Sunil	
88	Pawar Payal Dasu	
89	Pawar Vaishnavi Vishwanath	
90	Phatak Priti Sudhir	
91	Pise Rutwik Vitthal	
92	Raval Dhanashree Shital	
93	Revale Sahil Sandeep	
94	Sargar Gauri Vijay	
95	Sargar Swapnil Madhukar	
96	Sathe Mandar Vijay	
97	Satpute Shruti Umesh	
98	Sawairam Namrata Santosh	
99	Shinde Kajal Pandit	
100	Shinde Komal Baburao	K.B.shinde
101	Shinde Madhura Siddheshwar	
102	Surve Pradnya Deepak	
103	Suryawanshi Shubhada J	
104	Tanna Janvi Bharat	Itanna
105	Todkar Shraddha Sandeep	
106	Tondare Sangmeshwar Shivraj	S.Tondare
107	Tupe Amisha Dilip	
108	Urane Smruti Rajesh	
109	Vayadande Aradhana S.	
110	Vhasukale Nitesh Prakash	
111	Yadav Kunal Rajaram	
112	Yamgar Pratima Dilip	
113	Khot Pravin Prabhakar	
114	Sid Bhagyashri Pandurang	Bhagyashri
115	Tambavekar Digvijay Dilip	

Name & Signature of Incharge- Kharat

(Mrs. Kharat S.S.)

COLLEGE OF B. PHARMACY ASHTA 416 301

Annasaheb Dange College Of B. Pharmacy ASHTA 416 301

Sant Dnyaneshwar Shikshan Santha's

Annasaheb Dange College of B.Pharmacy, Ashta

Tal.-Walwa, Dist.-Sangli, Maharashtra, India 416 301

HOSPITAL VISIT

Academic Year : 2021-22

Class : Final Year B.Pharmacy

Date: 26/11/2021

Hospital Name: Annasaheb Dange Ayurved Medical College and Research Center, Ashta.

ATTENDANCE

ROLL NO	NAME Of STUDENT	SIGN
01	Ashtekar Ankita Mahendra	
02	Attar Mahek Kadar	Ab
03	Bhangare Aarti H	
04	Bhingardeve Akshata Shekhar	Ab
05	Bhor Vedant Balasaheb	
06	Bhosale Santosh Vishnu	
07	Chabukswar Anjali Vitthal	
08	Chandane Bhagyashri Ananda	
09	Chandanshive Akshata Sugat	
10	Chavan Omkar Anna	
11	Chavan Snehal Mahadev	
12	Chougule Utkarsha Atmaram	
13	Dangare Musaif Jamir	
14	Desai Mayur Shamrao	
15	Deshmukh Pooja Dattatraya	
16	Dhobale Ganesh Yashwant	
17	Dhumal Samruddhi Manik	
18	Doijad Shital Ravindra	
19	Dudhal Ravindra Ramchandra	
20	Dudhane Priya Ravsaheb	
21	Erandole Basavaraj Mohan	
22	Gadade Rohit Janappa	
23	Gaikwad Sanket Sandeep	
24	Ghadge Aniruddha Eknath	
25	Jadhav Ankush Ravindra	
26	Jadhav Lilavati Ashok	
27	Jadhav Pallavi Sanjay	
28	Jadhav Pooja Shashikant	
29	Jadhav Rohit Jayavant	
30	Jadhav Sourabh Prakash	

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

ROLL NO	NAME Of STUDENT	SIGN
31	Jagtap Vinmay Satish	
32	Jamadade Pratiksha Kantilal	
33	Joshi Akankasha Sunil	
34	*Kadam Kundan Vasant*	K.V.Kadam.
35	Kadam Rutuja Ganpatrao	
36	Kadam Sangram Narendra	
37	Kale Nivas Sampat	
38	Kamble Ritesh Suresh	
39	Karape Chaitanya Dattatraya	
40	Katkar Mrunal Hanmant	M.H.Katkar
41	Kengar Namrata Kundalik	
42	Khade Komal Satish	
43	Khade Omkar Tanaji	
44	Khandekar Harsahda Y	H.T.Khandekar.
45	Khandekar Nimish Shirish	
46	Kharde Rustam Himmat	
47	Kininge Shubham Vidyasagar	
48	Koli Manasi Umesh	
49	Koli Vishakha Prakash	
50	Kore Snehal Sambhaji	
51	Kumbhar Raj Jagnnath	
52	Kundale Prathamesh Dilip	
53	Lade Samiksha Sanjay	
54	Lambe Omkar Anil	
55	Lawand Suyash Sanjay	
56	Linge Prathamesh Dilip	
57	Magdum Ashish Ajit	
58	Mali Ankita Arun	
59	Mali Dhanashri Rajendra	
60	Mali Gayatri Sanjay	

Name & Signature of Incharge- 26.11.2021

(Ms. S. S. Kharat)

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

Annasaheb Dange College of B. Pharmacy ASHTA 416 301

Sant Dnyaneshwar Shikshan Santha's

Annasaheb Dange College of B.Pharmacy, Ashta

Tal.-Walwa, Dist.-Sangli, Maharashtra, India 416 301

HOSPITAL VISIT

Academic Year : 2021-22

Class : Final Year B.Pharmacy

Date: 25/11/2021

Hospital Name: Annasaheb Dange Ayurved Medical College and Research Center, Ashta.

ATTENDANCE

ROLL NO	NAME Of STUDENT	SIGN
61	Mali Landage Narendra Sanjay	
62	Mali Neha Sanjay	
63	Mali Sakshi Santosh	
64	Mandake Saurabh Arjun	
65	Mane Aishwarya Ashvinkumar	A.A.Mane
66	Muli Harshal Sanjay	
67	Nadaf Zinat Shamashuddin	
68	Naikwadi Prashant Pramod	
69	Padalkar Dada Bhiva	
70	Palsande Mukta Pandurang	
71	Pange Prathamesh Sanjay	
72	Patil Adarsh Balasaheb	
73	Patil Ankita Arvind	
74	Patil Arpita Ashok	
75	Patil Harshda Dinkar	
76	Patil Kedar Vijaykumar	
77	Patil Neha Anand	
78	Patil Pranoti Prataprao	
79	Patil Pranoti Sunil	
80	Patil Prathamesh Annaso	
81	Patil Pritish Pradeep	
82	Patil Rutika Prakash	
83	Patil Sachin Shankar	
84	Patil Sakshi Dhanaji	
85	Patil Sayali Sanjay	
86	Patil Shivani Gajanan	
87	Pawar Panjabrao Sunil	
88	Pawar Payal Dasu	
89	Pawar Vaishnavi Vishwanath	
90	Phatak Priti Sudhir	

ANNASAHEB DANGE COLLEGE OF ASHTA 416 301

ROLL NO	NAME Of STUDENT	SIGN
91	Pise Rutwik Vitthal	Rutik
92	Raval Dhanashree Shital	
93	Revale Sahil Sandeep	S.S.Revale
94	Sargar Gauri Vijay	
95	Sargar Swapnil Madhukar	
96	Sathe Mandar Vijay	
97	Satpute Shruti Umesh	
98	Sawairam Namrata Santosh	
99	Shinde Kajal Pandit	
100	Shinde Komal Baburao	K.B.Shinde
101	Shinde Madhura Siddheshwar	
102	Surve Pradnya Deepak	
103	Suryawanshi Shubhada J	
104	Tanna Janvi Bharat	
105	Todkar Shraddha Sandeep	
106	Tondare Sangmeshwar Shivraj	
107	Tupe Amisha Dilip	
108	Urane Smruti Rajesh	
109	Vayadande Aradhana S.	
110	Vhasukale Nitesh Prakash	
111	Yadav Kunal Rajaram	
112	Yamgar Pratima Dilip	
113	Khot Pravin Prabhakar	
114	Sid Bhagyashri Pandurang	
115	Tambavekar Digvijay Dilip	

Name & Signature of Incharge- Kharat 25.11.21

(Ms. S.S. Kharat)

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

Annasaheb Dange College of B. Pharmacy ASHTA 416 301

PRINCIPAL
Annasaheb Dange College of
B. Pharmacy, Ashta

Active and Participatory Learning: Student-Led Seminar (SLS)

Introduction:

Seminar is a small group teaching-learning session in which the participants discuss under the guidance of an expert teacher. The teacher, the students, preparation, content, groupdynamics, course coherence, and facilities are key factors in seminar learning. The participants preparing the seminar eventually develop competencies like identification of presentable information, its retrieval from the sources of information and organization of the presentable material. Students learn th0e art of communicating with peers through compact time bound presentation. Unfortunately, majority student-led seminars (SLS) remain to bepassive, with no interaction or incentive for active participation.

Expectation: Teachers Expertise

a. Teacher is expected to be expert in forming groups, instructing, and guiding groupdynamics.
b. Teachers should have eloquent communication skills to stimulate interactions.
c. Seminars should be enriched with background scenarios and real life examples thatwill provide clarity and bridge the gaps in knowledge

Goals of Student-Led-Seminars:

a. **Information Gathering:** To develop competencies in information retrieval fromvarious sources, distinguish between reliable and unreliable sources of information
b. **Information Organization:** To understand and organize the information logicallyand scientifically
c. **Effective Communication:** To communicate information effectively to peers usingavailable information technology tools.
d. **Learn Life-Long Learning Skill:** To develop general and transferable skills of life-long learning and communication.
e. **Integrate Learning:** To foster integrated learning by connecting various relevantsegments of knowledge
f. **Learn Team working:** To develop teamwork skills.
g. **Self-Improvement:** To seek to improve their own behavior as they work in groups

Annasaheb Dange College Of B. Pharmacy ASHTA 416 301

Building Competency ADCbP

Sant Dnyaneshwar Shikshan Sanstha's

Annasaheb Dange College of B Pharmacy, Ashta

INTERNAL QUALITY ASSURANCE CELL

Active & Participatory Learning

DISTINCTION THROUGH CONSTRUCTIVISM

Seminar Assessment Rubric (to be filled by faculty once in a semester)

Roll Number: **Name of the Student:** **Class:**

Subject:

Performance Criteria	Sub criteria	Excellent	Average	Poor	Grading				
					5	4	3	2	1
Ability to collect information about topic using ICT tool	Information collected from books, journals, conference proceedings, reference books, websites	• Good collection of information about topic from books, reference books • Use of DELNET facility available in institute • Collected information from international and nationals journals	• Satisfactory collection of information from books and reference books • Used search engine to collect information about the topic	• Insufficient collection of information about the topic • Referred text books for collection of information • Tried search engines for collection of information					
Organisation of collected information using ICT tool	Arrange information based on critical sequence	• Arrange information by giving consideration to dependent learning • Give justice to the concepts involved and revise older concepts too • Make presentation using uniform slide formats and avoiding overcrowding • Use colours, graphics and diagrams at appropriate place	• Express the information in appropriate manner • Give justice to concepts on slides • Arrange information in MS-powerpoint like software • Prepare a readable presentation • Only few diagrams included	• Poor arrangement of information • Critical sequence of the information not maintained • Concepts involved are poorly expressed on slides • Sudden change in colour, font, slide backgrounds					
Communication skill	Deliver seminar with confidence and proper pronunciation	• Discuss the concepts involved and give brief talk on older concepts • Maintain confidence and fluency in language with variation in tone • Deliver presentation with proper pace • Satisfy the query of listener	• Maintain eye contact with audience while seminar delivery • Explain the slides with examples in audible voice • Try to satisfy query of listener	• Does not maintain eye contact and deliver seminar in low voice • Not at all confident and fluent in language • Reading the content of slides without explanation					
Team working	Contributions in team	• Listens and speaks with team members • Express knowledge gained and discuss concepts with team	• Listens to others but never speak about new ideas • Contributes in decent manner	• Don't allows other teammate to speak • Causes trouble with team members					
Life Long Learning	Additional efforts for seminar	• Recognize the current trend and need of topic and deliver related content	• Only enlist future perspective	• Does not relate to the current scenario neither deliver content					

ANNASAHEB DANGE COLLEGE OF B. PH. ASHTA 416 301

Teacher I/C
Name with Signature and Date

Time table for Student Led Seminar

2021-22

Third Year B. Pharmacy Sem V

Subject: Pharmaceutical Jurisprudence

Topic	Roll number of students in group					Date of Seminar
Labeling & Packing of drugs- General labelling requirements and specimen labels for drugs and cosmetics,	1	13	25	37	49	13/12/2021
List of permitted colors. Offences and penalties with reference to labelling and packing	2	14	26	38	50	13/12/2021
Medicinal and Toilet Preparation Act –1955: Export of alcoholic preparations, Export of duty paid goods	3	15	27	39	51	13/12/2021
Medicinal and Toilet Preparation Act –1955: Export of alcoholic preparations, Export under bond, movement of dutiable goods	4	16	28	40	52	13/12/2021
Medicinal and Toilet Preparation Act –1955: Manufacture of Ayurvedic Preparations Manufacture of Homeopathic preparations	5	17	29	41	53	14/12/2021
Medicinal and Toilet Preparation Act –1955: Manufacture of Patent & Proprietary. Offences and Penalties.	6	18	30	42	54	14/12/2021
Narcotic Drugs and Psychotropic substances Act-1985 and Rules: National Fund for Controlling the Drug Abuse, Prohibitions	7	19	31	43	55	14/12/2021
Drugs and Magic Remedies Act: Classes of Exempted advertisements, Offences and Penalties	8	20	32	44	56	14/12/2021
Pharmaceutical Legislations – A brief review, Introduction, Study of drugs enquiry committee,	9	21	33	45	57	15/12/2021
Health survey and development committee, Hathi committee and Mudaliar committee	10	22	34	46	58	15/12/2021
Code of Pharmaceutical ethics: Definition, Pharmacist in relation to his job,	11	23	35	47	59	15/12/2021
Code of Pharmaceutical ethics: Pharmacist in relation to trade, medical profession and his profession	12	24	36	48	60	15/12/2021

Subject Incharge: Dr. Tamboli E. T.

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

Time table for Student Led Seminar

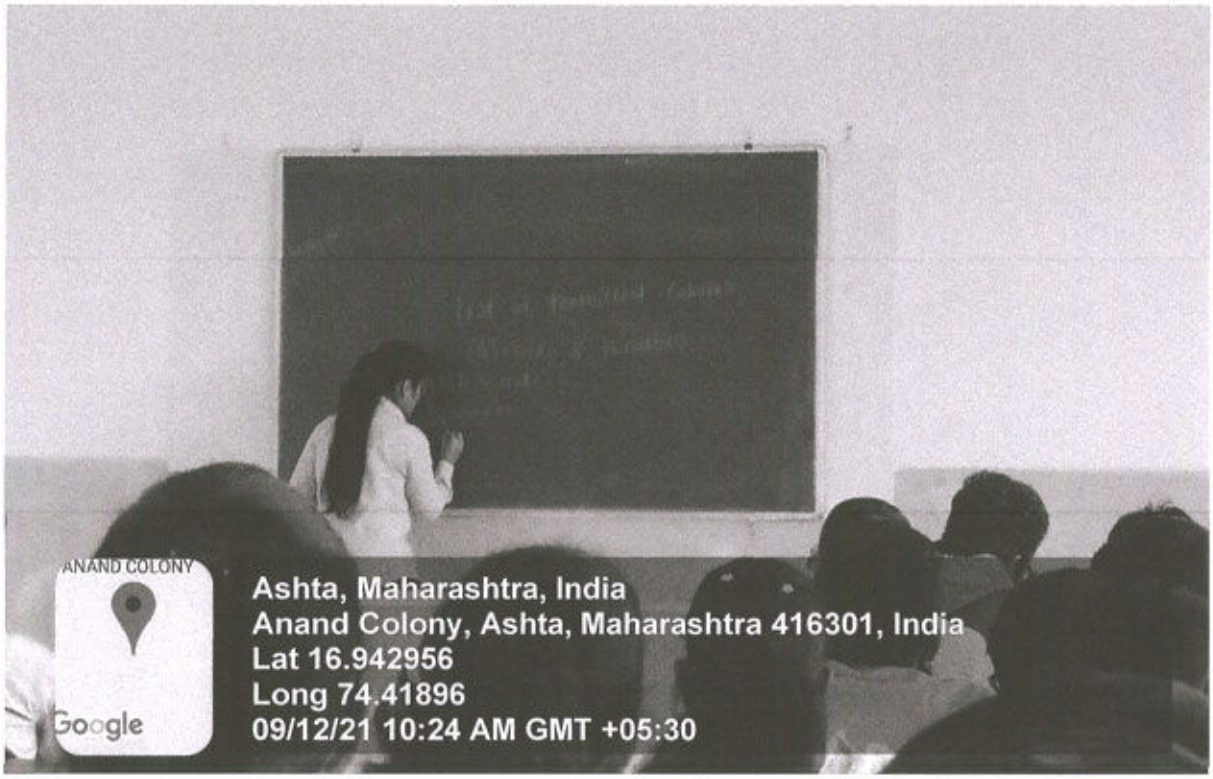
2021-22

Third Year B. Pharmacy Sem V
Subject: Pharmaceutical Jurisprudence

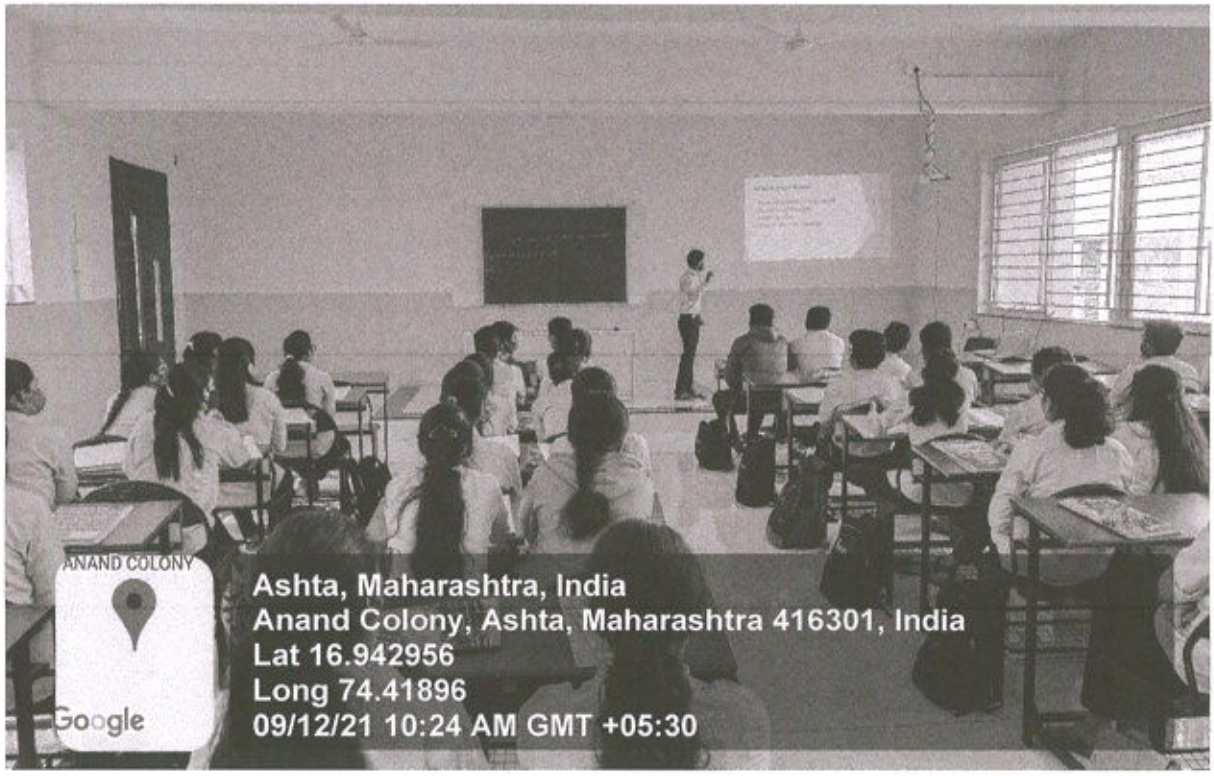
Topic	Roll number of students in group					Date of Seminar
Labeling & Packing of drugs- General labelling requirements and specimen labels for drugs and cosmetics,	61	73	85	97	109	09/12/2021
List of permitted colors. Offences and penalties with reference to labelling and packing	62	74	86	98	110	09/12/2021
Medicinal and Toilet Preparation Act –1955: Export of alcoholic preparations, Export of duty paid goods	63	75	87	99	111	09/12/2021
Medicinal and Toilet Preparation Act –1955: Export of alcoholic preparations, Export under bond, movement of dutiable goods	64	76	88	100	112	09/12/2021
Medicinal and Toilet Preparation Act –1955: Manufacture of Ayurvedic Preparations Manufacture of Homeopathic preparations	65	77	89	101	113	11/12/2021
Medicinal and Toilet Preparation Act –1955: Manufacture of Patent & Proprietary. Offences and Penalties.	66	78	90	102	114	11/12/2021
Narcotic Drugs and Psychotropic substances Act-1985 and Rules: National Fund for Controlling the Drug Abuse, Prohibitions	67	79	91	103	115	11/12/2021
Drugs and Magic Remedies Act: Classes of Exempted advertisements, Offences and Penalties	68	80	92	104	116	11/12/2021
Pharmaceutical Legislations – A brief review, Introduction, Study of drugs enquiry committee,	69	81	93	105	117	15/12/2021
Health survey and development committee, Hathi committee and Mudaliar committee	70	82	94	106	118	15/12/2021
Code of Pharmaceutical ethics: Definition, Pharmacist in relation to his job,	71	83	95	107	119	15/12/2021
Code of Pharmaceutical ethics: Pharmacist in relation to trade, medical profession and his profession	72	84	96	108	120, 121	15/12/2021

Subject Incharge: Dr. Tamboli E. T.

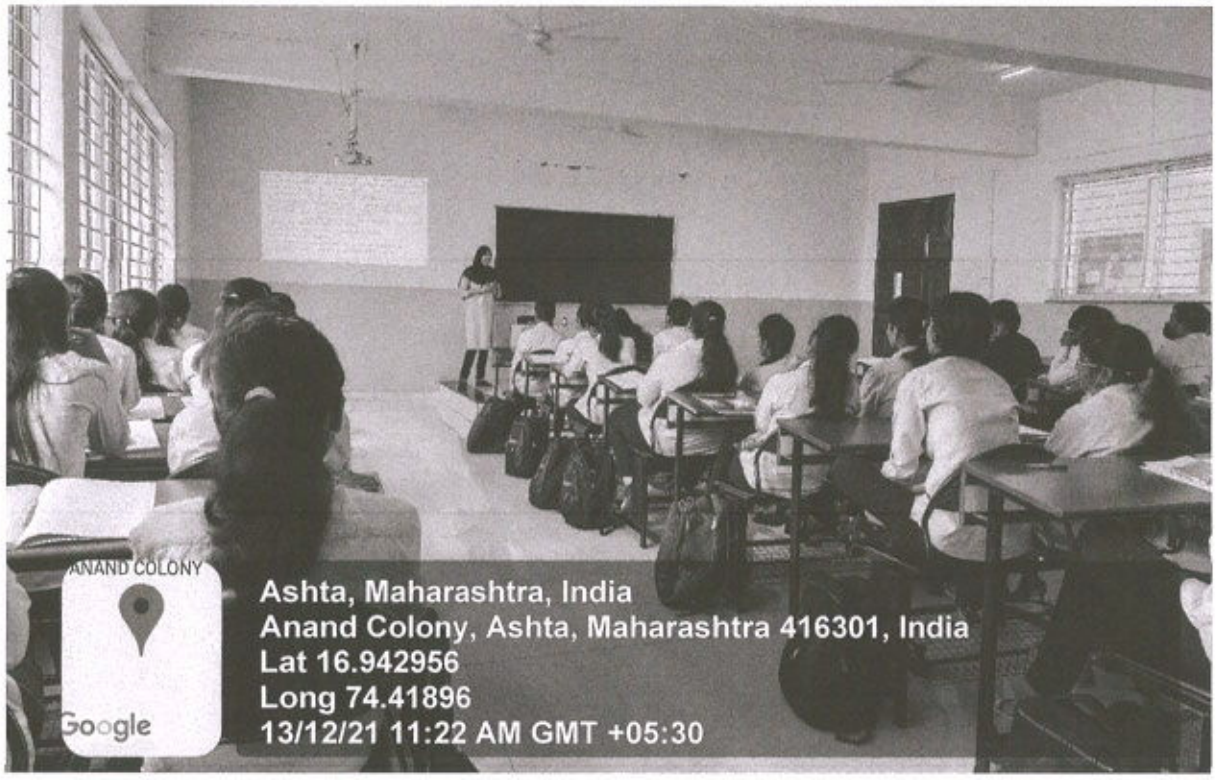
ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301



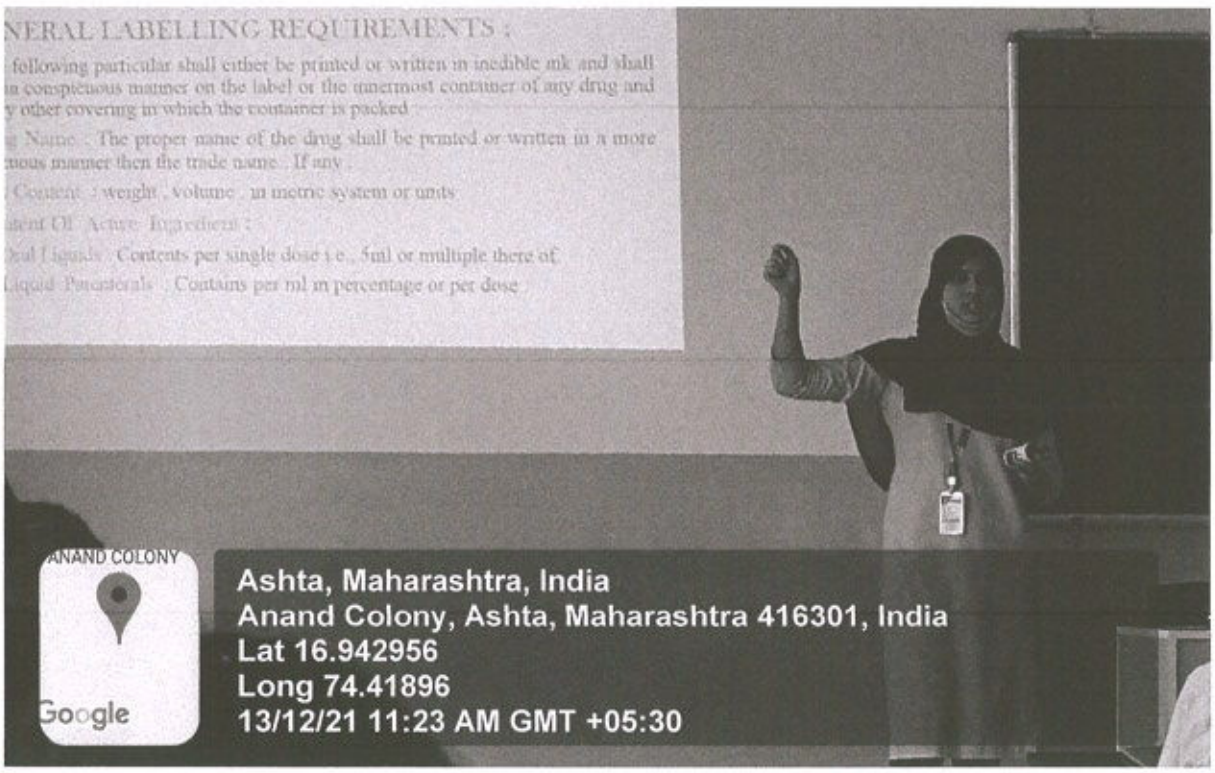
Student Led Seminar as Part of Participatory Learning



Student Led Seminar as Part of Participatory Learning



Student Led Seminar as Part of Participatory Learning



Student Led Seminar as Part of Participatory Learning

Sant Dnyaneshwar Shikshan Sanstha's

Annasaheb Dange College of B Pharmacy, Ashta

STUDENT-LED SEMINAR ASSESSMENT RECORD

Academic Year 2021-22 Third Year B. Pharmacy, Sem V

Name of Subject:

Roll Number	Name	Ability to collect information about topic	Organisation of collected information	Communication skill	Team working	Life Long Learning	Total
1	Bagal Nitin Laxman	5	5	4	5	3	22
2	Bandgar Vinayak Ramchandra	5	4	3	4	4	20
3	Basugade Rushikesh B.	4	4	4	3	3	18
4	Bhagvat Shweta Deepak	5	5	4	5	3	22
5	Bhavar Sonali Ashok	5	5	4	5	3	22
6	Bodare Nikita Pratap	4	4	3	4	4	19
7	Chaus Rehan Hasim	4	4	3	4	4	19
8	Chaus Swaliya Shakil	5	5	4	5	3	22
9	Chavan Pranali Ananda	4	5	5	4	3	21
10	Chavan Shreyash Amrut	4	4	4	5	4	21
11	Chikode Shriram Ishwar	5	4	3	5	4	21
12	Chormale Rushikesh B	5	5	4	4	4	22
13	Choudhari Supriya	5	5	4	5	3	22
14	Choudhary Komal Kanhaiyalal	5	4	3	4	4	20
15	Chougule Abhishek R	4	4	4	3	3	18
16	Dafure Shyamlesh P	5	5	4	5	3	19 22
17	Dake Rushikesh Shital	5	5	4	5	3	19 22
18	Darade Snehal Waman	4	4	3	4	4	219
19	Deshmukh Sanjana Suhas	4	4	3	4	4	219
20	Dethe Prasad Vilas	5	5	4	5	3	22
21	Dethe Sneha Suresh	4	5	5	4	3	21
22	Dixit Siddhi Madan	4	4	4	5	4	21
23	Gaikwad Shubham Adhikrao	5	4	3	5	4	21
24	Ganmukhi Varad Gurunath	5	5	4	4	4	22
25	Gavit Dakshesh Praksh	5	5	4	5	3	22
26	Ghanvat Pritee Prakash	5	4	3	4	4	20
27	Gondkar Sakshi Satish	4	4	4	3	3	18
28	Gosavi Sukanya Dasharath	5	5	4	5	3	22
29	Gurav Dnyaneshwari	5	5	4	5	3	22
30	Jadhav Akshata Bharat	4	4	3	4	4	19
31	Jadhav Bhavana Raghunath	4	4	3	4	4	19
32	Jadhav Karuna Maruti	5	5	4	5	3	22
33	Jadhav Pratik Satyen	4	5	5	4	3	21
34	Jagdale Sayee Diliprao	4	4	4	5	4	21
35	Jagtap Nisha Anandrao	5	4	3	5	4	21
36	Jagtap Shreya Sham	5	5	4	4	4	22
37	Jamadar Sana Dastagir	5	5	4	5	3	22
38	Jamdade Shreya Ganesh	4	4	3	4	4	20
39	Jugadar Dhanashri Dattatraya	4	4	4	3	3	18
40	Kadam Chaitali Vijay	5	5	4	5	3	22

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41	Kadam Rutuja Mahesh	5	5	4	5	3	22
42	Kadam Vaishnavi Raju	4	4	3	4	4	19
43	Kamble Abhishek Balasaheb	4	4	3	4	4	19
44	Kamble Rutuja Rakesh	5	5	4	5	3	22
45	Kamble Saloni Ankush	4	5	5	4	3	21
46	Kamble Sourabh Vajir	4	4	4	5	4	21
47	Karagane Preeti Chandrakant	5	4	3	5	4	21
48	Kashid Aishwarya Babasaheb	5	5	4	4	4	22
49	Kazi Ujma Maroof	5	5	4	5	3	22
50	Khandzode Rushikesh Ganesh	5	4	3	4	4	20
51	Kharat Sneha Shivaji	4	4	4	3	3	18
52	Kore Pravin Savanta	5	5	4	5	3	22
53	Kulkarni Apurva P	5	5	4	5	3	22
54	Kumbhar Pritam Subhash	4	4	3	4	4	19
55	Landage Ashish Baban	4	4	3	4	4	19
56	Lipare Shraddha Bhupesh	5	5	4	5	3	21
57	Londhe Pratiksha Shrikrishna	4	5	5	4	3	21
58	Makamale Sanket Kisan	4	4	4	5	4	21
59	Mali Bhagyashri Rajendra	5	4	3	5	4	21
60	Mali Pranali Sanjay	5	5	4	4	4	22

Name of Subject Incharge and Signature Dr. Tamboli E. T.

Sant Dnyaneshwar Shikshan Sanstha's

Annasaheb Dange College of B Pharmacy, Ashta

STUDENT-LED SEMINAR ASSESSMENT RECORD

Academic Year 2021-22 Third Year B. Pharmacy, Sem V

Name of Subject:

Roll Number	Name	Ability to collect information about topic	Organisation of collected information	Communication skill	Team working	Life Long Learning	Total
61	Mali Shrutika Sanjay	5	5	4	4	3	21
62	Mane Anand Gangaram	4	4	5	5	3	21
63	Mane Ankita Dattatray	4	5	4	5	4	22
64	Mane Dhanashri Sampatrao	5	5	4	5	4	23
65	Mhetre Nikita Machindra	5	5	3	4	5	22
66	Mohite Shreya Sharad	4	4	4	5	3	20
67	Momin Ishrat Salim	4	4	3	5	4	20
68	Momin Saniya Javed	4	5	4	5	4	22
69	Mone Pragati Ravindra	5	5	3	5	5	23
70	Mulla Mujib Bashir	5	4	4	4	4	21
71	Nandgaonkar Siddhant A	4	5	4	4	3	20
72	Nangare Shruti R	4	5	3	5	3	20
73	Narwade Sanika Bhujang	5	5	4	4	3	21
74	Padolkar Vaibhav Shivaji	4	4	5	5	3	21
75	Parit Shruti Vishnu	4	5	4	5	4	22
76	Patil Abhijeet Prakash	5	5	4	5	4	23
77	Patil Digvijay Pruthviraj	5	5	3	4	5	22
78	Patil Jyotsna Jaysing	4	4	4	5	3	20
79	Patil Prajwal Prabhakar	4	4	3	5	4	20
80	Patil Pranjal Shantaram	4	5	4	5	4	22
81	Patil Prathamesh Pradip	5	5	3	5	5	23
82	Patil Pratibha Tanaji	5	4	4	4	4	21
83	Patil Priya Vijaykumar	4	5	4	4	3	20
84	Patil Sayali Sambhaji	4	5	3	5	3	20
85	Patil Supriya Suraj	5	5	4	4	3	21
86	Patil Swapnali Sukumar	4	4	5	5	3	21
87	Pawar Gopal Kavarsing	4	5	4	5	4	22
88	Pukale Harsh Prasanna	5	5	4	5	4	23
89	Rajge Priyanka Shankar	5	5	3	4	5	22
90	Randive Gauri Sanjay	4	4	4	5	3	20
91	Sabale Saurabh Sakharam	4	4	3	5	4	20
92	Sabale Vishwajeet Vinayak	4	5	4	5	4	22
93	Sadule Akshay Sanjay	5	5	3	5	5	23
94	Sagare Atish Anil	5	4	4	4	4	21
95	Sajagane Harshada Popat	4	5	4	4	3	20
96	Sandage Shrutika Mansing	4	5	3	5	3	20
97	Sathe Ganesh Ramesh	5	5	4	4	3	21
98	Sawant Akanksha R		4	5	5	3	21
99	Sawant Rutuja Bha		5	4	5	4	22
100	Shedage Karan D		5	4	5	4	23

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

101	Shikhare Priyanka V	5	5	3	4	5	22
102	Shinde Dhanshri M	4	4	4	5	3	20
103	Shinde Rohit Babasaheb	4	4	3	5	4	20
104	Shinde Sonali Vijay	4	5	4	5	4	22
105	Sindure Prashant P	5	5	3	5	5	23
106	Suryawanshi Rutika B	5	4	4	4	4	21
107	Sutar Swati Ashok	4	5	4	4	3	20
108	Tambavekar Dipti Dilip	4	5	3	5	3	20
109	Tate Pratik Rajaram	5	5	4	4	3	21
110	Thorat Monali Sanjay	4	4	5	5	3	21
111	Undare Aniket S	4	5	4	5	4	22
112	Vadar Pranjal P	5	5	4	5	4	23
113	Vadar Tejashree Bharat	5	5	3	4	5	22
114	Vagare Dnyaneshwari	4	4	4	5	3	20
115	Vedpathak Anant R	4	4	3	5	4	20
116	Vibhute Satyajeet P	4	5	4	5	4	22
117	Wadgaonkar Saniket B	5	5	3	5	5	23
118	Waghmare Mugdha V	5	4	4	4	4	21
119	Yadav Anuja Arjun	4	5	4	4	3	20
120	Yadav Sonali Laxman	4	5	3	5	3	20
121	Zodage Monali Ashok	4	5	3	5	3	20

Name of Subject Incharge and Signature Dr. Tamboli G.T.

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

PRINCIPAL
Annasaheb Dange College of
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List of equipment's in pharmaceutics department with QR code

Sr. No.	Name of Equipment	QR code
1.	BALL MILL	
2.	DOUBLE CONE BLENDER	
3.	MANUAL CAPSULE FILLING MACHINE	
4.	ROTARY TABLET COMPRESSION MACHINE	
5.	BULK DENSITY APPARTUS	

6.	FRIABILITY TEST APPARATUS	
7.	TABLET DISSOLUTION TEST APPARATUS	
8.	PFIZER HARDNESS TESTER	
9.	MONSANTO HARDNESS TESTER	
10.	TABLET DISINTEGRATION TEST APPARATUS	
11.	AMPOULE WASHING MACHINE	

12.	BOTTLE WASHING MACHINE	
13.	TRAY DRYER	
14.	AMPOULE FILLING AND SEALING MACHINE	
15.	LIPSTICK MOULDS	
16.	SUPPOSITORY MOULDS	
17.	HOMOGENIZER	

18.	BOTTLE SEALING MACHINE	
19.	BOTTLE FILLING MACHINE	
20.	TUBE CRIMPING MACHINE	
21.	MANUAL CAPSULE FILLING MACHINE	
22.	CONICAL PERCOLATOR	
23.	DESICCATOR	

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24.	ALL-PURPOSE MACHINE	
25.	SIEVE SHAKER WITH SIEVE SET	
26.	MAGNETIC STIRRER	
27.	MECHANICAL STIRRER	
28.	TRIPLE SCALE BALANCE	
29.	WEIGHING BALANCE	

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30.	WEIGHING BALANCE	
31.	WEIGHING BALANCE	
32.	ELECTRIC WATER BATH	
33.	HOT AIR OVEN	
34.	HOT AIR OVEN	
35.	INCUBATOR	

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36.	STABILITY CHAMBER	
37.	ANTIBIOTIC ZONE READER	
38.	MICROSCOPE	
39.	TRIPALE SCALE BALANCE	
40.	HOT PLATE	
41.	TINCTURE PRESS	

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42.	VERNIER CALIPER	
43.	MECHANICAL STIRRER	
44.	DIGITAL pH METER	
45.	PAN BALANCE	
46.	COLONY COUNTER	
47.	AUTOCLAVE	

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48.	LAMINAR AIR FLOW	
49.	ASEPTIC CABINET	

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BP 506 P. Industrial Pharmacyl (Practical)

4 Hours/week

1. *Preformulation studies on paracetamol/asparin/or any other drug*
2. Preparation and evaluation of Paracetamol tablets
3. Preparation and evaluation of Aspirin tablets
4. Coating of tablets- film coating of tables/granules
5. Preparation and evaluation of Tetracycline capsules
6. Preparation of Calcium Gluconate injection
7. Preparation of Ascorbic Acid injection
8. Qulaity control test of (as per IP) marketed tablets and capsules
9. Preparation of Eye drops/ and Eye ointments
10. Preparation of Creams (cold / vanishing cream)
11. *Evaluation of Glass containers (as per IP)*

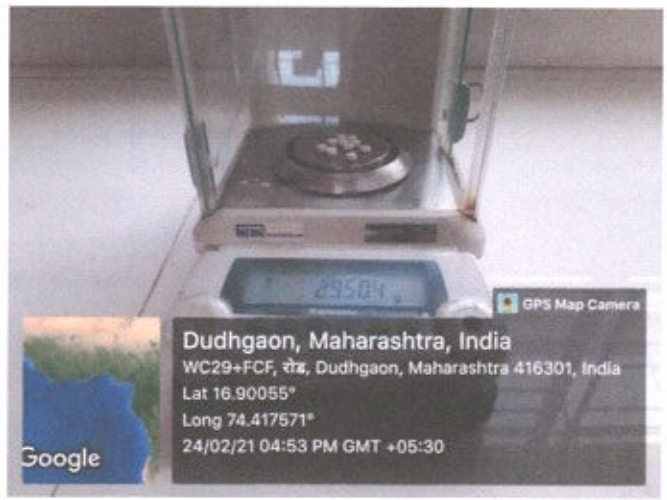
Recommended Books: (Latest Editions)

1. Pharmaceutical dosage forms - Tablets, volume 1 -3 by H.A. Liberman, Leon Lachman &J.B.Schwartz
2. Pharmaceutical dosage form - Parenteral medication vol- 1&2 by Liberman & Lachman
3. Pharmaceutical dosage form disperse system VOL-1 by Liberman & Lachman
4. Modern Pharmaceutics by Gilbert S. Banker & C.T. Rhodes, 3rd Edition
5. Remington: The Science and Practice of Pharmacy, 20th edition Pharmaceutical Science (RPS)
6. Theory and Practice of Industrial Pharmacy by Liberman & Lachman
7. Pharmaceutics- The science of dosage form design by M.E.Aulton, Churchill livingstone, Latest edition
8. Introduction to Pharmaceutical Dosage Forms by H. C.Ansel, Lea &Febiger, Philadelphia, 5th edition, 2005
9. Drug stability - Principles and practice by Cartensen & C.J. Rhodes, 3rd Edition, Marcel Dekker Series, Vol 107.

Industrial Pharmacy

Aim: To prepare evaluate and submit 10 Paracetamol Tablet IP 50 mg

Experiential Learning Report

Sr.No	Defect	Observation	Action Taken	Result
1		Rough surface	Optimize the ratio of granules: fine	
2		Weight Variation	Improving granules flow properties to get uniform die filling	

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Industrial Pharmacy .

Aim: To prepare evaluate and submit 10 Paracetamol Tablet IP 50 mg

Experiential Learning Report

3		Less thickness	Increase thickness with thickness adjustment knob	
4		Higher hardness	Decrease hardness with hardness adjustment knob	

ANNASAHEB DANGE COLLEGE OF B. PHARMACY ASHTA 416 301

Industrial Pharmacy I

Aim: To prepare evaluate and submit 10 Paracetamol Tablet IP 50 mg

Experiential Learning Report

Sr.No.	Observation	Action Taken	Discussion
1.	Rough surface	Optimize the ratio of granules: fine	It is due to higher granules size or may be because of less fine material in granules. It is overcome by reducing the granules size or by addition of fine material to the final blend.
2.	Weight Variation	Improving granules flow properties to get uniform die filling	It is because of less flow properties of final blend. To overcome this issue we added sufficient quantity of glident to impove the flow properties of blend.
3.	Less thickness	Increase thickness with thickness adjustment knob	Thickness and hardness is inversely proportional to each other. These parameters affect on disintegration time, dissolution profile and friability of tablet. So it is optimized with the help of thickness/hardness adjustment knob.
4.	Higher hardness	Decrease hardness with hardness adjustment knob	

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BP 507 P. PHARMACOLOGY-II (Practical)

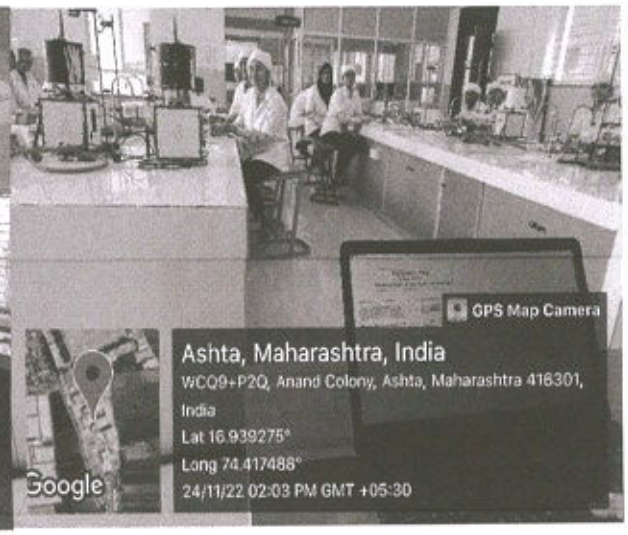
4Hrs/Week

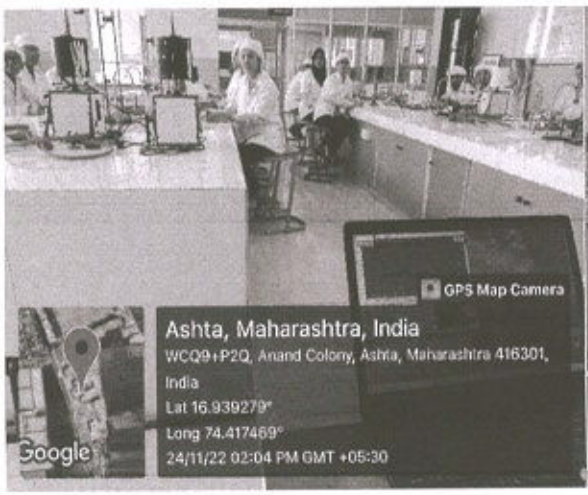
1. Introduction to *in-vitro* pharmacology and physiological salt solutions.
2. Effect of drugs on isolated frog heart.
3. Effect of drugs on blood pressure and heart rate of dog.
4. Study of diuretic activity of drugs using rats/mice.
5. DRC of acetylcholine using frog rectus abdominis muscle.
6. Effect of physostigmine and atropine on DRC of acetylcholine using frog rectus abdominis muscle and rat ileum respectively.
7. Bioassay of histamine using guinea pig ileum by matching method.
8. Bioassay of oxytocin using rat uterine horn by interpolation method.
9. Bioassay of serotonin using rat fundus strip by three point bioassay.
10. Bioassay of acetylcholine using rat ileum/colon by four point bioassay.
11. Determination of PA_2 value of prazosin using rat anococcygeus muscle (by Schilds plot method).
12. Determination of PD_2 value using guinea pig ileum.
13. Effect of spasmogens and spasmolytics using rabbit jejunum.
14. Anti-inflammatory activity of drugs using carrageenan induced paw-edema model.
15. Analgesic activity of drug using central and peripheral methods

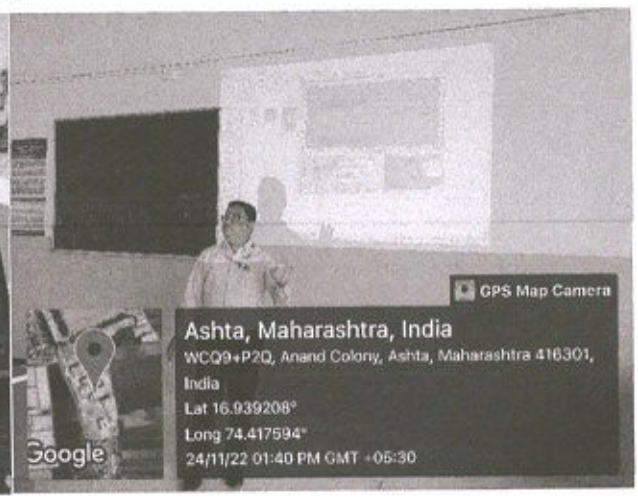
Note: All laboratory techniques and animal experiments are demonstrated by simulated experiments by softwares and videos

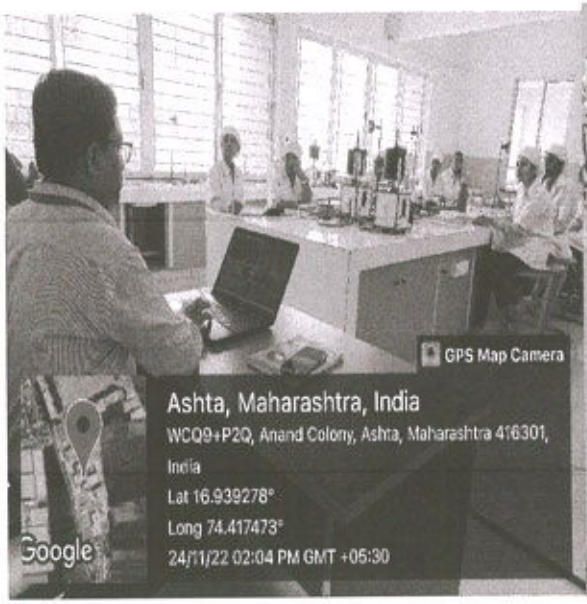
Recommended Books (Latest Editions)

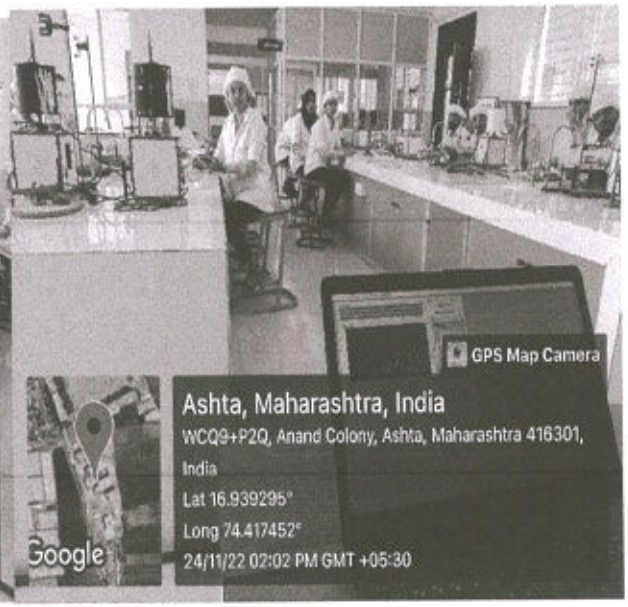
1. Rang H. P., Dale M. M., Ritter J. M., Flower R. J., Rang and Dale's Pharmacology, Churchil Livingstone Elsevier
2. Katzung B. G., Masters S. B., Trevor A. J., Basic and clinical pharmacology, Tata Mc Graw-Hill.
3. Goodman and Gilman's, The Pharmacological Basis of Therapeutics
4. Marry Anne K. K., Lloyd Yee Y., Brian K. A., Robbin L.C., Joseph G. B., Wayne A. K., Bradley R.W., Applied Therapeutics, The Clinical use of Drugs, The Point Lippincott Williams & Wilkins.
5. Mycek M.J, Gelnet S.B and Perper M.M. Lippincott's Illustrated Reviews-Pharmacology.
6. K.D.Tripathi. Essentials of Medical Pharmacology, , JAYPEE Brothers Medical Publishers (P) Ltd, New Delhi.
7. Sharma H. L., Sharma K. K., Principles of Pharmacology, Paras medical publisher
8. Modern Pharmacology with clinical Applications, by Charles R.Craig& Robert.
9. Ghosh MN. Fundamentals of Experimental Pharmacology. Hilton & Company, Kolkata.
10. Kulkarni SK. Handbook of experimental pharmacology. Vallabh Prakashan.











Annasaheb Dange College Of B. Pharmacy
ASHTA
416 301

Sant Dnyaneshwar Shikshan Sanstha's

Annasaheb Dange College of B Pharmacy, Ashta

Batch - E 24/11/2022

Sr. No	Roll No	Name of Student	Glassware's/ Lab wares Issued	Student Sign
1.	103	Akshata sargar		Akargar
2.	104	Shriyesh sawant		Asawant
3.	105	Pranali shete		Pshete
4.	106	Saurabh shete		SS
5.	107	Abhay shinde		Abhi
6.	108	Prajakta Shinde		Pshinde
7.	109		—	Ab
8.	110	Shreya Shinde		Shinde
9.	111		—	Ab
10.	112		—	Ab
11.	113		—	Ab
12.	114	Bhagyashree Sid		Bsid.
13.	115	Anisha Suryavanshi		ANS
14.	116	Shreya Sutar		SS
15.	117	Sapura Tamboli		Stamboli
16.	118	Sophiya Tamboli		ST
17.	119		—	Ab
18.	120		—	Ab
19.	121	Sanika Tawate.	—	STawate.
20.	122	Sneha Waladgaonkar		Swadg.
21.	123	Tejashri waingade		TW
22.	124	Ruhya wawate		Rutush.
23.	125		—	Ab
24.	126	Yadur Rutikar		Rutikar.
25.	127	Akanksha Yelmar		Akshay.

Total No of Students Present= 18/25

Sign of Teacher

Sign of Lab. Tech.

PRINCIPAL
Annasaheb Dange College of
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Sant Dnyaneshwar Shikshan Sanstha's

Annasaheb Dange College of B Pharmacy, Ashta

Academic Year 2021-22

Third Year B. Pharmacy, Sem V

Differential Assignments No1

(Based on Problem Solving Ability)

Pharmacognosy and phytochemistry-I

Second year B. Pharmacy

Last date for submission 31 March 2022

For scoring 0 to 4 Marks

Define Pharmacognosy

Explain morphological, and chemical classification of crude drugs

Explain various methods or types of adulteration. Add note on microscopical evaluation of crude drugs

For Scoring 5 to 8 Marks

Explain historical development and scope of pharmacognosy(5-7)

Explain various methods or types of adulteration. Add note on quantitative microscopical evaluation of crude drugs.

For scoring 9 to 10 Marks

A herbal formulation manufacturer ordered crude drugs from a supplier. Manufacturer is having doubt about quality of drugs supplied. What a manufacturer should do to get ensure about quality of crude drugs? (8-10)

Annasaheb Dange College Of B. Pharmacy ASHTA 416 301

Subject Incharge

Dr. Tamboli E. T.

Sant Dnyaneshwar Shikshan Sanstha's

Annasaheb Dange College of B Pharmacy, Ashta

Academic Year 2021-22

Third Year B. Pharmacy, Sem V

Differential Assignments No 2

(Based on Problem Solving Ability)

Pharmacognosy and phytochemistry-I

Second year B. Pharmacy

Submission date: 30 April 2022

Low achiever (0 to 6 Marks)

Explain various methods of cultivation of crude drugs

Explain factors affecting cultivation

Medium Achiever (07 to 12 Marks)

Write a note on plant growth regulators/ plant growth hormones

Enlist and explain steps involved in cultivation and collection of crude drugs

High achiever (13 to 15 Marks)

A farmer is planning to cultivate medicinal plant in his farms. Explain which points he must consider during cultivation and collection to get higher yield.

Annasaheb Dange College Of B. Pharmacy ASHTA 416 301

Subject Incharge

Dr. Tamboli E. T.

Assignment No-1

[lower achiver]

Q.1] Explain morphological & chemical classification of crude drugs.

Q.2] Explain various methods or types of adultration add note on microscopical evolution of crude drugs.

①→ In this type of classification the crude drugs or divided into the parts of plants like leaves, fruits, flowers, woods, barks dried latics, gums, etc. this type of classification is more convienient for partical purpose, even the chemical nature is not known. a drug can be studied for classification is very useful in identify the adultration used.

Since some drugs do not represent the adult morphological plant. it is difficult to classify them properly in the natural state. crude drugs from plant, source can be radially distinguished but operation like collection, drying preparation for market produce distortion of the Natural from making their recognition very difficult the morphological, characteristic, however do not reflent on chemical composition & biological behaviour of crude drugs

Name: Sushant Manohar Nangare

Roll no: 71

biological behaviour of crude drugs animal & minerals are difficult to classify this method.

② Based on morphological classification is followed.

part of plant	Drug Name
Woods →	acacia, guicanum, sandal
Barks →	Arjuna, cinchona, kurfi cinnamon
flower →	clove, rose, safron
leaves →	lemon, orange, coriander.
Seed →	Linseed, nutmeg
Subterrenin →	Ginger, turmeric, aculfa
entire organism →	ephedra, cantharids
Gums →	acacia

Dried juice → opium, papaya

⑥ Based on chemical classification of crude drugs is followed.

This type of classification is aplicable to crude drugs containing similar type of chemicals.

However this type of classification falls in proper placement of drugs containing two different types of chemicals eg certain drugs are found to contain alkoids & glycoides, mixed oils & volatile oils together & hence make it difficult to categorize them properly.

Even through much importance is attached to this type of classification at present morphological system is the method of choice for practical purpose.

Types of chemicals	Examples
Alkaloids →	Aconite, cinchona, opium tea
Glycoloids →	Digital, senna aloe
lipids →	Castor oil, peanut
Volatile oils →	peppermint dop
tanis →	Catachole
Vitamins →	yeast, cod liver oil/ choker-liver oil.
oregion & rosin →	Benzoin myrrh guggul shellac
Carbohydrates & dried products →	Agar, honey, acacia, gum

Q.2]

⇒ Adulteration is the debasement of an article on adjustment resembles the genuine drug in respect to its morphological appearance.

Methods of adulterating drugs :-

The extent of adulteration depends upon whether the drug is indigenous or obtained from other countries. The reason for adulteration either scarcity the high price of drug in the market. deformation means impart in quickly of drugs. adulte is additional one article or deliberate kind of adulteration occures when entirely different article is sold or used place of one required.

① Replacement of exhausted drugs - this is observed in case of costly drugs such as cloves, saffronie, fenel, fennal ginger while ginger is mixed starch coloured to produce proper shape.

② Substitution with superficially similar but inferior drugs.

The harvesting cultivated drug when it not reached minium standard of quality yield inferior yield containing very less amount of glycoids is used as diluent in pure digitalis leaves containing higher percentage of glycoside.

③ Substitution by artificially manufactured substitutes - The type of adulteration observed in case of drugs which are costly paraffin were tinged yellow beeswax.

④ Substitution by sub standard commercial verities - red chillies i.e capscicum frutescen while Gentian (Kutki) substituted by picrorrhiza kurroa.

⑤ preserver of organic matter.

obtained from the same plant. advantage of colour, odour & constituents is taken to consideration & other parts same plant are added to genuine drugs, clones are mixed with leaves stalks Gray inflorence.

exleration of microscopic evolution is followed.

this method allows more defined of a leaves. if can be used to identify the organised by their known histological character. mostly used for qualitative evaluation of organised drugs in entire powdered forms.

microscope by virtue of its property to magnify, permits the minutes structure under study to be enlarged. & can be used study to be enlarge the microscopic evaluation also covers the study of constituents by application of of chemical tests to forms or to histological sections of the drugs micro chemistry.

(a) stomatal number:-
stomata present per unit square

(b) stomatal index:-
% which the no of stomata form to the total no. of epidermal cells

$$I = \frac{S}{E+S} \times 100$$

(c) vein islet Number:- Number of vein islet per sq mm of leaf surface.

(d) palisade ratio:-
It is average Number of palisade ratio, beneath one epidermal cells using four continuous epidermal cells for the count.

Q.3] Define pharmacognosy & followed by pharmacognosy is defined as the scintific & systematic study of structural physical, chemical & biological characters of crude drugs along with their history method of cultivation, collection & preparation for the material.

or

pharmacognosy is study of Natural & original artificial, Natural crude drug or unprocessed drugs of Natural source process drug is called pharmacognosy.

Assignment No. 2 (medium other)

Q.1] Write a note on on plant growth regulators plant growth hormones.

→ plant growth regulators are the organic compounds other than nutrients which affects the morphological structure or physiological proces of plants in low Concentration.

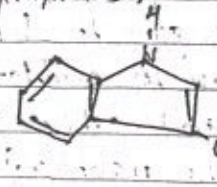
phytohormones or plant hormones are Naturally occuring growth regulators which in low conc control physiological procas in plants.

The term plant growth regulator is used beacuse it includes both the native & synthetic substance within modify the plant growth.

As the native plant growth regulates five major kinds of substances are reported. Auxines, gibberellins, cytokinins, abisis acid & ethylene

The plant growth regulators substances regulate all enlarged organogenesis, senescence of dormancy

a) Auxines :



Auxines are hormones produced in immature parts of plant of stimulatory growth. Auxins are most only found in seeds embryos, apical of young leaves, the seeds embryo has yet to develope of cell have not yet to develope become determined that the young cells dont known what they will be when they grow to yet.

Types :-

First isolated human auxin is term aplied to Natural & synthe Compound that have growth Regulating properties plant produce Natural auxins are found in growing stems & roots from where they migrate of their sit of action Napthalene acetic acid (NAA) & 2-4 dichlorophenoxyacetic (2,4-D)

are example of synthetic auxins

Application -

Used for plant propagation

To induce parthanocarpy .i.e the production of fruit without prior fertilizers

Used by guardners to keep lawns weed free

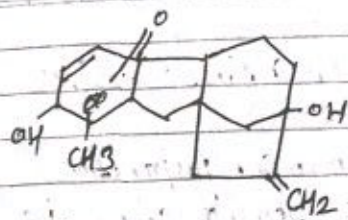
b] Gibberelins -

They are class of endogenous plant growth regulators & at present ever so gibberelins are known about 40 of these are presentation in some fungi.

They are present in different organ & tissues like roots, shoots, buds, leaves, floral apices, callus tissues.

Uses:-

- promoting vegetatives of fruit growth
- Breaking dormancy
- flower initiation or induction of parthanocarpy



Application -

The use of gibberelins in flowers does not increased yield of digitalis has shown increased yield per shoot of digitalis glycoside

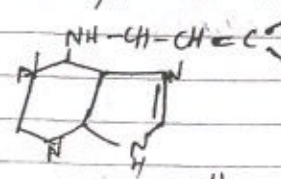
c] Cytokinins -

cytokinins are compaind with structure resembling adenine (promote cell division)

cytokinin regulate the pattern & frequency of organ production as well as position of shape.

The Common Naturally occuring cytokinin is zeatin.

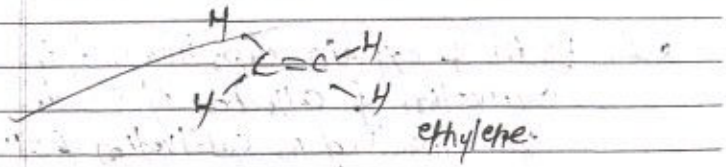
more than two Natural & Synthetic cytokinin are identified



zeatin

functions -
- stimulates cell divisions
- Stimulates morphogenesis in tissue culture.
- stimulate leaf expansion resulting from cell enlargement.
- Delays Senescene.

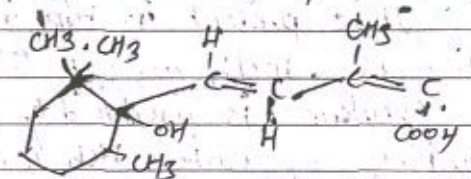
d] Ethylene
- It is simple organic molecule present in the form of volatile gas & shows profound physiological effects
- It is present in ripening fruits, flowers, roots, tubers & seeds
- ethylene is produced by incomplete burning of carbon rich compounds like natural gas coal of petroleum.



ethylene.

function -
Induce fruit ripening, leaf abscission stem swelling, leaf bending flower petal discoloration & inhibition of stem & root growth

e] Abcisic acid (ABA)
The physiological activities in plants like retaining or shedding of different organs such as leaves stems, flowers & fruits have leads to finding of natural growth inhibitor. It inhibits the induced synthesis of α amylase & other hydrolytic enzyme.
ABA serves an important role as potential antitranspirant by closing the stomata when aplied to leaves



Abscisic acid.

Q.2] Enlist & explain steps involved in cultivation & collection of crude drug
Step involved in cultivation & collection of crude drugs are
Collection
Harvesting
Drying
Garbelling

- Storage & preservation of crude drugs

Collection -

The drugs are collected suitably when they contain maximum concentration of active ingredient.

as skilled labor will collect the pure drugs without any admixture as they are trained for the purpose.

As for as possible diceased plants or plants treated with pestisides are to be avoided or medicinal use & should be rejcted during collection.

at time the season of collecting medicinal plants in also very specific

i.e. rubarb rhizomes aconite roots contain their respective active constituent at maximum on the commencement of wormed season.

• Three different methods for collectiong barks :

(a) Felling

(b) uprooting

(c) coppicing

The fruits are collected depending upon part of fruits used they are either collected their ripe or half ripe but full growth.

Harvesting -

Harvesting is an important operation in cultivation technology of it replace upon economic aspects crude drugs. The underground drugs like roots, rhizomes, tubers, etc.

The tubers or roots are throughly washed in esters to ridestly matter.

Drugs which constituents all recial parts are harvested by binders for economic reasons.

pepparemint ~~&~~ spearmint with others as funnel & caraway plants are uprooted & dried.

The techniques of bearing plants with barloos is used in case of cloves.

Drying -

Before marketing a crude drugs. it is neccessary to procels it properly to preserve it for a longer time & also to acquire better pharmacutical elegance.

- Drying consist of removel of sufficient moisture content of crude drugs to improve its quality max it resistant to the growth.

Depending upon the type of chemical constituent a method of drying.

1) Natural drying
2) Artificial drying

1) Natural drying - In case of Natural drying it may be either direct sun drying or in the shed.

2) Artificial drying -

drying by artificial means include drying the drugs in the a) an oven i.e tray dryer b) Vaccum dryer c) Spray dryer.

a) Tray dryer - The drugs which do not contain volatile oils & are acquire stable to heat of which need deactivation of enzyme are dried in tray dryer.

chlorophony & balsam of tolu are packed in resonance tips while asafoetida is stored in well closed containers to prevent loss of volatile oils.

- storage & preservation of crude drugs.

preservation of crude drugs need sound knowledge of their physical & chemical properties.

Good quality of drug can be maintained if they are preserved well

All the drugs should be preserved in well closed a possibly in the filled containers

they should be stored in premises which are waterproof, fireproof & rodent proof.

Atmospheric oxygen is also destructive to several drugs hence such drugs are completely in well closed container or the air in the container is replaced by an insert gas like nitrogen.

eg:- Shark liver oil.

Name: Tamboli Sophiya Chandasaheb
Roll no: 103

Assignment NO.01

(High achievers)

1] Explain historical development & scope of pharmacognosy.

→ • The Ebers Papyrus, is an Egyption medical Papyrus of herbal knowledge dating to Circa 1550 BC.
• Among the oldest & most important medical Papyri.
• It was purchased at luxor in the winter of 1873-74 by georg Ebers.
• It is currently kept at the library of the university of leipzig, in germany.

Following the contribution to medicine by -

Hippocrates:-
- Father of medicine (460-360 B.C)
- One of the most outstanding figures in the history of medicine.

Aristotle:-
- 384-322 B.C.
- Greek philosopher & polymath.
- Classification of several plants & animals.

Pedanius Dioscorides:
- Greek Physician (40-90 AD), Pharmacologist, botanist.
- Author of De materia medica - 5 volu... greek encyclopedia about herbal medi...

medicine & related medicinal subject.
- Employed as a physician in the roman army.

Galen:-
- (131-200 A.D), the early Arabian physician
- The first pharmacist, galen was known to have had a number of pain-relieving materials, including opium in his apothecary
- Development of various scientific discipline including anatomy, physiology, pathology as well as philosophy.

J.A. Schmidt:-
- 1815, Lehrbuch der materia medica used term 'Pharmacognosis'. Lecture notes of medicinal material.

C.A. Seydler:-
- Coined the term 'Pharmacognosy'
- Father of Pharmacognosy
- Analecta Pharmacognostica.

Martius:-
Pharmkognosie: A subject to college level. Gendo ai (1880)

Scope of Pharmacognosy :-

1. The opportunity or possibility to do or deal with something.
2. Study of medicinal properties of natural products for the purpose of drug discovery.
3. Development & use of analytical method for quality control of natural Product.
4. Study of use traditional medicines by native Culture.
5. Use of natural Products for specific agri-cultural Purpose.
6. Cosmetic application of natural product.

Q.2. Explain Various methods or types of adulteration. Add note on quantitative microscopical evaluation of crude drugs.

--> Adulteration is the practice of substituting original article / crude drugs partially or wholly with other spurious substance (either in inferior in chemical / therapeutic properties).

Types of adulteration :-

① Substandard commercial varieties-

The adulterants used here may resemble original crude drug by morphological, chemical or therapeutic characters, but are standard in nature & hence cheaper in cost.

② Superficially similar inferior drugs-

These inferior drugs used may or may not have any chemical or therapeutic values as that of original natural drug. Due to their morphological resemblance to authentic drug, they are marked as adulterants.

③ Artificially manufactured substance-

It has been also observed that substances artificially prepared to resemble original drug are used as substituents. Generally, this practice is followed for much costlier drugs.

④ Exhausted drugs-

In this type, the same drug is admixed but is devoid of any medicinally active constituents as they are already extracted out. This practice is more common in case of volatile oil containing drugs like fennel, clove, etc.

⑤ Presence of vegetative matters from the same plant.

Sometimes, the other miniature plants growing along with medicinal plant

are mixed with drug due to their resembling colour, odour & in some cases constituents.

⑥ Synthetic Chemicals :-

Besides these common practices, sometimes other methods are employed like use of synthetic chemicals to enhance the natural character as in case of addition of benzyl benzoate to balsam of Peru, citral to citrus oils like oil of lemon & orange oil.

⑦ Harmful adulterants -

Several times, the waste from market are collected & admixed with authentic drugs. This is particularly noticed for liquids are unrecognised drugs.

⑧ Adulteration of powders -

Besides the entire drugs, the powdered forms are frequently found to be adulterated. Some examples which can be cited here are dextrin in ipecacuanha powdered liquorice or gentian admixed with powdered olive stones.

X • Microscopic Evaluation :-

1. This method allow more detailed examination of drug & it can be used to identify the organised drugs by their known histological characters.
2. Microscopic evaluation also covers study of constituents by application of chemical methods to small quantities of drugs in powdered form or to histological sections of drug.
3. A drop of phloroglucinol & conc. hydrochloric acid give red stain with lignin.
4. Mucilage is stained pink with ruthenium red, also when treated with coralline soda & few drops of sodium carbonate solution.
5. Cellulose swells & dissolves in cuoxam, while N/60 iodine solution stains blue starch & hemicellulose.

* Quantitative microscopical evaluation :

① Palisade ratio =

- Average no. of palisade cells present below the epidermis cell.
- It contain chlorophyl - site of photosynthesis.

- entire powdered form of drug.
e.g. ① Datura stramonium (4.2 - 6.5)
② Datura metel (0.5 - 6.5)

② Vein-islets number-
No. of veinlets or vein-islets per sq. mm of leaf surface midway between the midrib & margin.
e.g. ① Digitalis purpurea (3.7 - 4.2)
② Digitalis lanata (2.5 - 6.5)

③ Stomatal number-
No. of stomata per sq. mm of epidermis of leaf surface midway between the midrib & margin.
e.g. ① Datura Stramonium - 087 upper epidermis.
② Datura innoxia - 141 upper epidermis.

④ Vein termination-
Number of veinlets per sq. mm of leaf surface midway between midrib & margin.

⑤ Stomatal index -
The percentage which the numbers of stomata form to total number of epidermal cells; each stomat being counted as one cell.
It is calculated by using following eq.

$$S.I = \frac{S}{E+S} \times 100$$

where,
S.I = Stomatal Index
S = Number of stomata per unit area
E = Number of epidermal cells in the same unit area.

Lycopodium spore method for percentage purity :-
- It is an important analytical technique for powdered drugs, especially when chemical & other methods of evaluation of crude drugs fails as accurate measure of quality.
- It is inexpensive technique with official status
- lycopodium spores are very characteristic in shape & appearance & exceptionally uniform in size (25 µm).
- on an average 94,000 spores per mg of powdered Lycopodium.

-A powdered drug is evaluated by this technique.
If it contains,
a) well defined particles which may be counted e.g. starch grains or pollen grains.
b) Single layered cells or tissues, the area of which may be traced under suitable magnification of actual area calculated or
c) The objects of uniform thickness, the length of which can be measured under suitable magnification & actual area Calculated.

The percentage purity of an authentic powdered ginger is calculated using the following eqn.

$$\frac{N \times W \times 94,000 \times 100}{S \times M \times P} = \% \text{ Purity of drug.}$$

where,
N = no. of characteristic str. in 26 fields.
W = wt. in mg of lycopodium taken.
S = no. of lycopodium spores in 25 fields.
M = wt. in mg of sample, calculated on basis of sample dried at 105°C.
P = 2,86,000 in case of ginger starch grain Powder.

Assignment No. 02

(Medium Achievers)

Q.1. Write a note on plant growth regulators/ plant growth hormone.

→ - Plant growth regulators are the organic compounds other than nutrients which affect the morphological structure & / or physiological process of plants in low concentration.
- Plant hormones are naturally occurring growth regulators which in low concentration control physiological process in plants.
- It includes both native (endogenous) & synthetic (exogenous) substances which modify plant growth.
- As native plant growth regulators are reported are abscisic acid & ethylene.
- The plant growth regulators regulate cells enlargement, cell division, cell differentiation organogenesis, senescence & dormancy.

1] Auxin.

It is used to indicate substance that promote elongation of coleoptiles tissues.
- Induce acetic acid (IAA) is auxin that occurs naturally in plants.
- There are natural & synthetic auxins which have same action as natural auxins.
- IAA is principle auxin are (IAN) Indole-3-acetonitrile.

- the synthetic auxins are indole-3-butyric acid (IBA), 2-napthyloxy acetic acid
- It is involved in different growth process in plants like internodes elongation, leaf growth, cambial activity, optical dominance.

Production & occurence:-
- Produced in shoot & root meristematic tissue.
- In young leaves, mature root cells & small amount in mature leaves.

Functions & Applications:-
1) IBA & NAA in combination used in rooting of cutting.
2) NAA used as fruit setting spray.
3) IBA has show promising results to induce rooting in cutting for cinchona Pinus induce rooting in cutting for Cinchona, Pinus, Papaya & coffe.
4) Treatment of derivatives of NAA given to seedling & young plant of methhapiperata.

2] Gibberellins-
- They are class of endogenous plant growth regulators & at present over 50 gibberellins are known
- about 40 of these occure in green plants while other present in some fungi.
- They are present in different organs & tissues like roots, shoots, bud, leaves.
- Commercial varieties of gibberellines are used for promoting vegetative & fruit growth breaking dormancy, flower initiation.

Occurence-
- Kurosawa japanese physiologist is credited for initiating discovery of gibberellins from fungus Gibberella fujikuroi grown on rice.
- According to paleg, gibberellins are compounds having gibban skeleton & biological activity in stimulating cell division or cell elongation.
- Gibberellins A- isolated in 1938 is a mixture of 6 gibberellins referred to as GA, GA_2, GA_3, GA_4, GA_7, GA_9, GA_3 termed as Gibberellic acid

Role-
1) Promotion of rapid expansion of plant cell
2) Stimulation of seed germination.
3) Breakup dormancy of overwintering plants
4) Induction of parthenocarpy.

3] Cytokinins-
- These are either natural or synthetic compounds with significant growth regulating activity.
- zeatin has effect on cell division & leaf senescence & synthetic cytokinins are useful in promoting

Function:
- Stimulates closure of stomata.
- Involved in abscission of buds, leaves, petals, flowers & fruits in many, if not all instances as well as in dehiscence of fruits.
- Involved in bud dormancy

Q.2. Enlist & explain methods involved in cultivation & steps in collection of crude drug.

→ Methods of propagation in cultivation:-

Medicinal plants can be propageted by two methods which are refferred to as sexual & asexual method.

1] Sexual method-
- In sexual method, plants are raised from seeds & such plants are known as seedling
- For propagation purpose seeds must be of good quality.
- They should be capable of high germination rate, free from disease & insects & also free from seeds.
- If seeds are not to be germinated in near future, they should be stored in cool & dry place to maintain their germination power. Long storage of seeds should be avoided.

Advantages-
1) There is no variation between the plant grown & plant from which it is grown
2) Seedless varieties of fruits can only be propagated vegetatively e.g. grapes, lemon.
3) Plant start bearing early's as compared to seedling trees.

Disadvantages-
1) In comparison to seedling trees, there are not vigorous in growth & are not long-lived.
2) No new varieties can be evolved by this method.

• Methods of vegetative propagational/Asexual method of propagation →
i) Natural method.
ii) Artificial method.
iii) Asepic method of micropropagation.

i) Natural method -

It is done by sowing various parts of plants in well prepared soil.
a) bulbs - Squill, garlic
b) Corms - Colchicum, saffron.
c) Tubers - Jalap, aconite, Potato
d) Runners - Peppermint

2] Drying:-
- Moisture content of material should be kept as low as possible in order to reduce damage from mould & other microbial infestation.
- It is carried out to preserve drug for longer time & also to aquire better Pharmaceutical elegance.
- Drying of flowers can be achieved by 1) natural & 2) Artifical means.

3] Garbling:-
- This process is desired when sand, dirt & foreign organic part of same plant not Constituting drug are required to remove.
- These are removed by several ways.

4] Packing:-
- The morphological & chemical nature of drug, its ultimate use & effects of Climatic conditions during transportation & storage should be taken into consideration while packing drugs.
- Aloe is packed in goat skin, colophony & balsam of tolu packed in kerosene-tinus.

- The expensive drugs which are very sensitive to moisture need special attention.
e.g. digitalis, ergot & squill.

5] Storage & prevention of coude drugs:-
- Preservation of coude drugs, need should knowledge of their physical & chemical properties
- All drugs should be preserved in well closed & posibly infilled containers.
- They should be stored in primices which are water proof, fire proof & rodent proof
- Apart from protection agains adverse physical & chemical changes, the preservation against insect or mould attacks is also important.
- Excessive moisture facilities enzymatic reactions resulting in decomposition of active constituents
e.g. digitalis leaves.

Seen
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PRINCIPAL
Annasaheb Dange College of
B. Pharmacy, Ashta.

Assignment no. 01

Name: Patil Viraj Uday
Roll no: 84.

Page No.
Date

Que. 1 Explain historical development and scope of pharmacognosy.

→ The history of herbal medicine is as old as human civilization. One of the most famous surviving remnants is Papyrus Ebers. A scroll or the text of document dominated by more than 800 formulae and 700 drugs. In china, the oldest known herbal is Pen't-sao written by emperor Shen Nung around 3000 B.C. It contains 365 drugs, one for each day of year. Indians also worked meticulously on herbal medicines. Charaka made fifty groups of ten herbs and similarly Shushruth arranged 760 herbs in 7 distinct sets based on some common properties. The well known treaties in Ayurveda are Charaka Samhita, Sushtruth Samhita and Ashtangrhuday. After all these many scientist came and proposed or derived many thing which give rise to 'pharmacognosy'. 'Hippocrates' is known as father of medicine, where 'Galen' is first pharmacist. In 19th century, the term 'Material Medica' was used for subject pharmacognosy. Seydler was the first who coined the term 'Pharmacognosy'. Further many scientist like Mendel, Smith and other gave important work for development of pharmacognosy.

Scope of pharmacognosy are as follows →

① Study of medicinal properties of natural products for the purpose of drug discovery.

② Development and use of analytical methods for quality control of natural product

③ Pharmacognosy have scope in study of use of traditional medicines by native culture.

④ It also has scope in microscopic evaluation and species recognition of medicinal/econimal important natural product or plant.

⑤ Use of natural products for specific agricalture purpose.

⑥ Study of safety and functional properties of compound found in novel foods/ food ingredient also be done by pharmacognosy.

Que. 2 Explain various methods or types of adultration Add note on quantitative microscopical evaluation of crude drugs.

→ Adultration ↔ Practice of substituting original article/crude drugs partially or wholly with other spurious substance (either in inferior in chemical/therapeutic properties).

Types of adultration are as follows →

① Substandard Commercial Varieties ⇒ substandard or substance with less potential is added in case of absence of standard chemical, such adultration may or may not be harmful to use.

② Superficially similar Inferior drugs → These type of adultration used in case of absence of potential drug or sometimes used for profit because of inferior drugs are economically better.

③ Artificially manufactured substances → Artifically manufactured substances are added for adultration.

④ Exhausted drugs

⑤ Synthetic chemicals

⑥ Vegetative matter from same plant → This type of adultration used because of profit or to increase the biomass of product. They can be harm or not, depending on type of matter adultrated. e.g. wheat & soil

⑦ Harmful material → Harmful materials are added and product adultrated. This type of adlultration is very harmful to human use.

Quantitative microscopical evaluation of crude drug → Microscopic evaluation is much better than organoleptic evaluation. In microscopic evaluation we study the cellular component of drug. This also help to recognize or study of cellular parts. In microscopic evaluation of crude drug we need to stain the cell sample or mount the sample for observing under microscope. Staining can alter the activity but the mounting do not. Microscopic evaluation is done by most of compound microscope or sometimes electron microscope. Stains are specific for specific cell or substance. example. Mixture of phloroglucinol and conc. HCl in 1:1 praportion give pink colour on

to lignified cells. In short histological characters are noticed in quantitative evaluation by microscopic method. This evaluation used in organised and powderd form material. The most significant use of this evaluation is, no wastage of product i.e. in chemical evaluation wastage of product may happens or in chemical evaluation large quantity of sample needs but in microscopic evaluation small quantity of sample is used. Qualitative evaluation by microscopic are cell wall, Trichomes, type of stomata, vessels types, Phloem fibres, stone cells, starch grains, calcium oxalate etc.

Quantitative microscopic evaluation measurment are as follows:

① Palisade Ratio → Palasade are the cell which contains chlorophyll. They are on or beneath the epidermal cells. Palisade ratio is average number of palisade cell each epidermal cell. example: Datura metel: Palisade ratio is 0.5-6

② Vein-islet number → Number of veinlets or vein islets per square mm of leaf surface, midway between midrib and margin, is known as vein-islet number. vein-islet number is specific for specific plant leaf. example: Digitalis lanata: 2.5-6.5.

③ Vein termination number ⟶ Vein termination number is the number of veins per square mm of leaf surface.

④ Stomatal number ⟶ Number of stomata present in per square mm of leaf epidermis present in leaf midrib and margin

⑤ Stomatal index ⟶ Stomatal index is specific for specific leaf of plant. It is calculated by using number of stomata (S) and number of epidermal cells covering at stomata (E).

$$\text{Stomatal index} = \frac{S}{S+E} \times 100$$

⑥ lycopodium spore method ⟶ walls or spore of lycopodium is calculated. 1mg of spore contains arround 94000 spores. The percent purity of drug is calculated by,

$$\text{Percent purity of drug} = \frac{N \times W \times 94000 \times 100}{S \times M \times P}$$

where, N is number of starch grain
W is weight of sample
S is number of spore
M is mass of spore and P is constant.

Scan & 26/03/21

Assignment no. 02
— Higher Achiever —

Que.1 A farmer is planning to cultivate medicinal plants in his farms. Explain which factors / points he must consider during cultivation and collection to get higher yield.

⟶ To cultivate medicinal plant a farmer must consider following factors in order to get better yield ⟶

① Altitude ⟶ It is highest from sea level. e.g. Tea, cinchona need high altitude (1000 - 2000 m), while cinnamon, cardamon (500 - 1000 m). Senna can be cultivated at sea level.

② Light ⟶ It influences photosynthesis opening & closing of stomata, flowering etc.

③ Tempreature ⟶ It affects the growth of plants.
e.g. Cinchona - 60 - 75°F
Coffee - 55 - 70°F
Tea - 70 - 90°F

④ Humidity ⟶ Also affects of cultivates of plant e.g. Saffron need only cold climate.

⑤ Rainfall ⟶ Majority of plants need sufficient amount of rainfall for the growth. But some plants required less such as aloe, acacia etc.

⑥ Soil ⟶ It is most important natural resource as it provides mechanical support, water and essential food / nutrients for the development of plants.

⑦ Soil fertility ⟶ The capacity of soil to supply & provide suitable medium for plant growth.

⑧ Fertilizers → The fertilizer are added to the soil to supply nutrients for the growth of plant
Chemical fertilizer → Urea ; NH_4SO_4 , ammonium sulphate.
Manures → Animal faeces, cow dung etc.
Biofertilizer → Rhizobium, blue green, algae etc.

⑨ Pest and pest control → Pest cause great damage to plants and it affect on yield.
- So to get the best quality of plant product it is very necessary to control the pest.
- Pest control methods →
  (i) Mechanical method
  (ii) Agricultural method
  (iii) Biological method
  (iv) Chemical method

Farmers can cultivate plants by following metho
① Sexual Propagation →
  (a) Broadcasting
  (b) Dibbling
  (c) Micellaneous
② Asexual Propagation →
  (a) Natural Propagation
    (i) From root
    (ii) From stem
    (iii) From leaves
    (iv) From bulbils

(b) Artificial Propagation →
  (i) Cutting
  (ii) layering
  (iii) Grafting
  (iv) Budding
  (v) Micropopagation

Sexual propagation → Sexual propagation involves production of fruit from flower. Seed can germinate and it grow into whole plant. There are defferent terms which describe formation of fruit.

Parthenocarpy → Formation of fruit without forming seed.

Polyploidy → Polyploidy has various useful effect on medicinal plants like digitalis, mentha species, poppy plants containing tropane alkaloids, lobelia etc. The polyploidy occurs in a multiple series of 3, 4, 5, 6, 7, 8 etc of the basic chromosome, chromosome number it is called triploidy, tetraploidy, pentaploid, hexaploidy heptaploidy and octaploidy respectively. When the organism contains more than two genomes, it is called Polyploids. Ploidy is very useful in medicinal plant. So farmer must be consider about polyploidy for higher yield.

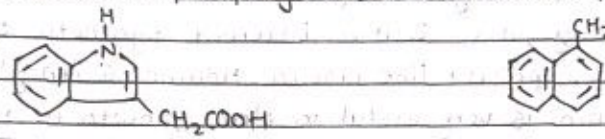
Mutation → Mutation is sudden change in genetic material. Mutation is represented as variation in characters of the species. The changes caused due to mutations include morphological and anatomical changes as well as changes in the chemical composit of the plants. The undesired effect produced by mutation can eliminitated by breeding and selection.

Hybridization → The process through which hybrids are produced is called hybridisation. A hybrid is an organism which results from crossing of two species or varities differing at least in one set of character. Hybridization helps in inducing in a single variety, the favourable character of other varieties or species and some times, producing new and favoura character which are not present in both the parer Hybridization plays important role in cultivation of medicinal plant.

Plant Growth Regulator (PGR) → Different chemicals enhances the growth of medicinal plants. Plant growth hormones increases the yield and quality of medicinal plant. The differen plant hormones are:

① Auxin → Auxin plays important role in plant growth. Auxins are Indole Acetic acid (IAA), Indole-3-acetonitrile, Napthyl acetic acid (NAA) Phenyl acetic acid.

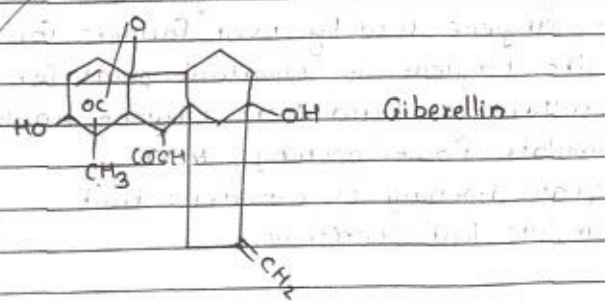
There are natural auxin like Indole-3-Acetonitrile, phenyl acetic acid and Indole acetic acid (IAA) and exogenous or synthetic auxin are Indole-3-butyric acid (IBA), Napthyl acetic acid (NAA).



Indole Acetic Acid (IAA) Napthyl Acetic Acid (NAA)

Auxin are involved in different growth like -
① Internode elongation
② Leaf growth
③ Initiation of vascular tissue.
④ Abscecion & inhibition of buds

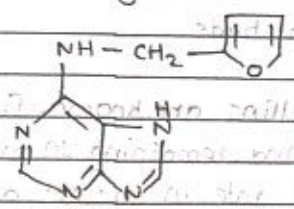
② Giberellins → 50 giberellins are known. from which 40 are in green plant and remaining 10 are in fungi. Giberellin plays important role in growth of medicinal plant. like:
① Promating vegetative and fruit growth.
② Breaking dormanancy
③ Induction of parthenocarpy
④ Stimulate seed germination



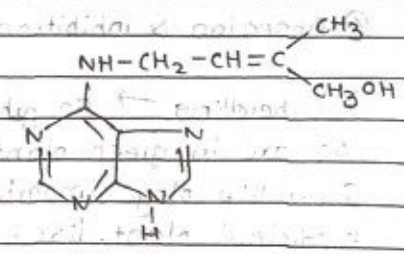
Giberellin

③ Cytokinin → Cytokinin are compounds with a structure resembling adenine. Cytokinin regulate the pattern and frequency of organ production. There are only one cytokinin which occurs naturally, it is Zeatin. Different synthetic cytokinin are also present like kinetin, Adnine, 6-Benzyl adenine. Cytokinin is very useful in plant growth as it promotes :

(i) Stimulate cell division
(ii) Promotes the conversion of etioplast to chloroplast.
(iii) Enhance the stomatal opening in some species
(iv) It delays senescence.



kinetin



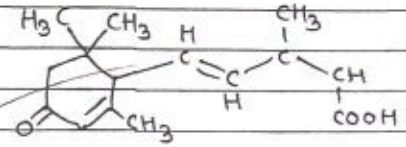
Zeatin

④ Ethylene → Ethylene stimulates abscecion. It was demonstrated that the ethylene evolved from stored apple, it inhibited the growth of potato shoot. Ethylene used by most farmers for ripening of fruits. Ethylene is important point for aggreculture or farm work. Ethylene regulates :

(i) Stimulate flower opening
(ii) Regulate ripening of climateric fruit
(iii) stimulate leaf senescene.

⑤ Abscic Acid → It is natural growth inhibitor. Unlike the other, it does not stimulate but it helps in inhibition. From different disorder caused by early fertilization, the absisic acid helps to avoid such condition. Absisic acid helps in :

(i) Delay germination
(ii) Inhibit the elongation
(iii) Can reverse the effect of growth hormone.
(iv) Prolong seed dormanancy.



Absisic Acid.

These all points must be considered during cultivation and collection to get higher yield.

Name: Sayali Surykant Patil

Roll no: 79

Higher Achiever

Assignment no. 1

Unit - 1 (Marks - 14)

Q A herbal formulation manufacturer ordered crude drugs from a supplier. Manufacturer is having doubt about quality of drugs supplied. What manufacturer should do to get ensure about quality of crude drugs.

→ If manufacture have doubt about quality of drug so he should definately go for equality control test of crude in which he can evaluate quality of drug

- There are total six methods of drug evaluation

1) Organoleptic evaluation
2) Microscopical evaluation
3) Physical evaluation
4) Chemical evalution
5) Analytical evaluation
6) Biological evaluation

1) Organoleptic evolution :-

i) This refers to the drug evalution by means of organs of sense and includes other sensory organs like color, odour, taste, size, shape & texture

ii) It includes the study of morphology and other sensory characters

e.g.

1) Brown colour of cinnamon.

2) odour :- Aromatic odour of umbelliferous fruits

3) Taste :- Sweet taste Liquorice

4) Shape :- Wavy shape of Rauwolfia

5) Size :- 7 to 8 mm width & 25 to 60 mm length of senna leaf

2) Microscopic evaluation :-

- This evaluation gives information about anatomy & histology of crude drugs.
- This method can be used to identify the organised drug in powdered form by their histological characters
- Various reagents like chloral hydrate conc. HCl, glycerin and stain like phloroglucinol for identification of lignified cell can be used to differentiate cellular structure.
- The elements such as stomata, trichomes, vessels, fibres, stone cells, starch grain, calcium oxalate crystals are present in powdered form and used in microscopic identification of crude drugs.

Stomata :-

- These are minute epidermal opening present in the aerial part of the leaves.
- Particular type of stomata present in particular plant for example paracytic stomata found in senna leaf so it will be helpful parameter for drug evaluation.

Trichomes :-

- Trichomes are hair like components, found on the epidermis of several type of plant.
- Types
  1) Covering trichomes - Senna, Tea.
  2) Glandular trichomes - Vasaka, piper
  3) Hydathodes - piper betal.

Calcium oxalate crystals :-

Which type of calcium oxalate crystal found in crude drug also help in distinguishment of drug

Types :-

1) Prism - clove, liquorice
2) Rosette - Arjuna
3) Acicular - Cinnamon, Ipecac.

Date: YOUVA

Leaf constants :-

1) Stomatal Index :- It is the percentage of the number of stomata formed by the total no. of epidermal cells, including the stomata, each stomata being counted as one cell.

$$\text{Stomatal Index} = \frac{S \times 100}{S + E}$$

Where,

S = no. of stomata in a given area of leaf.

E = no. of epidermal cells in the same area of leaf.

2) Stomatal Number :-

It can be defined as the averag no of stomata per square mm area of epidermis cell.

e.g 1) Atropa belladona -

Upper epidermis :- 7 - 10

lower epidermis :- 97 - 115.

2) Datura metal -

Upper epidermis :- 147 - 160

lower epidermis :- 200 - 209

3) Palisade ratio :-
It is average no. of palisade cells under one epidermal cell.
eg 1) Atropa belladona :- 05 - 10
2) lower (senna) Digitalis lanata :- 2.5 - 6.5

4) Vein - islet number
It is defined as the number of vein - islet per sq. mm of leaf surface
eg Andrographis paniculata → 19 - 12
2) Cannabis sativa → 18 - 243.

5) leaf termination number :-
It is defined as the number of veinlet terminations per sq. mm of the leaf surface betn midrib and margin

6) Lycopodium spore medium :-
- Detection of adulterant
- Determination of % purity of drugs.
- Determination of foreign organic matter.

$$\% \text{ Purity} = \frac{N \times W \times 94000 \times 100}{S \times M \times P}$$

N = no. of starch grain
W = Wt.
S = No of lycopodium spore

P = constant

M = Mass of spore.

3) Microscopic physical evaluation :-

1) Foreign material :- like foreign organic matter microbial contamination moisture content

FOM :- Curcumin = not more than 2%

Neem :- not more than 11.5%.

Moisture content :-

Senna leaf :- More than 10% w/w

Digitalis :- not more than 5% w/w

Aloe :- not more than 10% w/w

2) Melting point :-

Cocoa butter :- 30-35°C

Wool Fat :- 34-44°C

3) Ash Values :-

1) Total Ash Value

2) Acid-insoluble ash :

3) Water insoluble ash.

4) Refractive Index :-

Clove oil :- 1.53 to 1.531 at 20°C

Castor oil :- to 1.479 at 20°

5) Swelling Index :-

Isphagula :- minimum g.

4) Chemical evaluation :-

1) Methods to evaluate crude drugs instrumentally :-

i) Calorimetric Method

ii) Photometric method

iii) flourimetric Method

iv) Grovimetric Method

v) Volumetric method

2) Chemical constant tests :-

- Saponification value → castor oil :- 176-187
- Acid Value → castor oil - 1.4
- Iodine Value → castor oil - 82-90

5) Analytical evaluation :-

In this method various chromatographic as well as spectroscopic methods are used like

a) Gas chromatography

b) High performance liquid chromatography (HPLC).

c) Infra-red Spectroscopy (IR)

d) Mass Spectroscopy.

Date: YOUVA

6) Biological evaluation :-
This method is carried out when the drugs are not evaluated by any other methods or chemical nature of the drug is unknown or drugs which have different chemical composition but same biological activity

Significance :-
1) This method is used when the standardization is not done by physical or chemical method.
2) This method is performed on living animals

Seen
28/03/2022

M T W T F S S

Page No.: YOUVA

Date:

Assignment no. 2

—: Higher Achiever :— (Marks - 13)

Q. A farmer is planning to cultivate medicinal plants in his farms. Explain which factors / points he must consider during cultivation and collection to get higher yield.

→

To cultivate medicinal plant, a farmer must consider following factors in order to get better yield:—

1) Altitude :— It is a height from sea level.
e.g Tea, cinchona need high altitude (1000 – 2000 m) while cinnamon, cardamon (500 – 1000 m) senna can be cultivated at sea-level.

2) Light :— It influences photosynthesis, opening & closing of stomata, flowering etc

3) Temperature :— It affects the growth of plants
e.g Cinchona - 60 - 75 °F
Coffee - 55 - 70 °F
Tea - 70 - 90 °F

4) Humidity :- Also affects of cultivati of plants eg saffron need only cold climate

5) Rainfall :- Majority of plants need sufficient amount of rainfall for the growth. But some plants required less such as aloe, acacia etc.

6) Soil :- It is most important natural resource as it provides mechanical support, water and essential food / nutrients for the development of plants.

7) Soil Fertility :- The capacity of soil to supply & provide suitable medium for plant growth

8) Fertilizers :- The fertilizers are added to the soil to supply nutrients for the growth of plant.
- chemical Fertilizers :- Urea, NH_4SO_4 ammonium sulphate
- M - animal faeces, cow dung etc.

- Biofertilizer :- Rhizobium, blue green algae etc.

g) Pest and Pest control :- Pest cause great damage to plants and it affect on yield
- So to get the best quality of plant product it is very necessary to control the pests.
- Pest control methods :-
i) Mechanical method
ii) Agricultural method
iii) Biological method
iv) Chemical method

Additional info regarding methods of cultivation
- Types / methods of cultivation
- Polyploidy / mut. / Hybridization
- Use of PGR

Please also think on this.

Seen below

A Farmer must aware about following methods of cultivation:
1) Sexual method
2) Asexual method

1) Sexual method (seed propagation)
In this method, plants are raised by propagating the seeds

condition for seed propagation:
- Seeds must be of good quality
- They should be free from insects & microbes.
- They should have high germination rate
- Soaking of seed in water for 24 hrs or 0.2% soln of gibberellic acid for 24 hrs increases germination rate.

Methods for seed propagation
1) Broad casting method :—
In this method, small seeds are scattered on the area of cultivation.
e.g Isabagol, linseed etc
2) Dibbling method :— Average size seeds are sown in a hole
e.g papaya seeds, castor seeds.
3) Micellaneous method :—
cultivation takes place on nersery beds
e.g cinchona, cardamon.

Seedless varieties of fruits can be propagated by Asexual propagation method

Asexual Method :—

- Also known as Vegetative propagation In this vegetative part
- In this vegetative part is detached from the body of mother plant & this detached part grows up into a new independent plant under suitable conditions.

Methods For Asexual propagation :—

1) Cutting :— Stem & root cutting are taken from plants & put ~~the~~ into moist soil where they strike root at the base and grows into new plant
e.g lemon, Sugarcane

2) layering :— The stem branch which is to form a new plant remain attached to parent plant. It is pegged down so that part of it lie along the ground and Form, these horizontal pieces are covered with soil & when it is well rooted, the branch can be removed & planted elsewhere
e.g rose.

2) Grafting :— Two cut surfaces of different but closely related plants are placed so as to unite & grow together.
e.g Mango, rose, pear, lemon

3) Budding :—
It is same as a grafting but in which single bud from the desired scion is used rather than entire scion. Bud & stock grow together after about 15-20 days and bud has become a part of the new plant.
e.g Apples, pears

If Farmer want good quality drug & high yield he must go through following modern technologies
a) Mutation :- The process of exposing seeds to chemicals, radiation or enzymes in order to generate mutants with desirable traits
b) Polyploidy :— The heritable condition of possessing more than two complete set of chromosome. Polyploidy helps in formation of new species, adaptability

to various habitats

c) Hybridization :- The mating or crossing of two plants or line of dissimilar genotype is known as hybridization. In plants, crossing is done by placing pollen grain from one genotype i.e male parent on the stigma of flowers of other genotype i.e female parent.

d) Using plant growth regulators →
a) Auxins
b) Gibberellins
c) Cytokinins
d) Ethylene
e) Abscisic acid.

} → plant Growth Inhibitors

Annasaheb Dange College of B Pharmacy, Ashta

Assignment No: 01

Class: First Year B. Pharmacy, Sem II **Subject:** Pathophysiology

Date of activity: Thursday, 12/05/2022 **Date of Submission:** Tuesday, 17/05/2022

Name of Unit: Introduction to Pathophysiology and Homeostasis

1) Introduction to Pathophysiology and Homeostasis
2) Basic principles of cell injury and adaptation.
3) Basic mechanisms involved in the process of inflammation and repair.

High Achiever (Marks 14-20)

Que. No. 1 Explain the pathogenesis of acute inflammation.

Que. No. 2 Hypoxia and ischemia induces cell injury. Justify the statement.

Que. No. 3 Differentiate between healing of wound by primary union & secondary union.

Que. No. 4 In 42 years old male patient, the liver is enlarged with a tense, glistening capsule and rounded margins. The cut surface bulged slightly and is pale-yellow to yellow and is greasy to touch. Microscopic changes observed are numerous lipid vacuoles in the cytoplasm of hepatocytes.

A) What are these changes?

B) Explain how it has been occurred?

Medium Achiever (Marks 08-13)

Que. No. 1 Explain with suitable example how positive feedback system operates.

Que. No. 2 Mitochondrial damage produces cell Injury. Justify the statement.

Que. No. 3 Describe the morphological changes of irreversible cell injury?

Que. No. 4 After stroking with blunt point on skin, a red line surrounded by bright reddish color is appeared. This was followed by oedema of the surrounding skin.

A) What these changes are?

B) Explain how these changes are occurred.

Low Achiever (Marks 00-07)

Que. No. 1 Describe the feedback system.

Que. No. 2 Write a note on intracellular accumulation.

Que. No. 3 Explain the cellular adaptation and its form.

Que. No. 4 Discuss the different chemical mediators of inflammation.

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Annasaheb Dange College of B Pharmacy, Ashta

Assignment No: 02

Class: First Year B. Pharmacy, Sem II **Subject: Pathophysiology**

Date of activity: Saturday, 04/06/2022 **Date of Submission:** Friday, 10/06/2022

Name of Unit: II **Pathophysiology of CVS, Respiratory & Renal Diseases.**

Note: Solve the assignment as per the marks scored in Formative Assessment No: II

0-7 Marks: Low Achiever 8-14: Medium Achiever 15-20: High Achiever

Low Achiever

Que. No. 1 Explain the pathogenesis of hypertension.

Que. No. 2 Describe CRF.

Que. No. 3 Give the signs and symptoms of chronic bronchitis.

Que. No. 4 Discuss the megaloblastic anemia.

Medium Achiever

Que. No. 1 Differentiate between Thalasemia & Sickle cell anemia.

Que. No. 2 Discuss the pathophysiology of Asthma.

Que. No. 3 What are the complications of MI?

Que. No. 4 Differentiate between ARF & CRF.

High Achiever

Que. No. 1 Explain the pathophysiology of atherosclerosis.

Que. No. 2 How ARF occurs?

Que. No. 3 In Mr. Ramesh having 50 years old age, the lungs are overdistended due to over-inflation. The cut surface showed characteristic occlusion of the bronchi and bronchioles by viscid mucus plugs. The mucus plugs contained degenerated respiratory epithelium & formed twisted strips. Numerous eosinophils and diamond-shaped crystals derived from eosinophils were observed in the sputum. There was hypertrophy of submucosal glands as well as of the bronchial smooth muscle.

A) Mr. Ramesh is suffering from which disease?

B) What are the causes of that disease?

C) Give the clinical features of above diseases.

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Que. No. 4 A 60 years old male person got mild heart attack.

A) How will you diagnose it?

B) What are the first aid measures to be given to patient?

C) How you will guide patient to prevent further complications & attack?

19-5-22

Assignment No - 1

1) Explain the pathogenesis of acute inflammation.

Pathogenesis of acute inflammation involve events.

I) ~~Vessel~~ Vascular events

i) Haemodynamic changes

ii) Changes in vascular permeability.

I) Vascular Events

Alteration in the microvasculature (arterioles, capillarlies and venules) is the earliest response to tissue injury.

1) Heamodynamic changes

- The earliest features of inflammatory response result from changes in the vascular flow and calibre of small blood vessel in the injured tissue
- The sequence of these changes is as under

A) Transcent vasoconstriction of arterioles.

① Immediate vascular response is of transient vasoconstriction of arterioles.

② With mild form of injury the blood flow may be re-established in 3-5 seconds while with more severe injury the vasoconstrition may last for 5 minutes.

Transient vasoconstriction of arterioles → persistent progressive vasodilation - Elevate the local hydrostatic pressure → slowing or stasis of microcirculation → leucocytic margination.

B) Persistent Progressive vasodilation

- Perisistent progressive vasodilation involves mainly the arterioles, but to a lesser extent, affect venules and capillarlies.
- This change occured within half an hour of injury.
- vasodilation result in increased blood volume in microvoscular bed of the area, which is responsible for redness and warmth at the site of acute inflammation.

c) Elevate the local hydrostic pressure.

- progressive vasodilation, may elevate the local hydrostic pressure resulting in transadulion of fluid into the extracellular space.
- This is responsible for swelling at the local side of acute inflammation.

D) Slowing or stasis of microcirculation.

- slowing or stasis of microcirculation causes increased conc. of red cells. and thus raised blood viscosity.

E) Leucocytic Margination -

- Stasis or slowing is ft followed by leucocytic margination or peripheral orientation of leucocytes (mainly neutrophils) along the vascular endothelium.
- This process is known as emigration.

2) Changes in vascular permeability.

- In and around the inflamed tissue, there is accumulation of oedema fluid in the interstitial compartment.

fluid e comes from blood plasma by its escape through the endothelial wall of peripheral vascular bed.

- The acute inflammation normally non-permeable endothelial layer of microvasculature becomes leak. The mechanisms responsible are.

i) contraction of endothelial cells.
ii) Retraction of endothelial cells.
iii) Direct injury to endothelial cells.
iv) Endothelial injury medioted by leucocytes.
v) Leakiness in neovascularisation.

II) Cellular Events.

The cellular phase of inflammation of two proces.

① Exudation of leucocytes.
② Phagocytosis.

① Exudation of leucocytes -

- The escape of leucocytes from the lumen of microvasculature to the interstitial tissue is the most important feature of inflammatory response.
- In acute inflammation, polymorphonuclear neutrophils (PMNs) comprise the first line of body defense, followed later by monocytes and macrophages.
- The changes leading to migration of leucocytes are as follows
  - Rolling and adhesion
  - Emigration
  - Chemotaxis

② Phagocytosis -

- phagocytosis is defined as the process of engulfment of solid particulate material by the cells.
- The cells performing this function are called Phagocytes

There are two main type of phagocytic cells.

① Polymorphonuclear neutrophils (PMNs) which appear early in acute inflammatory response Sometimes called as microphages.

(ii) Circulating monocytes and fixed tissue mononuclear phagocytes and, commonly called as macrophage.

- Neutrophils and macrophages on reaching the tissue spaces produce several proteolytic enzymes lysozyme, protease, collagenase, elastase lipase, proteinase, gelatase and acid hydrolases.

A) Recognition and Attachment.

B) Engulfment

C) Killing and Degradation.

Q.2 Hypoxia and ischemia induces cell injury. Justify the statement.

Cells of different tissues essentially require oxygen to generate energy and perform metabolic functions. Deficiency of oxygen or hypoxia results in failure to carry out their activities by the cells. Hypoxia is the most common cause of cell injury. Hypoxia may result from following two pathways.

- The most common mechanism of hypoxia cell injury is by reduced blood supply do the cells due to interruption i.e ischaemia.
- Hypoxia may also result from impaired blood supply from cause other than interruption. eg. disorders of oxygen - carry RBCs (eg anemia, carbon

monoxide poisoning), heart diseases, lung disease and increased demand of tissue.

Q.3 Differentiate between healing of wound by primary union and secondary union.

- Healing of skin wounds involves combination of regeneration and repair.

① Healing by first intention (primary union)

- This is defined as healing of a wound which has the following characteristics.

(i) Clean and uninfected.
(ii) Surgically incised
(iii) without much loss of cells and tissue
(iv) Edges of wound are approximated by surgical sutures.

The sequence of events in primary union is as below.

A) Initial haemorrhage
B) Epithelial changes
C) Acute inflammatory response
D) Organization.
E) Suture tracts.

② Healing by second Intention (secondary union)

- This is defined as healing of a wound having the following characteristics

(i) Open with a large tissue defect at times infected.

(ii) having extensive loss of cells and tissue and

(iii) The wound is not approximated by surgical sutures but is left open.

- Hence healing takes place from the base upward as well as from the margins inwards.

- The healing by second intention is a slow and result in a large at times ugly, scar as compared to rapid healing and neat scar of primary union.

- The sequence of events in secondary union.

A) Initial haemorrhage.

B) Inflammatory phase.

C) Epithelial changes.

D) Granulation tissue.

Q.4 In 42 years old male patient, the liver is enlarged with a tense, glistening capsule and rounded magins. The cut surface sulged slightly and is pale yellow to yellow and is greasy to touch, microscopic changes observed are numerous lipid vacuoles in the cytoplasm of hepatocytes.

A) What are these changes?

→ Fatty change, steatosis or fatty metamorp
is the intracellular accumulation of neutral fa
within parenchymal cells, fatty change
is particularly common in the liver but
may occur in other non-fatty tissue
as well as.

e.g - In the heart, skeletal muscle, kidneys
and other organs.

1. Cond^n with excess fat

These are condition in which the capacity
of the liver to metabolisms fat is exceeded

eg - ① Obesity
② Diabetes mellitus

2. Liver cell damage

These are conditions in which fat can
not be metabolised due to liver cell injury

① Alcoholic liver disease
② Starvation
③ Protein caloric malnutrition
④ Chronic ~~HH~~ illness
⑤ Hypoxia
⑥ Hepato toxins
⑦ Drug induced lived cell injury.

B) Explain how it has been occured?

→ - Hepatitis is an information of the liver, Alcohol consumption, several health conditions and some medications can all cause the condition.

- However viral infection are the most common causes of hepatitis.

- These include autoimmune hapatitis and hepatitis that occur's as a secondary result of medications drugs, toxins and alcohol.

- Autoimmune hepatities is a disease that occurs when your body makes antibodies against your liver tissue.

- The five main classification of hepatitis are hepatitis A, B, C, D, E. A different virus is responsible for each type of viral hepatitis.

1915

Annasaheb Dange College Of B. Pharmacy
ASHTA
416 301

Date 18/05/2022

Assignment No. 01

Q.1) Explain the pathogenesis of acute inflammation

→ – It is of short duration lasts for 2 weeks.
– It is usually followed by healing.

Pathogenesis –
i) Vascular events
ii) Cellular events
iii) Role of chemical mediators & Regulators.

I) Vascular Events :–
a) Haemodynamic changes
b) Altered vascular permeability

• Alteration in the microvasculature (Arterioles, capillaries & venules) is the earliest response to tissue injury.
It consist of :–
a) Haemodynamic changes &
b) Altered vascular permeability

a) Haemodynamic changes –
Changes in vascular flow is the haemodynamic change. It is followed by the following sequence →
a) Transient Vasoconstriction – It is initial vascular response which occurs when there is cell injury.
Initially –
When mild form of injury, constriction of arterioles occurs for 3–5 sec.
When severe form of injury, constriction lasts for 5 min.
It is followed by –

B) Persistent progressive vasodilation –
– It occurs in mainly arterioles.
– occurs within ½ hr of injury.
– Vasodilation of arterioles results in increased volume of blood in the arterioles & it accumulates results in redness & warmth at site of injury.

C) Elevation of local Hydrostatic pressure :–
– Increased volume of blood due to progressive vasodilation increases the local hydrostatic pressure at the site of injury.
– Results in exudation of fluid into the extracellular space & acute inflammation at site of injury.

D) Slowing or stasis :–
Slowing or stasis of blood increases the concentration of red blood cells & increases the viscosity of blood due to exudation of fluid into extracellular fluid (space).

E) Leucocyte margination :–
Slowing or stasis of microcirculation is followed by peripheral orientation of leucocytes.

The leucocytes starts to migrate towards vascular endothelial cells where they sticks & migrate through gaps bet^n endothelial cell into extracellular space called as Emigration.

B) ⁂ Altered vascular permeability:-
Normally, endothelial layer of microvasculature is non-permeable but in acute inflammation it is leaky due to-

-i) Contraction of endothelial cells-
Generally, microvasculature are lined by endothelial cells.
When endothelial cells undergo temperory contraction forms the gaps bet^n endothelial cells results in leakage of fluid through gaps into extracellular space.

ii) Contraction or mild endothelial damage:-
In acute inflammation, there is structural reorganisation of endothelial cells, that may result in damage to endothelial cells. Which increases vascular permeability.

iii) Direct injury to endothelial cells:-
Direct injury to endothelial cells undergoes cell necrosis of endothelial cells. The gaps formed at detached cell.
The process of thrombosis involving platelets & fibrin is initiated at site of damaged endothelial cells.

iv) Leucocyte-mediated endothelial injury:-
- Leucocyte adherence to endothelium results in activation of leucocytes at site of inflammation.
- Activated leucocytes releases proteolytic enzymes & toxins, which directly injures endothelial cells & microvasculature become leaky.

v) Leakiness of Neovasculature:-
The newly formed capillaries under vascular endothelial growth factor (VEGF) during process of repair & tumor.
These capillaries are more leaky & it increases the vascular permeability.

II) Cellular Events:- It consist of two processes
1) Exudation of leucocytes-
The escape of leucocyte from microvasculature into interstitial fluid is important feature of inflammation.
In acute inflammation, the polymorphones clear neutrophils, followed by monocytes & macrophages.
The changes leading to migration of leucocytes are-
A) Changes in formed elements of blood:-
In early stage, due to increased

blood volume, plasma fluid exudate into extracellular space.

Due to this, there is slowing or stasis of blood flow.

These changes the axial flow of blood in the microcirculation.

The central cells stream becomes wider & peripheral plasma streams becomes narrower. Because of this, neutrophils of central column comes close to vessel wall called as a pavementing.

B) Rolling & adhesion:-

Peripherally marginated & pavemented neutrophils rolling over to endothelial cells which lies the vesselwall.

Followed by transient ~~bond~~ bond formation beth neutrophils & endothelial cells called as adhesion phase. Adhesion phase is complished by selectins (eg. P-selection, E-selection, L-selection, Integrins causes the rolling & adhesion phases.

C) Emigration:-

After the adhesion of neutrophils to endothelial cells, these neutrophils move along endothelial surface & finds suitable site beth endothelial cells.

Then these neutrophils cross the endothelial surface by damaging these cells by secreting collagen & escape out into extracellular space called emigration.

Along with emigration of ~~e~~ neutrophils red blood cells also escape out into extracellular space which results in hemorrhagic appearance to inflammed area.

D) Chemotaxis:-

The transmigration of leucocytes after crossing barriers of endothelium, basement membrane, perivascular myofibroblasts & matrix to the interstitial tissues called as chemotaxis. reach

This is mediated by chemotactic agents such as Leukotrine B_4, cytokines.

2) Phagocytosis:-

- Phagocytosis is defined as process of engulfment of solid particulate material by cells.
- It is called as cell eating.

e.g. Polymorphonuclear neutrophils.

Circulating monocytes & fixed tissue mononuclear phagocytes called as macrophages.

* Steps involved in phagocytosis are-

1) Recognition & attachment:-

Cell surface receptors on macrophages

e.g. mannose receptor & Scavenger receptor recognize micro-organism.

Specific proteins from the serum- 'Opsonins' forms the coating around the micro-organism. This process is called as Opsonisation.

Opsonins establish bond betⁿ bacteria & cell membrane of phagocytic cells- Opsonized particle/ microbe is now ready to engulf.

2) Engulfment:-

Activation of actin filament beneath cell wall forms cytoplasmic pseudopods around particle.

These pseudopods engulf microbe/ particle in a phagocytic vacuole.

Plasma membrane enclosing the particle/ microbe breaks from cell membrane.

Non-membrane lined phagocytic vacuole for phagocytosis some becomes internalised in the cell & lies free in the cell cytoplasm. Then phagosome fuses with one or more lysosomes of the cell & form bigger vacuole called phagolysosome.

3) Killing & degradation:-

- Engulfed bacteria/microbes are now killed & degraded.
- Following mechanisms are involved-

i) Oxidative bactericidal mechanisms by O_2 free radicals.
ii) Oxidative bactericidal mechanism by lysosomal granules.
iii) Non-oxidative bactericidal mechanism.
iv) Protein lysis outside the cell.
v) Immune-mediated lysis of microbes takes place outside the cells.

Q.2) Hypoxia & ischemia induces cell injury. Justify the statement.

→ i) Ischemia & hypoxia are the most common forms of cell injury.
- They have following mechanisms-

I) Reversible cell injury-
- The ischamia and hypoxia is of short duration. this occurs if extreme stress persists and the cell is unable to adapt to overcome the stress & this effects may be reversible on rapid restoration of circulation.
- The sequential biochemical & ultrastructural change in reversible cell injury are as follows-

i) Decreased generation of cellular ATP/ depletion of ATP:-
i) Main cause of necrotic cell death is depletion in ATP.
ii) ATP depletion & decreased ATP synthesis

are frequently associated with hypoxia & chemical injury.

iii) ATP in human cells is derived from 2 sources –

a) Aerobic respiration or oxidative phosphorylation in mitochondria.

b) Anaerobic respiration in which ATP is generated from glucose / glycogen in absence of oxygen.

iv) Depletion of ATP to 5% to 10% of normal levels produces following effects on cellular system –

2) Intracellular Lactic Acidosis / Nuclear Clumping :–

– Due to low oxygen supply to the cells the aerobic respiration by mitochondria falls or loses their ability to produce energy.

– Then anaerobic respiration starts to meet the requirement of energy i.e. ATP.

– This ~~nee~~ results in rapid depletion of glycogen & accumulation of lactic acid.

– Lactic acid lowers the intracellular pH.

– This results in fall in intracellular pH results in clumping of Nuclear chromatin.

3) Damage to the plasma membrane pumps –

– Due to lack of ATP, interferes in the generation of phospholipids from cellular fatty acids.

– That results in decreased continuous repairs of membranes.

– which results in damage to –

i) $Na^+ - K^+$ ATPase pump

ii) Calcium pump failure.

– i) $Na^+ - K^+$ pump :– present

Normally, Na^+ ion out of the cell & K^+ ion is present ~~Press~~ inside of the cell.

Damage to $Na^+ - K^+$ pump interferes with membrane regulated process results in intracellular accumulation of Na^+ & diffusion of K^+ out of cells.

Accumulation of Na^+ in the cell leads to increase in intracellular water to maintain iso-osmotic condition.

Results in hydropic swelling & dilation of ER.

ii) Failure of Calcium pump :–

Interferes with membrane regulated process / membrane ~~re~~ damage which cause leads to disturbance in calcium ion exchange across cell membrane.

So, excess of Ca^{++} moves into the cell i.e. in mitochondria which causes swelling of cell & deposition of phospholipid rich amorphous densities.

Reduced protein synthesis:-
- Continued hypoxia leads in swelling of endoplasmic reticulum & golgi apparatus
- The ribosome detaches from RER & polysomes are degraded to monosomes.
- Ribosomes dispersed in cytoplasm & inactivates their function.
- And also ~~or~~ reduces protein synthesis which occurs in golgi apparatus.

1) Irriversible damage:-
- As a result of continued hypoxia, large cytosolic influx of Ca^{++} ions occurs.
- Excess of intracellular Ca^{++} collects in mitochondria & disables its function.
- This results in vacuoles in mitochondria & deposits of amorphous Ca^{++} salts in mitochondrial matrix.
- Damage to mitochondria may results in-
i) Failure of oxidative phosphorylation & progressive depletion of ATP which results in necrosis of cells.
ii) Abnormal oxidative phosphorylation also leads to formation of reactive oxygen species.
iii) Increased permeability of outer mito-chondrial membrane may result [illegible] of cytochrome & proteins [illegible] apoptic pathways.

2) Damage to cell membrane:-
- ATP depletion, calcium-mediated activation of phospholipases, various bacterial toxins, viral proteins, various chemicals & physical agent may damage to plasma membrane.

- Following mechanism contribute to membrane damage-
A) Increased influx of calcium in the cell activates endogenous phospholipases:-
This phospholipase degrade the membrane phospholipid which are the main constituent of lipid bilayers.
The breakdown of phospholipids leads to accumulation of lipid breakdown products which have detergent effection membrane & also changes permeability & electrophysiolog properties.

B) Decreased phospholipid synthesis:-
Due to defective mitochondrial function or hypoxia, the production of phospholipids in cells may be reduced.
Decreased phospholipid synthesis may affect all cellular membrane because phospholipids are main constituents of lipid bilayer of membrane ~~because these are no~~

c) Cytoskeleton Damage:-
Increased cytosolic calcium activates proteases which degrades or damages cytoskeleton of cell.
Cell swelling also damages cytoskeleton.

3) Nuclear Damage:-
- DNA or nucleoproteins are damaged by activated lysosomal enzymes- proteases, endonucleases, etc.
- Damage to nucleus can be -
i) Pyknosis:- Condensation & clumping of nucleus, which becomes dark basophilic.
ii) Karyonexis:- Nuclear fragmentation into small bits dispersed in cytoplasm.
iii) Karyolysis:- Dissolution of nucleus-
- The damaged DNA activates pro-apoptic proteins that leads to cell death.
- Also inappropriate folding of proteins may results in apoptosis & cell death.

Q.3) Differentiate between healing of wound by primary & secondary union.

→

	Primary Union	Secondary union.
1)	This is defined as healing of wound which has been characteristics are-	This is defined as healing of a wound having characteristics are-
a)	Clean & uninfected	a) open with a large tissue defect, at
b)	Surgically incised	b) times infected.
c)	Without much loss of cells & tissue; &	b) having extensive loss of cells & tissue
d)	edges of wound are approximated by surgical sutures.	e) The wound is not approximated by surgical sutures but is left open.
2)	Initial haemorrhage- Immediately after injury, the space beth approximated surfaces of insised wounds is filled with blood which then clots & seals the wound.	2) Initial haemorrhage- As a result of injury, the wound space is filled with blood & fibrin clot which dries.
3)	Acute inflammatory response- This occurs within 24 hrs with appearance of polymorphs from the margins of incision. By 3rd day, polymorphs replaced by macrophages.	3) Inflammatory phase- This is an initial acute inflammatory response followed by appearance of macro- phages which clear off the debris as in primary union.

primary union	secondary union
4) Epithelial changes – The migrated epidermal cells separated the underlying viable dermis from the overlying necrotic material & clot, forming scab which is ~~&~~ cast off.	4) Epithelial changes – As in primary healing, the epidermal cells from both the margins of wound proliferate & migrate into the wound in the form of epithelial spurs till they meet in the middle in re-epithelialise the gap completely.
5) Organisation – By 3rd day, fibroblast also invade the wound area. By 5th day, new collagen fibrils short forming which dominate till healing is completely. In 4th week, the scar tissue with scanty cellular & vascular elements. A few inflammatory cells & epithelised cells are formed.	5) Wound contraction – Contraction of wound is an important process/ feature of secondary healing not seen in primary healing. Due to action of myofibroblast present in granulation tissue, the wound contracts to 1/3rd to 1/4th of its original size. – Contraction of wound occurs when active granulation tissue is being formed.

Q.54) In 42 years old male patient, the liver is enlarged with a tense, glistening capsule & rounded margins. The cut surface bulged slightly & is pale yellow & is greasy to touch. Microscopic changes observed as numerous liquid vacuoles in the cytoplasm of hepatocytes.

→ A) What are these changes?

i) An enlarged liver is a symptom of underlying disease. It could be swollen with inflammation (hepatitis) with fat or with cancer.

ii) Patients with acute viral hepatitis commonly present with symptoms such as fever, malaise, fatigue, loss of appetite, vomitting, diarrhea & abdominal pain.

iii) Patient may also report yellowish discolouration of their sclera (icterus) &/or skin (jaundice), dark coloured urine, & light coloured stools.

B) Explain how these changes formed?

→ ① Hepatitis is an inflammation of the liver, alcohol consumption, several health conditions & some medications can all cause this condition.

② However, viral infections are the most common cause of hepatitis.

③ These include auto-immune hepatitis & hepatitis that occurs as a secondary

result of medications, drugs, toxins & alcohol.

④ Auto-immune hepatitis is a disease that occurs when your body makes antibodies against your liver tissue.

⑤ The five main classification of hepatitis are hepatitis A, B, C, D, E. Different viruses are responsible for each type of viral hepatitis.

Assignment No- 2

Page No.
Date 18 06 2022

Que 1. Explain the pathophysiology of atherosclerosis.

→ Very low density lipoprotein (VLDP) is produced by the liver and is changed in LDL by means of lipoprotein Lipase. This process removes triglycerides from VLDL by hydrolysis, releasing fatty acids and leaving greater no of cholesterol thus increasing density of molecules.

The LDL crosses the epithelium and moves into the extracellular matrix where it is oxidized (by the aforementioned steps above) and forms oxidised LDL (OxLDL).

OxLDL is a cause of inflammation and signals monocyte (white blood cells) to enter the arterial wall to fix the inflammation. As monocytes enter the arterial wall, they transform into macrophages.

Since the LDL is now oxidized due to aldehyde and lipid hydroperoxidases, the modified apolipoprotein B in LDL attaches to macrophage scavenger receptor cells. At this stage, OxLDL has very high number of cholesterol and cholesterol esters, since it lost antioxidants, tryglycerides and fatty acids in previous steps. Macrophages are supposed to remove cholesterol by use of high density lipoprotein (HDL) particles but if there is too much excess cholesterol it causes the macrophage to enlarge and fill with lipids.

Eventually the macrophages build up and convert into lipid-laden foam cells (a collection of fatty materials and cholesterol) which die and become part of plaque that causes atherosclerosis.

As this process continues more and more LDL become trapped within the tunica intima (the innermost layer of the arterial wall) creating a pool of cholesterol called a fatty streak. The smooth muscle cells moves from the tunica media to the tunica intima and becomes proliferated by released cytokines with in the macrophages.

The major atherosclerosis causing plaque has a fibrous cap, which sticks out of the artery causing vasoconstriction and blocking into blood flow. ~~which is between the intima and the muscula-~~ ture of the wall.

Q2 How ARF Occurs?

→ Acute Renal Failure (ARF) is a syndrome characterised by rapid onset of renal dysfunction, chiefly oliguria or anuria and sudden increase in metabolic waste products (urea and creatinine) in the blood with consequent development of uraemia.

Etiopathogenesis -

1) Pre-renal causes -

- Pre renal disease are those which cause sudden decrease in blood flow to the nephron.
- Renal ischemia ultimately results in functional disorders or depression of GFR or both.
- These causes include inadequate cardiac output and hypovolaemia or vascular disease causing reduced perfusion of the kidneys.

2. Intra- renal causes -

- Intra-renal disease is characterised by disease of renal tissue itself
- These include vascular disease of the arteries and arterioles within the kidney, diseases of glomeruli acute tubular necrosis due to ischaemia, or the effect of nephrotoxin, acute tubulointerstitial nephritis and pyelonephritis.

3. Post- renal causes - Post- renal disease is characteristically caused by osbstruction to the flow of urine anywhere along the renal tract distal to the opening of the collecting ducts. This may be caused by a mass within lumen or form wall of the tract, - or form external compression anywhere along the lower urinary tract - ureter, bladder neck or urethra.
- It is important to note that ARF originating in pre and post- renal disease such as by renal ischaemia or renal infection, eventually leads to intra-renal disease. Thus, full-blown ARF reflects some degree of nephron damage.

Clinical features -

The Clinical features will depend to a large extent on the underlying cause of ARF.

1. Syndrome of acute nephritis -

This is most frequently associated with acute post-streptococcal glomerulonephritis and rapidly progressive glomerulonephritis. Renal dysfunction results from extensive proliferation of epithelial cells in the glomeruli with consequent mild increase in glomerular permeability and decrease in GFR. The characteristics features are :- Mild proteinuria, haematuria, oedema and mild hypertension. Fluid retension in acute nephritis syndrome appears to be due to both diminished GFR and increased salt and water reabsorption in renal nephron.

2. Syndrome accompanying tubular pathology -

When the ARF is caused by destruction of the tubular cells of the nephron, as occurs in acute tubular necrosis the disease typically progesses through 3 characteristic stages from oliguria to diuresis to recovery.

i) Oliguric phase - The initial oliguric phase lasting on an average from 7 to 10 days in characterised by urinary output of less than 400ml per day. The decline in formation of the urine leads to accumulation of waste products of protein metabolism in blood and results in azotaemia, metabolic acidosis, hyperkalaemia, hypernatraemia and hypervolemia due to secondary effects of circulatory overload and pulmonary oedema. The specific gravity of the urine is low but the concentration of sodium in urine tends to be elevated.

ii) Diuretic phase - Within the onset of healing of tubules, there is improvement in urine output. This is believed to be occur due to drawing of water and sodium by preceding high levels of creatinine and urea as they move through the nephron so as to be

excreted. Since tubular cells have not regained normal functional capacity, the urine is of low or fixed specific gravity.

iii) Phase of Recovery - Full recovery with healing of tubular epithelial cells occurs in half the cases, while others terminate in deaths. The process of healing may take up to one year with restoration of normal tubular function.

3) Pre-renal Syndrome -

- The ARF ocurring secondary to disorders in which neither the glomerulus nor the tubules are damaged results in pre-renal syndrome. Typically, this pattern is seen in marginal ischaemia cause by renal arterial obstruction, hypovolaemia, hypotension and cardiac insufficiency.

Q3. In Mr. Ramesh having 50 years old age, the lung are overdistended due to over inflation. The cut surface showed characteristic occlusion of the bronchi and brichioles by viscid mucus plugs. The mucus plugs contained degenerated respiratory epithelium & formed twisted strips. Numerous eosinophils and diamond-shaped crystals derived from eosinophils were observed in the sputum. There was hypertrophy of submucosal glands as well as of the bronchial smooth muscle.

A) Mr. Ramesh is suffering from which disease.

B) What are the causes of disease.

C) Give the clinical features of above disease.

→ A) Mr. Ramesh is suffering from bronchial asthma.

B) Causes -

1) Viral upper respiratory infections.
2) Heavy exercise.
3) Untreated conditions like rhinitis, sinusitis and gastrophageal reflux (GERD)
4) Drugs - NSAIDS such as aspirin.
5) Stress and strong emotions.
6) Mestrual cycles / hormone changes.

Environmental irritants such as -

1) Pet fur or feathers, pet urine, saliva and dander
2) House dust-mites
3) Cockroach waste and decomposed body of dead animals.
4) Perfumes, hairsprays, scented lotions and colognes.
5) Cleaning solutions, pesticides and paint fumes.

C) Clinical Features -

Asthmatic patients suffer from episodes of acute exacerbation interspersed with symptom-free periods. Characteristic clinical features are paroxysms of dyspnoea, cough and wheezing. Most attacks typically lasts for few minutes to hours. When attacks occur continuously, it may result in more serious condition like status asthmaticus. The clinical dignosis is supported by demonstration of circulation eosinophilia and sputum demonstration of curschmann's spirals and charcot-leyden crystals. Long-standing chronic cases may develope cor pulmonale.

Q4. A 60 years old male person got mild heart attack.
A) How will you diagnose it?
B) What are the First aid measures to be given to patient?
C) How you will guide patient to prevent further complications & attack?

→ A) • A Feeling of pressure, tightness, pain, squeezing or aching in the chest.
• Pain that spreads to the arms, neck, jaw or back.
• A Feeling of crushing or heaviness in the chest.
• A feeling similar to heartburn or indigestion.
• Nausea and sometimes vomiting.
• Feeling clammy and sweaty.
• Shortness of breath.

B) 1st Aid Measures-

1) Call 911 or your local emergency number.
Don't ignore the symptoms of a heart attack. If you can't get ambulance or emergency vehicle to come to you, have a nighbour or a friend drive you to the nearest hospital.

2) Chew and swallow an aspirin-
While waiting for emergency help. Aspirin helps keep your blood from clotting. When taken during heart attack, it could reduce heart damage. Don't take aspirin if you are allergic.

3) Take nitroglycerin- If prescribed. If you think you're having a heart attack and your doctor has previously prescribed nitroglycerin for you, take it as directed while waiting for emergency medical help.

4) Begin CPR if the person is unconscious- If the person isn't breathing or you don't find a pulse begin CPR to keep blood flowing after you call for emergency medical help.
Push hard and fast on the centre of the person's chest in a fairly rapid rhythm - about 100 to 120 compressions a minute.

5) If an automated external defibrillator (AED) - is immediatly available and the person is unconsious follow the device instructions for using it.

C) Prevention -

i) Follow a healthy lifestyle-
Don't smoke, maintain a healthy weight with a hearth-healthy diet. Get regular exercise and manage stress.

ii) Manage other health conditions- Certain conditions, such as high blood pressure and diabetes, can increase the risk of hearth attacks. Ask your health care provider how often you need checkups.

iii) Take medications as directed- Your health care provider may prescribe drugs to protect and improve your heart health.

RECORD of ACADEMIC ACTIVITIES MODULES

Batch ____

Roll. No	Assignments				Open Book Test		ALS	Marks Allotted Out of 03
	1	2	3	4	I	II		
01	✓	✓			✓	✓	✓	03
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07	✓	✓	✓		✓	✓	✓	03
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09	✓				✓	✓	✓	03
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11	✓						✓	02
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25	✓	✓	✓		✓	✓	✓	03
Date of Activity	12/05/2022	04/06/2022						
Submission Date	17/05/2022	10/06/2022						

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RECORD of ACADEMIC ACTIVITIES MODULES

Batch ____

Roll. No	Assignments				Open Book Test		ALS	Marks Allotted Out of 03
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49	✓	✓	✓		✓	✓	✓	03
50	✓	✓	✓		✓	✓	✓	03
Date of Activity								
Submission Date								

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RECORD of ACADEMIC ACTIVITIES MODULES

Batch _____

Roll. No	Assignments				Open Book Test		ALS	Marks Allotted Out of 03
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56	✓	✓	✓		✓	✓	✓	03
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58	✓	✓	✓		✓	✓	✓	03
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Date of Activity								
Submission Date								

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RECORD of ACADEMIC ACTIVITIES MODULES

Batch ____

Roll. No	Assignments				Open Book Test		ALS	Marks Allotted Out of 03
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63	✓	✓	✓		✓	✓	✓	03
64	✓	✓			✓	✓	✓	03
65	✓	✓			✓	✓	✓	03
[illegible]	✓	✓			✓	✓	✓	03
67	✓	✓			✓	✓	✓	03
68	✓	✓			—	—	—	01
69	✓	✓			✓	✓	✓	03
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82	✓	✓			✓	✓	✓	03
83	Ab	Ab			Ab	Ab	Ab	00
84	✓	✓	✓		✓	✓	✓	03
85	✓	✓			✓	✓	✓	03
Date of Activity								
Submission Date								

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RECORD of ACADEMIC ACTIVITIES MODULES

Batch — NA —

Roll. No	Assignments				Open Book Test		ALS	Marks Allotted Out of 03
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110	✓	✓			✓	✓	✓	03
Date of Activity								
Submission Date								

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RECORD of ACADEMIC ACTIVITIES MODULES

Batch -NA-

Roll. No	Assignments				Open Book Test			Marks Allotted Out of 03
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111	✓	✓	✓		✓	✓		
112	✓	✓			✓	✓		
113	✓	✓	✓		✓	✓		
Date of Activity								
Submission Date								

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PRINCIPAL
Annasaheb Dange College of B.Pharmacy, Ashta

OPEN BOOK TEST1

Topic: Colloidal dispersions

Books: 1. Martin's Physical Pharmacy and Pharmaceutical Sciences
2. Physical Pharmaceutics II, CVS Subrahmanyam
3. Any other books/notes relevant to syllabus

1. Enlist general characteristics of colloids.
2. Explain electrophoresis and give its applications.
3. Suspension and true solutions do not exhibit Brownian movement. Comment.
4. Explain why addition of a small amount of hydrophobic colloid to a hydrophobic colloid of opposite charge precipitates the particles?
5. A nanosuspension of Flurbiprofen in water was analysed electrophoretically at 25^0C. The migration velocity was found 0.0165 cm/sec over potential gradient 5.5 volts/cm. calculate the zeta potential of the Flurbiprofen nanosuspension.

Mr S. M. Honmane
Subject Teacher.

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ASHTA
416 301

Open Book Test -1

D D M M Y Y Y Y

Colloidal dispersion

1 Enlist general characteristics of colloids.

- colloids have particle size is about 1nm to 0.5-um range
- colloids can not resolved by ordinary microscope.
- The particle are visible in electron microscope
- The diffusion ability is very less as compared to molecules.

mainly there are three types of properties of colloids

① optical properties - 1) Faraday Tyndall effect
2) Ultra microscopy
3) Electron microscopy
4) scattering of light

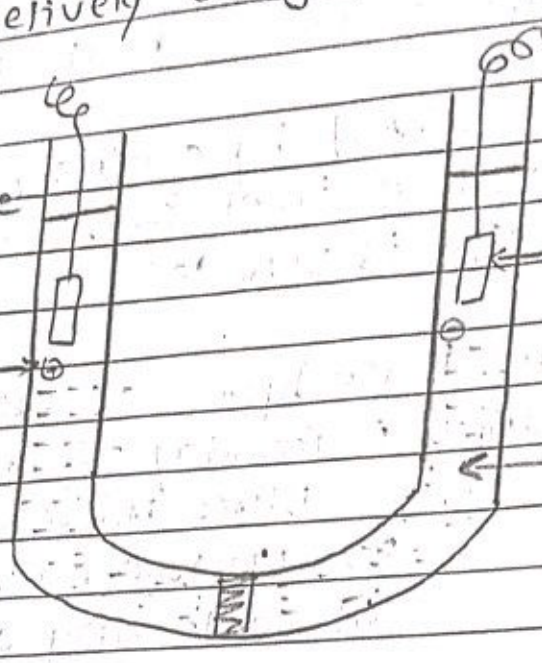
② kinetic properties - 1) Brownian motion
2) Diffusion
3) Osmotic pressure
4) Sedimentation
5) viscosity

③ Electrical properties - 1) Electrical double layer
2) Electro poresis
3) Electro osmosis
4) streaming potential
5) sedimentation potential

2. Explain electrophorasis and give its application -

It is electrokinetic phenomen which refers the motion of charged particles ~~re~~ related to the liquid under influence of an applied electric field called electrophorasis

② If an electrical potential is applied to a col the charged colloids particles move towa oppositively charged electrode



③ Negatively charged ion gets to anode and positive charged ion gets to cathode.

④ When the particles move towards one of the electrode & mobile solvent move towards the other electrode these phenomenon is termed as electrophoresis.

⑤ velocity or rate of migration increases with incre sing potential gradient

$$V \propto E$$

$$V = \xi \times E$$

$$\xi = V/E$$

where

ξ = zeta potential

• Application -

D D M M Y Y Y Y

① Electrophorasis is used to measurment of zero potential
② It is used to determine charge present on particle & gives sign of Zeta potential.

3. Suspension and true solution do not exihibit brawnian movement comment.
① Brownian motion describe the random movement of colloids due to small size less than 2 um.
② In true solution the size of particle is less than 1nm so they show brownian motion.
③ While in suspension the size of particle is some what coarse i.e more than 0.5 um so they are not able to show brownion motion they sediment rapidly.
· While preparing the suspension we use the viscosity modifier so the particle does not able to suspend uniformly in more viscous vehicle.

4) Explain while addition of a small amount of hydrophobic colloid to a hydrophobic colloid of a opposite charge precipitates the particle.
① Hydrophilic colloid is the type of lyophobic colloid i.e solvent (water) heating.
② The lyophilic colloid is thermodynamically unstable
③ The particle in such colloids are stabilized only by the presence of electric charge on their surface.
④ Hydrophobic colloids have more charge than hydrophilic
⑤ When a some or like charge comming closer it present aggrigation due to repulsive forces & thus maintains brownion motion.

⑥ While in case of oppositely charged colloid aggregate.

⑦ so, In presence of very small may become more sucephible to the precipitation of particle.

0.5 The nonsuspension of flubiprotein in water was analysed electrophoritcaly at 25°C. The migration vel^ was found to be 0.0165 cm/s over potential grade 5.5 v/cm. calculate zeta potential flubiprofen suspension

→ formula

$$\zeta = \frac{v}{\epsilon}$$

where,

ζ = Zeta potential

v = velocity

ϵ = Potential gradient

$$\zeta = \frac{v}{\epsilon}$$

$$= \frac{0.0165}{5.5}$$

$$\boxed{\zeta = 0.003 \text{ volt}}$$

The zeta potential of flubiprofen nonsuspension was found to be 0.003 volt.

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