



Dr. D. Y. Patil Pratishthan's

Dr. D. Y. PATIL COLLEGE OF PHARMACY

Dr. D. Y. Patil Educational Complex, Sector - 29, Pradhikaran, Akurdi, Pune 411 044.

Tel. : 020-27656141, Tel. Fax : 020-27656141

E-mail : info@dyppharmaakurdi.ac.in Web : www.dyppharmaakurdi.ac.in

Approved by : All India Council for Technical Education, New Delhi

Pharmacy Council of India, New Delhi. Recognized by : Government of Maharashtra

Affiliated to Savitribai Phule Pune University, Pune

Dr. Sanjay D. Patil
President

Padmashree Dr. D. Y. Patil
Founder

Shri. Satej D. Patil
Vce-President & Chairman

Dr. N. S. Vyawahare
Principal

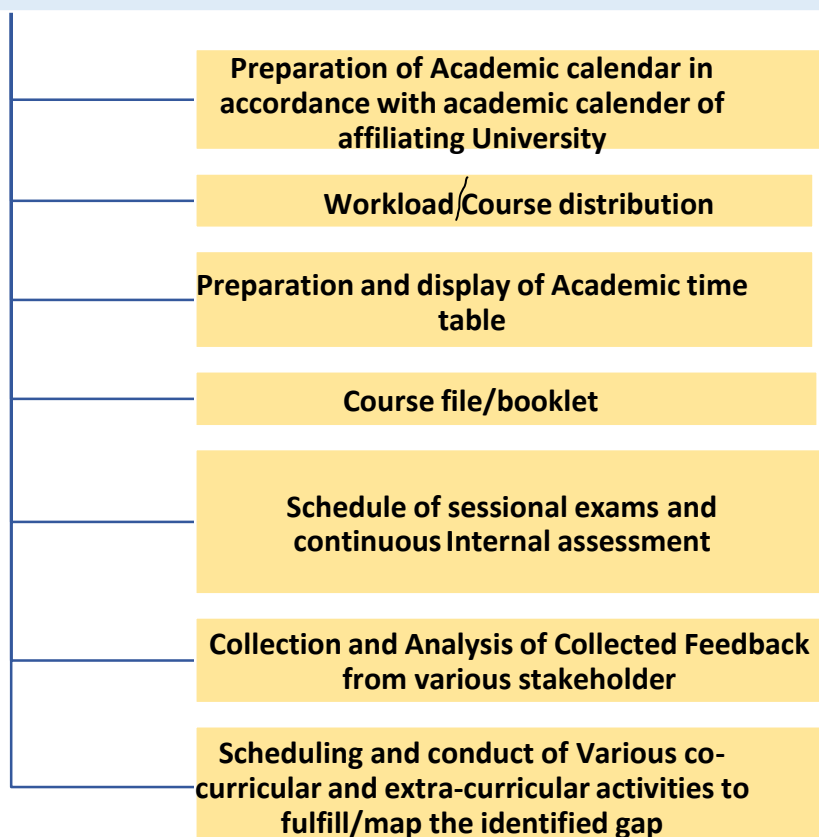
Ref. No. : DYPCOP/
Date :

1. Curricular Planning

Dr. D. Y. Patil College of Pharmacy (DYPCOP) Akurdi, currently offers B. Pharm., Pharm D., M. Pharm, D Pharm, Which are approved by pharmacy Council of India (PCI) as well as AICTE as applicable. All degree programmes are affiliated to Savitribai Phule University Pune (SPPU) and diploma programme is affiliated to Maharashtra State Board of Technical Education (MSBTE).

The Prescribed Curriculum for UG and PG is designed by PCI and implemented by SPPU and MSBTE (Diploma)

DYPCOP ensured Effective curriculum delivery through a well-regulated process and executed by Academic Monitoring Committee. This process is closely monitored and customized as per need based upon inputs from Academics, Examination section, Training and Placement cell etc.





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Date :

Criteria 1.1 Curricular Planning and Implementation

1.1.1 The Institution ensures effective curriculum planning and delivery through a well-planned and documented process including Academic calendar and conduct of continuous internal Assessment

Sr. No.	Documents	<u>2021-22</u>	<u>2020-21</u>	<u>2019-20</u>	<u>2018-19</u>	<u>2017-18</u>
1	Academic Monitoring Committee	View Document	View Document	View Document	View Document	View Document
2	University Academic Calendar	View Document	View Document	View Document	View Document	View Document
3	College Academic Calendar	View Document	View Document	View Document	View Document	View Document
4	Workload Distribution	View Document	View Document	View Document	View Document	View Document
5	Academic Time Table	View Document	View Document	View Document	View Document	View Document
6	Course Booklet/ File	View Document	View Document	View Document	View Document	View Document
7	Continuous Internal assessment	View Document	View Document	View Document	View Document	View Document

2021-2022

1. Academic Monitoring Committee

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Ref. No. : DYPCOP/
Date :

Academic Monitoring Committee

Sr. no	Members	Designation
1	Principal	Chairman
2	Academic Incharge	Member Secretary
3	Academic Coordinator	Member
4	HODs	Members
5	Class Teachers	Members
6	CEO/ Exam Incharge	Member

2. University Academic Calendar

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Savitribai Phule Pune University
(Formerly University of Pune)



Circular No. 92 of 2022

Important Notification

Revised Dates of Commencement and Conclusion of terms of U.G. / P.G. Courses for the Academic Year 2021-22 for Affiliated Colleges / Recognised Institutes.

1. The dates of commencement and conclusion of First Term and commencement of Second Term shall remain same as notified in the circular no. 134 of 2021 dated 14/05/2021 for UG/PG courses in the faculties of **Humanities, Commerce and Science**. The revised dates of conclusion of Second Term shall be **25/05/2022** for UG/PG courses in the faculties of **Humanities, Commerce and Science**. Commencement of academic year 2022-23 shall be **20/06/2022** for **Humanities, Commerce and Science** faculties.
2. The dates of commencement and conclusion of Affiliated Colleges / Recognised Institutes for the Academic year 2021-22 of all those courses whose admission was made under Common Entrance Test (CET) conducted by Government of Maharashtra shall be as under :

Sr. No.	Name of the Faculty	Name of the Courses	Year	2021 – 2022			
				First Term		Second Term	
				Commencement	Conclusion	Commencement	Conclusion
1	Commerce & Management	MBA	I	10/12/2021	18/04/2022	02/05/2022	16/08/2022
		MCA	I	10/12/2021	18/04/2022	02/05/2022	20/08/2022
		MCA	II, III	15/11/2021	03/03/2022	18/04/2022	06/08/2022
2	Science & Technology	B. Pharmacy	I	03/01/2022	30/03/2022	01/04/2022	15/06/2022
		M. Pharmacy	I	27/12/2021	30/03/2022	01/04/2022	15/06/2022
		Engineering	I	13/12/2021	06/04/2022	11/04/2022	30/07/2022
		Engineering	II	20/08/2021	11/12/2021	03/01/2022	15/05/2022
		B. Architecture	I	10/12/2021	25/03/2022	04/04/2022	23/07/2022
		M. Architecture	I	10/12/2021	31/03/2022	04/04/2022	23/07/2022
4	Inter-disciplinary Studies	Physical Education (M.P.Ed.)	I	10/01/2022	30/04/2022	02/05/2022	30/09/2022
		B. Ed. (Annual)	I	14/02/2022	-----		31/08/2022
		M. Ed.	I	10/01/2022	30/04/2022	02/05/2022	30/09/2022
		B. P. Ed.	I	14/02/2022	07/06/2022	08/06/2022	26/09/2022
		B. Lib. / M. Lib.	UG/PG	25/10/2021	21/02/2022	07/03/2022	25/06/2022
		M.A. (JMC)	I, II	11/10/2021	25/01/2022	01/02/2022	25/05/2022
		M.S.W.	PG	15/11/2021	11/03/2022	20/05/2022	30/09/2022
		M.F.A.	PG	25/10/2021	24/01/2022	03/02/2022	03/05/2022
		B.F.A.	UG	25/10/2021	21/02/2022	07/03/2022	25/06/2022

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NOTE :

1. The Principals and Teachers are requested to complete the theory and practical syllabus of current term of the academic year 2021-22 within stipulated period.
2. It is to be informed that circular issued by the University bearing no. 74 of 2022 dated 28.03.2022 stands cancelled.


Deputy Registrar
(P.G. Admission)

Ref. No.PGS/2344

Date : 30/04/2022.

Copy for favour of necessary action to :

1. The Principals of all Affiliated Colleges, Savitribai Phule Pune University, Pune.
2. The Directors of all Recognized Institutes, Savitribai Phule Pune University, Pune.

Copy for favour of information to :

1. The Members of the Management Council, Savitribai Phule Pune University, Pune.
2. The Registrar, Savitribai Phule Pune University, Pune.
3. The Deans of Faculties, Savitribai Phule Pune University, Pune.
4. The Director, Board of Examinations & Evaluation, Savitribai Phule Pune University, Pune.

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Savitribai Phule Pune University
(Formerly University of Pune)



Circular No. 278 of 2021

**Revised Dates of Commencement and Conclusion of Engineering, Architecture and
Pharmacy for the Academic Year 2021-2022
For Affiliated Colleges/Recognised Institutes**

It is hereby informed that, the revised dates of commencement and conclusion of the Courses, under the faculty of Engineering, Architecture and Pharmacy for the academic year 2021-22 shall be as under:

Name of the Faculty	Name of the Courses	Year	Revised 2021 - 2022			
			First Term		Second Term	
			Commencement	Conclusion	Commencement	Conclusion
Science & Technology	Engineering	TE, BE	02/08/2021	30/11/2021	03/01/2022	26/04/2022
	B.Architecture	III, IV & V	15/06/2021	04/12/2021	03/01/2022	30/04/2022
		II	20/08/2021	10/12/2021	03/01/2022	30/04/2022
	B. Pharmacy	III & IV	17/08/2021	18/12/2021	03/01/2022	10/05/2022
		II	23/08/2021	18/12/2021	03/01/2022	10/05/2022
	M. Pharmacy	II	23/08/2021	18/12/2021	03/01/2022	15/05/2022

NOTE

1. All Programmes shall be conducted in Online Mode until further notice.
2. In view of prevailing COVID-19 situation in the Country, Colleges/ Institutes shall required to follow the guidelines / instructions issued by the Government of Maharashtra from time to time.

Deputy Registrar
(P.G. Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 3578
Date: 29/09/2021

Copy to:

The Heads of all University Departments, Savitribai Phule Pune University, Pune.
The Principals of all Affiliated Colleges, Savitribai Phule Pune University, Pune.
The Directors of all Recognized Institutes, Savitribai Phule Pune University, Pune.

Copy to: for information

The Members of the Management Council, Savitribai Phule Pune University, Pune.
The Registrar, Savitribai Phule Pune University, Pune.
The Deans of Faculties, Savitribai Phule Pune University, Pune.

**Dr N S
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3. College Academic Calendar

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Dr.D.Y.Patil Pratishthan's
Dr.D.Y.Patil College of Pharmacy,Akurdi
Academic calender of S.Y,T.Y and Final Year B.Pharm 2021-22

	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May
1			Sunday	Ist sessional				TS				Sunday
2		Assignment of CA of each subject		exam TY	Sunday	Diwali Vacation		Sunday			Gudi padwa	
3		Sunday		Final			Term End	Assignment of CA of each subject			Sunday	
4			SPPU exam 2020-21		Ist sessional of S.Y				Guest session			
5				Sunday			Sunday		Sunday	Sunday		
6	Sunday			CA submission			PE sessions and	GPAT Discussion				Sunday
7		GPAT session		Ganesh Ch	Sunday	GPAT session		Sunday				
8							Annual Sports activities				Sunday	
9		Sunday										
10				Sunday					Preplacement session	Guest session		
11							Sunday					
12					GPAT session	Guest session	GPAT test series		Sunday	Sunday		
13	Sunday					Sunday					Ambedkar Jayanti	
14		GPAT session						Preplacement session	CA submission			
15	TS for Final and TY		Sunday	GPAT session	Dassera	CA submission					Good Friday	Sunday
16	Daily 3hrs soft skill training session		Parsi New Year	Year	Guest session			Sunday				Term End
17					Sunday						Sunday	
18		Sunday	GPAT session	Guest session								Remedial sessions
19			Moharram	Sunday	Id a Milad	Gurunanak	Sunday					
20	Sunday								Sunday	Sunday		
21		Bakeri ID				Sunday		GPAT test series			CA submission	Farewell to final year Students
22			Sunday					Guest session	Ist sessional of SY,TY and Final			Sunday
23			S.Y Term Start		Preplacement session			Sunday				
24		Guest session			Sunday	II nd sessional exam					Sunday	
25		Sunday		GPAT test series			Christmas					
26				Sunday			Sunday			Guest session		
27	Sunday				GPAT sessi				Sunday	Sunday		
28			GPAT test series			Sunday		GPAT test series				
29		Preparation in leave for SPPU exam 2020-21	Sunday									Sunday
30			Guest session		GPAT test series	Remedial sessions		Sunday			II nd Sessional of S.Y.,T.Y and Final	
31	Saturday				Sunday							
	14	20	17	25/20	18/24	19	4	25	17	27	17	12

4. Workload distribution

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Dr. D.Y. Patil Pratishthan's
Dr.D.Y.Patil College of Pharmacy, Akurdi
work Load distribution

15 Jun 2021

Name of the faculty	Class	Subject	Theory	Practical	Total load
Dr N.S Vyawahare	M.Pharm Sem-III	Journal Club	2		2
Dr Devendra Shirode	S.Y. Pharm D	Pharmacology	4		
	S.Y. Pharm D	Pharmacology (P)		6	10
Dr Ashish Kulkarni	S.Y. Pharm D	Pharmacotherapeutics (P)	4	6	10
Dr SS sadar	Final Year B.Pharm	Pharmacy Practice(T)	4		4
Dr P P Wankhede	T.Y. B. Pharm.	Pharmacology - II (T)	4		16
	T.Y. B. Pharm.	Pharmacology - II (P)		20	
Dr R S Karodi	T.Y. B. Pharm.	Pharmacology & Phytochemistry II (T)	4		16
	T.Y. B. Pharm.	Pharmacology & Phytochemistry (P)		20	
Dr S.P.Chaudhari	M.Pharm Sem-III	Journal Club	2		2
Pallavi Chaudhari	S.Y.B.Pharm	Pharm Engineering (T)	4		
	S.Y.B.Pharm	Pharm Engineering (P)		20	20
Dr Vaibhav Vaidya	S.Y.B.Pharm	Physical Pharmacy - I (T)	4		
	S.Y.B.Pharm	Physical Pharmacy - I (P)		20	20
Ms Priyatama Powar	S.Y.B.Pharm	Pharm Microbiology (T)	4		
	S.Y.B.Pharm	Pharm Microbiology (P)		20	20
Mrs Neetu Kaushal	T.Y. B. Pharm.	Industrial Pharmacy I	4	20	16
Dr Aishwarya	S.Y. Pharm D	Pharm Microbiology	3		
Uchegaonkar	S.Y. Pharm D	Pharm Microbiology (P)		6	9
	Final Year B.Pharm	Industrial Pharmacy	4		
Ms Shivani Patil	Final Year B.Pharm	NDDS (T)	4		8
Dr Sonali Mahaparale	M.Pharm Sem-III	Research Methodology	4		4
Mr.M.T.Mohite	Final Year B.Pharm	Instrumental Analysis- V (T)	4		
	Final Year B.Pharm	Instrumental Analysis- V (P)		12	16
Ms Shubhangi Daswadkar	M.Pharm Sem-III	Journal Club	2		2
Ms.Jyotsana Chopade	S.Y. Pharm D	Community Pharmacy (T)	3		3
Ms Tejashree Deokule					
Dr S.V.Pandya	M.Pharm Sem-III	Journal Club	2		2
Ms Rasika Deshpande	T.Y. B. Pharm.	Pharmaceutical Jurisprudence (T)	4		4
Ms Sarika Alhat	S.Y.B.Pharm	POC-II (T)	4		
	S.Y.B.Pharm	POC-II (P)		16	20
Mr. S.S. Kshirsagar	T.Y. B. Pharm.	Med Chemistry - II (T)	4		4
Mrs. Pooja Pawar	S.Y. D.Pharm	Pharmaceutics	3		
		Pharmaceutics (P)		12	
		Drug store and Business management	3		18
Smeeta Mankar	S.Y. D.Pharm	Pharmacology & Toxicology	3		
		Pharmacology & Toxicology (P)		9	12
		HCP	3		
	S.Y. D.Pharm	HCP(P)		9	

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Mrs Supriya Mane	S.Y. D.Pharm	Pharmaceutical Chemistry	3	15
		Pharmaceutical Chemistry (P)	9	
	S.Y. D.Pharm	Pharm Jurisprudence	3	

Chaudhari

Dr. Shilpa P. Chaudhari
Academic co-ordinator



Vyawahare

Dr.N.S.Vyawahare
Principal

PRINCIPAL
Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy
Akurdi, Pune-411 044.



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5. Academic Time Table

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Dr. D.Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy, Akurdi.

2021-22

First Year B.Pharm (13 Decmeber 2021)							
	Monday	Tuesday	Wednesday	Thrusday	Friday	Saturday	
9.00-1.00	A	Pharmaceutics-I (SN)	PIC-RM	CS (SJ)	HAP	PA-I(JRC)	Remedial Biology
	B	CS(SJ)	PA-I(JRC)	HAP	PIC-RM	Pharmaceutics-I (SN)	
	C	PIC-RM	HAP	Pharmaceutics-I (SN)	PA-I(JRC)	CS (SJ)	Remedial Biology/Maths
	D	PA-I(JRC)	Pharmaceutics-I (SN)	PIC-RM	CS (SJ)	HAP	Remedial Biology/Maths
	E	HAP	CS (SJ)	PA-I(JRC)	Pharmaceutics-I (SN)	PIC-RM	Remedial Biology/Maths
1.30-2.30	Pharmaceutics-I (SN)	PA-I(JRC)	PIC-RM	PA-I(JRC)	HAP	CS (SJ)	
2.30-3.30	PIC-RM	Pharmaceutics-I (SN)	PA-I(JRC)	Pharmaceutics-I (SN)	PA-I(JRC)	PIC-RM	
3.30-4.30	HAP	PIC-RM	Pharmaceutics-I (SN)	HAP	HAP		

Note: SN- Sarika Nikam; RM-ravina Mutha,SJ-Swati Jadhav; JRC-Jyotsna Chopade

Dr. D.Y. Patil Pratishthan's
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Second Year B.Pharm (23 August2021)							
	Monday	Tuesday	Wednesday	Thrusday	Friday	Saturday	
9.00-10.00	POC-II (SHA)	PP-I (VRV)	Pharm Eng (PMC)	POC-II (SHA)	Pharm Eng (PMC)	Pharm Micro (PVP)	
10.00-11.00	PP-I (VRV)	POC-II (SHA)	PP-I (VRV)T	PP-I (VRV)	Pharm Micro (PVP)	Pharm Micro (PVP)	
11.00-12.00	Pharm Eng (PMC)T	Pharm Eng (PMC)	POC-II (SHA)T	Pharm Micro (PVP)T	Pharm Micro (PVP)	Remedial sessions	
12.30-4.30	A	Pharm Eng (PMC)	POC-II (SHA)	PP-I (VRV)	Pharm Micro (PVP)T	Club activities(MTM)	Guest sessions
	B	POC-II (SHA)	PP-I (VRV)	Pharm Micro (PVP)		Pharm Eng (PMC)	
	C	PP-I (VRV)	Pharm Micro (PVP)	Pharm Eng (PMC)	POC-II (SHA)		
	D		Pharm Eng (PMC)	POC-II (SHA)	PP-I (VRV)	Pharm Micro (PSP)	

Note: VRV-Dr Vaibhav Vaidya; PMC- Dr Pallavi M Chaudhari; PVP-Ms Prayatama Powar; SHA- Mrs Sarika Alhat

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Third Year B.Pharm (15 June 2021)						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1.30-2.30	P Cognosy(RSK)	Jurisprudence (RPD)	IP-I(NPK)	IP-I(NPK)	P'cology-II(PPW)	P'cology-II(PPW)
2.30-3.30	Jurisprudence(RPD)	IP-I(NPK)	Jurisprudence(RPD)	P'cology-II(PPW)	Medichem-II(SSK)	Medichem-II(SSK)
3.30-4.30	P Cognosy (RSK)	IP-I(NPK)	P Cognosy(RSK)	Medichem-II (SSK)	Medichem-II(SSK)	P Cognosy(RSK)
9.00am-1.00pm	A P Cognosy (RSK) Practical	P'cology-ii(PPW) Practical	IP-I(NPK) Practical	Jurisprudence (RPD)	Language lab soft skill sessions	Tutorial /remedial Session
	B IP-I(NPK) Practical	P Cognosy(RSK) Practical	P'cology-II(PPW)Practical	P'cology-II(PPW)T		
	C P'cology-II(PPW) Practical	IP-I(NPK)Practical	P Cognosy(RSK) Practical	Tutorial /remedial Session		

Note : RSK- Dr Revan Karodi;PPw- Mr Pawan Wankhade;NPK- Mrs Neetu Kaushal; RPD- Ms Rasika deshpande

Dr. D.Y.Patil Pratishthan's
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Final Year B.Pharm (15 June 2021)						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00	Inst.Analysis (MTM)	Inst.Analysis (MTM)	Pharmacy Practice (AVK)	Inst.Analysis(MTM)	IP-II (SP)	IP-II (SP)
10.00-11.00	NDDS(SP)	NDDS(SP)	Inst.Analysis(MTM)	NDDS(SP)	Pharmacy Practice (AVK)	Soft Skill session
11.00-12.00	Pharmacy Practice (AVK)	IP-II (SP)	IP-II (SP)	Pharmacy Practice (AVK)	NDDS(SP)	
12.30-4.30	Inst.Analysis(MTM)Practical) C/Practice school for batch B and A	Inst.Analysis(MTM)Practical) A Practice school for batch B and C	Inst.Analysis(MTM)Practical) B Practice school for batch C and A	Practice school All batches	Practice school All batches	

Note: MTM- Mr Mukesh Mohite; SP-Shivani Patil; Avk- Dr Ashish Kulkarni

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Dr. D.Y. Patil Pratishthan's
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First Year B.Pharm (28March 2022)

		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.30-1.00	A	language lab	POC-I-RM	CA(SJ)	HAP-II (NS)	Biochem(JRC)	Environmental Sciences
	B	CA(SJ)	Biochem(JRC)	HAP-II (NS)	POC-I-RM	language lab	Environmental Sciences
	C	POC-I-RM	HAP-II (NS)	language lab	Biochem(SB)	CA(SJ)	Environmental sciences
	D	Biochem(JRC)	language lab	POC-I-RM	CA(SJ)	HAP-II (NS)	Computer applications
	E	HAP-II (NS)	CA(SJ)	Biochem(JRC)	language lab	POC-I-RM	
1.30-2.30		Pathophysiology(SD)	POC-I (RM)	BioChem(JRC)	HAP-II (NS)	BioChem(JRC)	Pathophysiology(SD)
2.30-3.30		POC-I (RM)	BioChem(JRC)	Pathophysiology(SD)	BioChem(JRC)	POC-I (RM)	Computer applications
3.30-4.30	A	HAP-II (NS)	Pathophysiology(SD)	HAP-II (NS)	POC-I (RM)	HAP-II (NS)	Computer applications
1.30-2.30		BioChem(JRC)	HAP-II (NS)	POC-I (RM)	POC-I (RM)	HAP-II (NS)	Pathophysiology(SD)
2.30-3.30		HAP-II (NS)	Pathophysiology(SD)	Pathophysiology(SD)	HAP-II (NS)	POC-I (RM)	Computer applications
3.30-4.30	B	Pathophysiology(SD)	POC-I (RM)	BioChem(JRC)	BioChem(JRC)	BioChem(JRC)	Computer applications

Note: JRC- Jyotsna Chopade,RM- Ravina Mutha,NS Dr Nikita saraswat,SD- Sharadha Dingre

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Dr. D. Y. Patil College of Pharmacy, Akurdi

Second Year B.Pharm (3 January 2022)

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00	Medi Chem -I (SHA)	PP-II (VRV)	Pharmacology - I (T) (SSS)	Medi Chem -I(SHA)	POC-II (RSD) T	POC-II (RSD) T
10.00-11.00	PP-II (VRV)	Medi Chem -I(SHA)	PP-II (VRV)T	POC-II (RSD)	Pharmacognosy & Pythochemistry I (T)(KUC)	Medi Chem -I(SHA) T
11.00-12.00	Pharmacology - I (T) (SSS)	Pharmacology - I (T) (SSS)	POC-II (RSD) T	Pharmacognosy & Pythochemistry I (T)(KUC)	Pharmacology - I (T) (SSS)	Pharmacognosy & Pythochemistry I (T)KUC
12.30-4.30	A Language lab	Medi Chem -I(MTM)	PP-II (VRV)	Pharmacognosy & Pythochemistry I (P)(KUC)	Pharmacology - I (T) (SSS)	Pharmacognosy & Pythochemistry I (T)KUC
	B Medi Chem -I(MTM)	PP-II (VRV)	Pharmacognosy & Pythochemistry I (P)(RSD)	Pharmacology - I (T) (SSS)	Language lab	PP-II (VRV) T
	C PP-II (VRV)	Language lab	Pharmacology - I (P) (SHD)	Medi Chem -I(SHA)	Pharmacognosy & Pythochemistry I (P)(RSD)	Club activities(MTM)
	D Pharmacognosy & Pythochemistry I (KUC)	Pharmacology - I (P) (SHD)	Language lab	PP-I (VRV)	Medi Chem -I(SHA)	Tutorial session
	E Pharmacology - I (T) (SSS)	Pharmacognosy & Pythochemistry I (P)(KUC)	Medi Chem -I(SHA)	Language lab	PP-II (SP)	

Note: VRV-Dr Vaibhav Vaidya; HA- Mrs Sarika Alhat ; SHD Shraddha Dingre; MTM-Mukesh Mohite, KUC-Kalyani Chande; SSS- Smeeta Sadar

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Dr. D. Y. PatilPratishthan's
Dr. D.Y. Patil College of Pharmacy,Akurdi

		Third Year B.Pharm (3rd January 2022)					
		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00am- 1.00pm	A	Herbal Drug Tech(RSK)	P'cology-III(PPW) Practical	Medichem-III (SSK)	Quality Assurance (T) (SVP) 9.00-10.00 pm	Pharmaceutical Biotechnology (T) 9.00-10.00	P'cology-III(PPW)T 9.00-10.00
	B	Medichem-III (SSK)	Herbal Drug Tech(RSK)	P'cology- III(PPW)Practical	Language lab session 10.00 11.00am	Pharmaceutical Biotechnology (T) 10.00-11.00	Medichem-III T(SSK) 10.00- 11.00
	C	P'cology-III(PPW) Practical	Medichem-III (SSK)	Herbal Drug Tech(NPK)	P'cology-II(PPW)T 11.00- 12.00	Quality Assurance (T) (SVP) 11.00-12.00 am	Pharmaceutical Biotechnology (T)(PG) 11.00-12.00
1.30-2.30		Quality Assurance (T) (SVP)	Quality Assurance (T) (SVP)	Biopharmaceutics & Pharmacokinetics (T) (PG)	Biopharmaceutics & Pharmacokinetics (T) (PG)	P'cology-III(PPW) T	Medichem-III T(SSK) 12.30- 1.30 pm
2.30-3.30		Biopharmaceutics & Pharmacokinetics (T) (PG)	Herbal Drug Tech(RSK)	Pharmaceutical Biotechnology (T)(PG)	P'cology-III(PPW)	Medichem-III T (SSK)	
3.30-4.30		Herbal Drug Tech(RSK)	Biopharmaceutics & Pharmacokinetics (T) (PG)	Herbal Drug Tech(RSK)	Medichem-III T (SSK)	Herbal Drug Tech(RSK)	

Note : RSK- Dr Revan Karodi;PPW- Mr Pawan Wankhade;NPK- Mrs Neetu Kaushal;SSK -Sandip Kshirsagar; SVP- Dr Sudhir Pandya

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Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy, Akurdi

Final Year B.Pharm (3rd January 2022)						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00	Cosmetic Science(NPK)	Cosmetic Science(NPK)	Social and Preventive Pharmacy (SB)	Dietary supplements and Nutraceuticals(RK)	Dietary supplements and Nutraceuticals (RK)	Pharmacovigilance
10.00-11.00	Biostatistics and Research Methodology(SB)	Biostatistics and Research Methodology(SB)	Biostatistics and Research Methodology(SB)	Dietary supplements and Nutraceuticals (RK)		Pharmacovigilance
11.00-12.00	Social and Preventive Pharmacy (SB)	Social and Preventive Pharmacy (SB)	Project work			Pharmacovigilance
12.30-1.30	Cosmetic Science(NPK)	Cosmetic Science(NPK)				Social and Preventive Pharmacy (SB)
1.30-2.30	Language lab	Project work				Biostatistics and Research Methodology(SB)
2.30-4.30						

Note: **SB-Shubhangi Bhagat** ,NPK- Neetu Kaushal;DrRevan Larodi

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Dr. D.Y.Patil Pratishthan's
Dr. D.Y.Patil College of PharmacyAkurdi

First Year M Pharm Pharmaceutics (28th March 2022)						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00	Pharmaceutics-II Practical	Pharmaceutics-II Practical	Advanced Biopharmac eutics & PharmacoKin etics(PMC)	Cosmeceuticals(NPK)	Advanced Biopharmac eutics & PharmacoKin etics(PMC)	Computer aided Drug development (PMC)
10.00-11.00			Molecular Pharmaceutics(SPC)	Advanced Biopharmac eutics & PharmacoKin etics(PMC)	Molecular Pharmaceutics(SPC)	Computer aided Drug development (PMC)
11.00-12.00			Seminar /Assignment (PMC)	Molecular Pharmaceutics(SPC)	Language lab	Seminar /Assignment (PMC)
12.30-1.30			Seminar /Assignment (PMC)	Cosmeceuticals(NPK)	Computer aided Drug development (PMC)	Seminar /Assignment (PMC)
2.30-3.30			Cosmeceuticals(NPK)	Advanced Biopharmac eutics & PharmacoKin etics(PMC)	Seminar /Assignment (PMC)	Tutorial session
3.30-4.30	Molecular Pharmaceutics(SPC)	Computer aided Drug development (PMC)	Seminar /Assignment (PMC)	Seminar /Assignment (PMC)	Cosmeceuticals(NP K)	

Note: SPC- Dr Shilpa P Chaudhari,PMC,Pallavi Chaudhari,NPK,Neetu Kaushal

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Dr. D.Y.PatilPratishthan's
Dr. D.Y.Patil College of Pharmacy,Akurdi

First Year M Pharm Pharmaceutical Quality Assurance(28th March 2022)						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00	Pharmaceutical Quality Assurance-I Practical	Pharmaceutical Quality Assurance-I Practical	Audits and Regulatory Compliance(SVP)	Hazards and Safety Management(MTM)	Pharmaceutical Manufacturing Technology (RK)	Audits and Regulatory Compliance(SVP)
10.00-11.00			Pharmaceutical Validation(SPM)	Seminar /Assignment (SVP)	Pharmaceutical Validation(SPM)	Pharmaceutical Manufacturing Technology (RK)
11.00-12.00			Pharmaceutical Manufacturing Technology (RK)	Pharmaceutical Validatio	Language lab	Seminar /Assignment (SVP)
12.30-1.30			Hazards and Safety Management(MTM)	Hazards and Safety Management(MTM)	Seminar /Assignment (SVP)	Seminar /Assignment (SVP)
2.30-3.30			Seminar /Assignment (SVP)	Audits and Regulatory Compliance(SVP)	Audits and Regulatory Compliance(SVP)	Tutorial session
3.30-4.30			Pharmaceutical Validation(SPM)	Seminar /Assignment (SVP)	Hazards and Safety Management(MTM)	Pharmaceutical Manufacturing Technology (RK)
Note: SPC- Dr Sonali Mahaprale; SVP- Dr Sudhir Pandya,RK- Ramesh Katedeshmukh ; MTM- Mukesh T Mohite						

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Dr. D.Y.PatilPratishthan's
Dr. D.Y.Patil College of Pharmacy,Akurdi

First Year M Pharm Pharmacology (28th March 2022)						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00	Pharmacological and Toxicological Screening Methods–II(AVK)			Clinical Research and Pharmacovigilance	Principles of Drug Discovery(PPW)	Pharmacological and Toxicological Screening Methods–II(AVK)
10.00-11.00	Seminar /Assignment (DSS)			Seminar /Assignment (DSS)	Clinical Research and Pharmacovigilance	Advanced Pharmacology - II(DSS)
11.00-12.00	Advanced Pharmacology - II(DSS)			Seminar /Assignment (NSV/SSS)	Language lab	Seminar /Assignment (DSS)
12.30-1.30	Clinical Research and Pharmacovigilance			Clinical Research and Pharmacovigilance	Pharmacological and Toxicological Screening Methods–II(AVK)	Principles of Drug Discovery(PPW)
2.30-3.30	Principles of Drug Discovery(PPW)	Pharmacology -I Practical	Pharmacology -I Practical	Seminar /Assignment (NSV/SSS)	Seminar /Assignment (NSV/SSS)	Seminar /Assignment (DSS)
3.30-4.30	Advanced Pharmacology - II(DSS)	Principles of Drug Discovery(PPW)	Advanced Pharmacology - II(DSS)	Pharmacological and Toxicological Screening Methods–II(AVK)	Tutorial session	

Note: AVK- Dr Ashish Kulkarni; DSS- Dr devendra Shirode; MTM- Mukesh T Mohite

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Dr. D.Y.Patil Pratishthan's
Dr. D.Y.Patil College of Pharmacy, Akurdi

First Year M Pharm Pharmaceutical Chemistry (28th March 2022)						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00	Advanced Organic Chemistry –II(TAD)	Pharmaceutical Chemistry-II Practical(SCD)	Pharmaceutical Chemistry-II Practical (SCD)	Advanced Organic Chemistry –II(TAD)	Advanced Spectral Analysis(MTM)	Advanced Spectral Analysis(MTM)
10.00-11.00	Computer Aided Drug Design (SCD)			Computer Aided Drug Design(SCD)	Pharmaceutical Process Chemistry (TAD)	Computer Aided Drug Design (SCD)
11.00-12.00	Advanced Spectral Analysis(MTM)			Seminar /Assignment (TAD)	Language lab	Seminar /Assignment (TAD)
12.30-1.30	Seminar /Assignment (TAD)			Advanced Organic Chemistry –II(TAD)	Advanced Organic Chemistry –II(TAD)	Seminar /Assignment (TAD)
2.30-3.30	Computer Aided Drug Design (SCD)			Seminar /Assignment (TAD)	Advanced Spectral Analysis(MTM)	Pharmaceutical Process Chemistry (TAD)
3.30-4.30	Seminar /Assignment (TAD)	Pharmaceutical Process Chemistry (TAD)	Pharmaceutical Process Chemistry (TAD)	Tutorial session	Seminar /Assignment (TAD)	

Note: SCD- Dr Shubhangi Daswadkar, TAD- Tejashree deokule ; MTM- Mukesh T Mohite

Dr.Dr.Y.Patil pratishthan,s
Dr. D.Y. Patil College of Pharmacy,Akurdi.

Lab Time Table

Department of Pharmaceutics							Even Semester
Lab 1	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	9.00-1.00	Molecular Pharmaceutics (SPC)	Molecular Pharmaceutics (SPC)				
	1.00-5.00						
Lab 2	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	9.00-1.00		Pharmaceutics-I(RK)			Pharmaceutics-I(RK)	
	1.00-5.00	PP-II (VRV)	PP-II (VRV)	PP-II (VRV)	PP-II (VRV)	PP-II (VRV)	
Lab 3	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	9.00-1.00	Pharmaceutics-I(SK)			Pharmaceutics-I(SK)	Pharmaceutics-I(SK)	
	1.00-5.00	Pharmaceutics-II (PSP)			Pharmaceutics-II (PSP)	Pharmaceutics-II (PSP)	
Department of Pharmaceutical Chemistry							
Lab 1	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	9.00-1.00	PoC-RM	PoC-RM	PoC-RM	PoC-RM	PoC-RM	
	1.00-5.00						
Lab 2	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	9.00-1.00	Biochem(JRC)	Biochem(JRC)	Biochem(JRC)	Biochem(JRC)	Biochem(JRC)	
	1.00-5.00	POC-II (SHA)	POC-II (SHA)	POC-II (SHA)	POC-II (SHA)	POC-II (SHA)	
Lab 3	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	9.00-1.00			PIC(Pharm D)	PIC(Pharm D)	POC-I (PharmD)	
	1.00-5.00	Pharmaceutical Chemistry-II(SM)	Pharmaceutical Chemistry-II(SM)	Pharmaceutical Chemistry-II(SM)			
Department of Pharmacology							
Lab 1	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	9.00-1.00	P'cology-II(PPW)Practical	P'cology-II(PPW)Practical	P'cology-II(PPW)Practical	HAP(pharmD)	HAP(pharmD)	
	1.00-5.00	SY Pharmacognosy	SY Pharmacognosy	SY Pharmacognosy practical			
Lab 2	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	9.00-1.00	HAP(NS))	HAP(NS))	HAP(NS))	HAP(NS))	HAP(NS))	
	1.00-5.00	Pharmacotherapeutics-I(AVK) Practical	Pharmacotherapeutics-I(AVK) Practical		Pharmacology-I Practical (DSS)	Pharmacology-I Practical (DSS)	
Lab 3	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	7.00-10.00						
	9.00-1.00	HAP(CMJ)	HAP(CMJ)	HAP(CMJ)	Social pharmacy(P	Social pharmacy (PN)	

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	1.00-5.00	Pharmacology (SSS)	Pharmacology (SSS)	Pharmacology	Pharmacology (SS)	Pharmacology (SSS)	
Department of Pharmacognosy							
Lab 1	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	7.00-10.00						
	9.00-1.00	Herbal Drug Tech(R	Herbal Drug Tech(Herbal Drug Tech(RSK)			
	1.00-5.00	P Cognosy (KC) Practical	P Cognosy (KC) Practical	P Cognosy (KC) Practical	P Cognosy (KC) Practical	P Cognosy (KC) Practical	
Lab 2	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	7.00-10.00						
	9.00-1.00	Med Biochem(Phar	POC-I (PharmD)	Pharmacognosy (AS)	Pharmacognosy (AS)	Pharmacognosy (AS)	
	1.00-5.00	Pharmacognosy & Phytopharmaceuti cals Practical (DGT)	Pharmacognosy & Phytopharmaceuti cals Practical (DGT)	Hospital and Clinical Pharmacy (DGT)			
Lab 3	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	7.00-10.00						
	9.00-1.00	Pharm Chemistry (PN)	Pharm Chemistry (PN)	Pharm Chemistry (PN)	Med Biochem(Pha	Social pharmacy (PN)	
	1.00-5.00	Pharmacology & Toxicology (AS)	Pharmacology & Toxicology (AS)	Pharmacolog y & Toxicology (AS)	Hospital and Clinical Pharmacy (DGT)		

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Lab Time Table 2021- 22

Dr. D.Y.Patil pratishthan,s

Dr. D.Y. Patil College of Pharmacy, Akurdi.

Lab Time Table

Department of Pharmaceutics							Odd semester
Lab 1	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	9.00-1.00		Pharmaceutics-I(RK)		Pharmaceutics-I(RK)	Pharmaceutics-I(RK)	
	1.00-5.00	PP-I (VRV)	PP-I (VRV)	PP-I (VRV)	PP-I (VRV)		
Lab 2	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	9.00-1.00	Pharmaceutics-I (SN)	Pharmaceutics-I (SN)	Pharmaceutics-I	Pharmaceutics-I	Pharmaceutics-I (SN)	
	1.00-5.00		Pharm Micro (PVP)	Pharm Micro (P)	Pharm Micro (P)	Pharm Micro (PVP)	
Lab 3	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	9.00-1.00	IP-I(NPK) Practical	IP-I(NPK) Practical	IP-I(NPK) Practical		Pharmaceutics-I(RK)	
	1.00-5.00	Pharm Eng (PMC)	Pharm Eng (PMC)	Pharm Eng (PMC)		Pharm Eng (PMC)	
Department of Pharmaceutical Chemistry							
Lab 1	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	9.00-1.00	PIC-RM	PIC-RM	PIC-RM	PIC-RM	PIC-RM	
	1.00-5.00	Inst.Analysis(MTM)Practical) B	Inst.Analysis(MTM)Practical) B	Inst.Analysis(MTM)Practical) B			
Lab 2	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	9.00-1.00	PA-I(JRC)	PA-I(JRC)	PA-I(JRC)	PA-I(JRC)	PA-I(JRC)	
	1.00-5.00	POC-II (SHA)	POC-II (SHA)	POC-II (SHA)	POC-II (SHA)		
Lab 3	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	9.00-1.00	POC-I (PharmD)	POC-I (PharmD)	PIC(Pharm D)	PIC(Pharm D)		
Department of Pharmacology							
Lab 1	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	9.00-1.00	P'cology-II(PPW)Practical	P'cology-II(PPW)Practical	P'cology-II(PPW)Practical			
	1.00-5.00	SY Pharmacognosy	SY Pharmacognosy	SY Pharmacognosy	SY Pharmacognosy practical		
Lab 2	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	9.00-1.00	HAP(XYZ))	HAP(XYZ))	HAP(XYZ))	HAP(XYZ))	HAP(XYZ))	
	1.00-5.00	Pharmacotherapeutics-I(AVK) Practical	Pharmacotherapeutics-I(AVK) Practical	Hospital and Clinical Pharmacy (DGT)	Hospital and Clinical Pharmacy (DGT)	Hospital and Clinical Pharmacy (DGT)	
Lab 3	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	7.00-10.00						
	9.00-1.00	HAP(CMJ)	HAP(CMJ)	HAP(CMJ)	Social pharmac	Social pharmacy (RP)	

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	1.00-5.00	Pharmacology & Toxicology (SJM)	Pharmacology & Toxicology (SJM)	Pharmacology & Toxicology (SJM)	Pharmacology-I Practical (DSS)	Pharmacology-I Practical (DSS)	
Department of Pharmacognosy							
Lab 1	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	7.00-10.00						
	9.00-1.00	P Cognosy (RSK) Practical	P Cognosy (RSK) Practical	P Cognosy (RSK) Practical	Remedial Biolo	Remedial Biology	
	1.00-5.00	Pharmacognosy & Phytopharmaceuti cals Practical (DGT)	Pharmacognosy & Phytopharmaceuti cals Practical (DGT)				
Lab 2	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	7.00-10.00						
	9.00-1.00	Med Biochem(Phar m D)		Pharmacognos y (SJM)	Pharmacognos y (SJM)	Pharmacogno sy (SJM)	
	1.00-5.00	Pharmaceutical Chemistry-II(SM)	Pharmaceutical Chemistry-II(SM)	Pharmaceutical Chemistry-II(SM)	Pharmaceutics-II (PSP)	Pharmaceutic s-II (PSP)	
Lab 3	Timing	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	7.00-10.00						
	9.00-1.00	Pharm Chemistry (RP)	Pharm Chemistry (RP)	Pharm Chemistry (RP)	Med Biochem(Social pharmacy (RP)	
	1.00-5.00	Pharmaceutics-II (PSP)			Pharm Microbiology (AU)Practical		

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Dr D Y Patil Pratishthan's
Dr D Y Patil College of Pharmacy, Akurdi Remedial Time Table odd semester

First Year B.Pharm						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1.30-2.30	Pharmaceutics-I (SN)	PA-I(JRC)	PIC-RM	PA-I(JRC)	HAP	CS (SJ)
2.30-3.30	PIC-RM	Pharmaceutics-I (SN)	PA-I(JRC)	Pharmaceutics-I (SN)	PA-I(JRC)	PIC-RM
3.30-4.30	HAP	PIC-RM	Pharmaceutics-I (SN)	HAP	HAP	

Note: SN- Sarika Nikam; RM-ravina Mutha,SJ-Swati Jadhav; JRC-Jyotsna Chopade

Second Year B.Pharm						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00	POC-II (SHA)	PP-I (VRV)	Pharm Eng (PMC)	POC-II (SHA)	Pharm Eng (PMC)	Pharm Micro (PVP)
10.00-11.00	PP-I (VRV)	POC-II (SHA)	PP-I (VRV)T	PP-I (VRV)	Pharm Micro (PVP)	Pharm Micro (PVP)
11.00-12.00	Pharm Eng (PMC)T	Pharm Eng (PMC)	POC-II (SHA)T	Pharm Micro (PVP)T	Pharm Micro (PVP)	Remedial sessions

Note: VRV-Dr Vaibhav Vaidya; PMC- Dr Pallavi M Chaudhari; PVP-Ms Prayatama Powar; SHA- Mrs Sarika Alhat

Third Year B.Pharm (15 June 2021)						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1.30-2.30	P Cognosy(RSK)	Jurisprudence (RPD)	IP-I(NPK)	IP-I(NPK)	P'cology-II(PPW)	P'cology-II(PPW)
2.30-3.30	Jurisprudence(RPD)	IP-I(NPK)	Jurisprudence(RPD)	P'cology-II(PPW)	Medichem-II(SSK)	Medichem-II(SSK)
3.30-4.30	P Cognosy (RSK)	IP-I(NPK)	P Cognosy(RSK)	Medichem-II (SSK)	Medichem-II(SSK)	P Cognosy(RSK)

Note : RSK- Dr Revan Karodi;PPw- Mr Pawan Wankhade;NPK- Mrs Neetu Kaushal; RPD- Ms Rasika deshpane

Final Year B.Pharm (15 June 2021)						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00	Inst.Analysis (MTM)	Inst.Analysis (MTM)	Pharmacy Practice (AVK)	Inst.Analysis(MTM)	IP-II (SP)	IP-II (SP)
10.00-11.00	NDDS(SP)	NDDS(SP)	Inst.Analysis(MTM)	NDDS(SP)	Pharmacy Practice (AVK)	Soft Skill session
11.00-12.00	Pharmacy Practice (AVK)	IP-II (SP)	IP-II (SP)	Pharmacy Practice (AVK)	NDDS(SP)	

Note: MTM- Mr Mukesh Mohite; SP-Shivani Patil; Avk- Dr Ashish Kulkarni

Dr D Y Patil Pratishthan's
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Even semester

First Year B.Pharm						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1.30-2.30	Pharmaceutics-I (PMC)	PA-I(JRC)	PIC-RM	PA-I(JRC)	HAP	CS (SJ)
2.30-3.30	HAP	Pharmaceutics-I (PMC)	PA-I(JRC)	PIC-RM	PA-I(JRC)	PIC-RM
3.30-4.30	Pharmaceutics-I (PMC)	PIC-RM	Pharmaceutics-I (PMC)	HAP	HAP	

Note: SN- Sarika Nikam; **RM-ravina Mutha**,SJ-Swati Jadhav; JRC-Jyotsna Chopade

Second Year B.Pharm						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00	Medi Chem -I (SHA)	PP-II (VRV)	Pharmacology - I (T) (SSS)	Medi Chem -I(SHA)	POC-II (RSD) T	POC-II (RSD) T
10.00-11.00	PP-II (VRV)	Medi Chem -I(SHA)	PP-II (VRV)T	POC-II (RSD)	Pharmacognosy & Pythochemistry I	Medi Chem -I(SHA) T
11.00-12.00	Pharmacology - I (T) (SSS)	Pharmacology - I (T) (SSS)	POC-II (RSD) T	Pharmacognosy & Pythochemistry I (T)(KUC)	Pharmacology - I (T) (SSS)	Pharmacognosy & Pythochemistry I (T)KUC

Note: VRV-Dr Vaibhav Vaidya; **HA- Mrs Sarika Alhat** ; SHD Shraddha Dingre;MTM-Mukesh Mohite,KUC-Kalyani Chande;SSS- Smeeta Sadar

Third Year B.Pharm						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1.30-2.30	Quality Assurance (T) (SVP)	Quality Assurance (T) (SVP)	Biopharmaceutics & Pharmacokinetics (T) (PG)	Biopharmaceutics & Pharmacokinetics (T) (PG)	P'cology-III(PPW) T	Medicem-III T(SSK) 12.30-1.30 pm
2.30-3.30	Biopharmaceutics & Pharmacokinetics (T) (PG)	Herbal Drug Tech(RSK)	Pharmaceutical Biotechnology (T)(PG)	P'cology-III(PPW)	Medicem-IIIT (SSK)	
3.30-4.30	Herbal Drug Tech(RSK)	Biopharmaceutics & Pharmacokinetics (T) (PG)	Herbal Drug Tech(RSK)	Medicem-III T (SSK)	Herbal Drug Tech(RSK)	

Note : RSK- Dr Revan Karodi;PPw- Mr Pawan Wankhade;**NPK- Mrs Neetu Kaushal**;SSK -Sandip Kshirsagar; SVP- Dr Sudhir Pandya

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Final Year B.Pharm						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00	Cosmetic Science(NPK)	Cosmetic Science(NPK)	Social and Preventive Pharmacy (SB)	Dietary supplements and Nutraceuticals(RK)	Dietary supplements and Nutraceuticals (RK)	Pharmacovigilance (PP)
10.00-11.00	Biostatistics and Research Methodology(SB)	Biostatistics and Research Methodology(SB)	Biostatistics and Research Methodology(SB)	Dietary supplements and Nutraceuticals (RK)		Pharmacovigilance (PP)

Note: **SB-ShubhangiBhagat**; PP- Praful patil; ,NPK- Neetu Kaushal;DrRevan Larodi

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6. Course Booklet /File

SAVITRIBAI PHULE PUNE UNIVERSITY
FACULTY OF SCIENCE AND TECHNOLOGY
Syllabus of Second Year B. Pharmacy 2019 PATTERN

PHARMACEUTICAL ORGANIC CHEMISTRY –II (Theory) 45

Hours Scope:

This subject deals with general methods of preparation and reactions of some organic compounds. Reactivity of organic compounds is also studied here. The syllabus emphasizes on mechanisms & orientation of reactions. Chemistry of fats and oils are also included in the syllabus.

Objectives:

Upon completion of the course the student shall be able to

1. Write the structure, name and the type of isomerism of the organic compound
2. Write the reaction, name the reaction and orientation of reactions
3. Account for reactivity/stability of compounds
4. Prepare small organic compounds

Course Content :

Note - General methods of preparation (any 05) and reactions of compounds superscripted with asterisk (*) to be explained.

UNIT-I (10 Hours)

Benzene and its derivatives

Introduction to benzene, orbital picture, resonance in benzene, Huckel's rule Reactions of benzene - nitration, sulphonation, halogenation- reactivity, Friedel- Craft's alkylation- reactivity, limitations, Friedel-Craft's acylation. Substituents, effect of substituents on reactivity and orientation of mono substituted benzene compounds towards electrophilic substitution reaction.

UNIT-II (08 Hours)

Phenols* - Acidity of phenols, effect of substituents on acidity, qualitative tests for phenols, structure and uses of phenol, cresols, resorcinol, naphthols Aromatic Amines* - Basicity of amines, effect of substituents on basicity, Nitrosation reaction, coupling and Sandmeyer's reaction, Hinsberg Test, synthetic uses of aryl diazonium salts.

UNIT-III (10 Hours)

Stereo Isomerism Optical isomerism

Elements of symmetry, chiral and achiral molecules Optical activity, enantiomerism, diastereoisomerism, meso compounds D & L system of nomenclature of optical isomers, sequence rules, R & S system of nomenclature of optical isomers, Geometrical isomerism Nomenclature of geometrical isomers (Cis & Trans, E & Z, Syn & Anti systems) Methods of determination of configuration of geometrical isomers.

UNIT-IV (10 Hours)

Polynuclear hydrocarbons: Synthesis, reactions and structure and medicinal uses of naphthalene, phenanthrene, anthracene, diphenylmethane, triphenylmethane and their derivatives.

UNIT-V (05 Hours)

Cycloalkanes*

Stabilities – Baeyer's strain theory, limitation of Baeyer's strain theory, Coulson and Moffitt's modification, Sachse-Mohr's theory (Theory of strainless rings), reactions of cyclopropane and cyclobutane only.

UNIT-VI (02 Hours)

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Fats and Oils - Hydrolysis, Hydrogenation, Saponification and Rancidity of oils.

Recommended Books :

1. Morrison, R. T. & Boyd, R. D., Textbook of Organic Chemistry, VI(ed.) ELBS, London, 1996
2. Pine, S. H, Organic Chemistry, V, Tata McGraw Hill, New Delhi, 2003
3. Finar, I. L., Organic Chemistry Vol. I, V(ed.), ELBS, Pearson Education, New Delhi, 2003
4. Joule and Mills, Heterocyclic Chemistry, IV (ed.), Blackwell Publishing House, Oxford, UK, 2004
5. Li, J. J., Name Reactions, III (ed.), Springer, Berlin, 2006
6. Stereochemistry of Organic Compound Principles and Applications by Nasipuri, Revised Edition, New Age International Publishers.
7. Stereochemistry Conformation and Mechanism by P.S. Kalsi, 7/Ed 2008, New Age International Publishers, New Delhi.
8. Furniss, B. S., Hannaford, A. J. Smith, P. W. G., and Tatchel, A. R., "Vogel's Textbook of Practical Organic Chemistry", V (ed.), Pearson, London, 1994
9. Finar, I. L., Organic Chemistry Vol. I, V (ed.), ELBS, Pearson Education, New Delhi, 2003
10. Mann, F. G. and Saunders, B. C., Practical Organic Chemistry, IV(ed.), Pearson, UK, 2009
11. Advanced General Organic Chemistry-A Modern Approach by Sachin Kumar Ghosh, 3/Ed. 2009, New Central Book Agency (P) Ltd

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Syllabus Plan: Theory**Subject:** - Pharmaceutical Organic Chemistry-II**Subject code:** BP301**Class:** S.Y.B. Pharm 2019 Pattern**No of Hrs. assigned:** 45+15 Tutorial session**No of hours planned:**60**Department:** Pharmaceutical Chemistry**Scope and objectives:**

This subject deals with general methods of preparation and reactions of some organic compounds. Reactivity of organic compounds is also studied here. The syllabus emphasizes on mechanisms & orientation of reactions. Chemistry of fats and oils are also included in the syllabus.

Theory Course Outcome:

CO1: Explain the structure, preparation and reactions along with reactivity and orientation of substitution of benzene and its derivatives.

CO2: Elaborate the structure, nature and effect of substitution on nature along with reactions and qualitative tests of Phenol and Aromatic amines.

CO3: Appraise the structure, name and the type of isomerism of the organic compounds

CO4: Elaborate the Synthesis, reactions and structure and medicinal uses of Polynuclear Hydrocarbons.

CO5: Propose the stability and chemical reactions of cycloalkanes

CO6: Examine the chemistry, chemical reactions and analytical constant of fats and oils

	Knowledge	Planning	Problem Solving	Modern tool usage	Leadership	Professional identity	Ethics	Communication	Pharmacist and society	Environment and sustainability	Life long learning
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	2	2					1	1	2	2
CO2	3	2	2	2	2	2	2	2		2	2
CO3	3	1	2	3	2	3	3	2	2	3	2
CO4	3	2	2	3	2	3	3	3	2	1	2
CO5	3	2	2	3	2	3	3	2	2	2	3
CO6	3	3	3	3	3	3	3	3	1	1	2

Books Referred:

- Morrison, R. T. & Boyd, R. D., Textbook of Organic Chemistry, VI(ed.) ELBS, London, 1996
- Finar, I. L., Organic Chemistry Vol. I, V(ed.), ELBS, Pearson Education, New Delhi, 2003
- Stereochemistry Conformation and Mechanism by P.S. Kalsi, 7/Ed 2008, New Age International Publishers, New Delhi.
- Bahl A & Bahl B.S. Textbook of Organic Chemistry, Revised Edition, S. Chand & Company Limited, New Delhi.
- Indian Pharmacopoeia, Ministry of Health and Family Welfare, Controller of Publications Edition, New Delhi.

Internet:

- <https://www.mypharmaguide.com>
- <https://www.drugbank.com>
- <https://youtube.com>

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Lecture Plan

Sr. no	Topic to be covered	Lecture No	Lecture details	Teaching Method/ aids to be used	Books referred	Other sources
1	Benzene and its derivatives (11 hrs)	1	Introduction to benzene	PPT, notes	1,4	1
		2	Orbital picture	PPT,notes	1,4	1
		3	Resonance in benzene	PPT,notes	1,4	1
		4	Huckel's rule	PPT,notes	1,4	1
		5	Reactions of benzene – nitration	PPT,notes	1,4	1
		6	Sulphonation, halogenation-reactivity	PPT,notes	1,4	1
		7	Friedel- Craft's alkylation-reactivity, limitations,	PPT,notes	1,4	2
		8	Friedel-Craft's acylation	PPT notes	1,4	1
		9	Substituents, effect of substituents on reactivity	PPT notes	1,4	1
		10	Orientation of mono substituted benzene compounds towards electrophilic substitution reaction	PPT notes	1,4	3
		11	Substituents, effect of substituents on reactivity and orientation	PPT notes	1,4	1
		12	Tutorial session	PPT notes	1,4	1
2	Phenols* (11 Hrs)	13	Acidity of phenols	PPT, notes	1,4	1
		14	Effect of substituents on acidity	PPT, notes	1,4	1
		15	Qualitative tests for phenols	PPT, notes	1,4	1
		16	Structure and uses of phenol, cresols	PPT, notes	1,4	1
		17	Structure and uses of resorcinol, naphthols	PPT, notes	1,4	1
		18	Structure and uses of naphthols	PPT, notes	1,4	1
	Aromatic Amines*	19	Basicity of Amines, effect of substituents on basicity	PPT	1,2,4	3
		20	Nitrosation reaction	PPT	1,2,4	1
		21	Coupling and Sandmayer's reaction, Hinsberg Test	PPT	1,2,4	1
		22	Synthetic uses of aryl diazonium salt	PPT	1,2,4	1
		23	Tutorial session	PPT	1,2,4	1
3	Stereo Isomerism:(15) Optical isomerism	24	Introduction	PPT	1,2,4	1
		25	Elements of symmetry	PPT	1,2,4	1
		26	Chiral and achiral molecule	PPT	1,2,4	2
		27	Optical activity	PPT	1,2,4	2
		28	Enantiomerism	PPT	1,2,4	1
		29	Diastereoisomerism,	PPT	1,2,4	1
		30	Meso compounds	PPT	1,2,4	1
		31	D & L system of nomenclature of optical isomers	PPT	1,2,4	1
		32	Sequence rules	PPT	1,2,4	3
		33	R & S system of nomenclature of optical isomers	PPT, Videos	1,2,4	3
			Geometrical isomerism	34	Nomenclature of geometrical isomers	PPT

		35	Geometrical isomers	PPT	1,2,4	1
		36	Methods determination of configuration of geometrical isomers.	PPT	1,2,4	1
		37	Configuration of geometrical isomers	PPT	1,2,4	1
		38	Practice of examples	PPT	1,2,4	1
		39	Tutorial session	PPT, Guset session	1,2,4	1
4	Polynuclearhydrocarbons (11 hrs)	40	Synthesis, reactions struc.naphthalene	PPT	1,4	1
		41	Medicinal uses of naphthalene	PPT	1,4	1
		42	Synthesis, reaction &struct. Phenanthrene medicinal uses of phenanthrene	PPT	1,4	1
		43	Synthesis, reactions anthracene	PPT	1,4	1
		44	Medicinal uses of anthracene	PPT	1,4	1
		45	Synthesis, reactions and structure diphenylmethane	PPT	1,4	1
		46	Synthesis, reactions and structure and medicinal uses of triphenylmethane	PPT	1,4	3
		47	Synthesis, reactions and structure and medicinal uses of derivatives	PPT	1,4	1
		48	Synthesis, reactions and structure and medicinal uses of different derivatives	PPT	1,4	1
		49	Practice/ revision	PPT	1,4	2
		50	Tutorial session	PPT	1,4	1
5	Cycloalkanes* (07)	51	Stabilities – Baeyer’s strain theory	PPT	4	1
		52	Limitation of Baeyer’s strain theory	OPPT	4	1
		53	Coulson and Moffitt’s modification	PPT	4	1
		54	Sachsemohr’s theory (Theory of strainless rings)	PPT	4	1
		55	Reactions of cyclopropane	PPT	4	1
		56	Reactions of cyclobutane only	PPT	4	2
		57	Revision	PPT	4	3
9	Fats and Oils (03)	58	Introduction	PPT	4	1
		59	Hydrolysis, hydrogenation	PPT	4	1
		60	Saponification and Rancidity of oils.	PPT	4	1

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Teaching Learning Outcome:

Unit No.	Unit Name	Course Outcome	Teaching Learning Outcome
1	Benzene and Derivatives	CO1 Understand the structure, preparation and reactions along with reactivity and orientation of substitution of benzene and its derivatives	1. Explain the synthetic evidences in the derivation of structure of benzene
			2. Explain the resonance structure of benzene
			3. Explain the Huckel's rule
			4. Show the structure of four non aromatic compounds
			5. Explain the mechanism of nitration reaction of benzene
			6. Explain the reactivity of halogenation of benzene
			7. Illustrate examples of electron releasing and electron withdrawing group
			8. Discuss the effect of electron releasing group on the orientation of mono- substituted benzene compounds towards electrophilic substitution reaction
2.	Phenols*	CO2 Understand the structure, nature and effect of substitution on nature along with reactions and qualitative tests of Phenol and Aromatic amines.	1. Explain the method of preparation of phenols
			2. Explain the chemical reactions of phenol
			3. Explain the acidity of phenols
			4. Explain the qualitative tests of phenols
			5. Discuss the method of preparation of aromatic amines
			6. Explain the basicity of amine
			7. Explain the method of chemical reactions of aromatic amines
			8. Illustrate the synthetic uses of aryl diazonium salts
3.	Stereo Isomerism	CO3 Learn the structure, name and the type of isomerism of the organic compounds	1. Explain Racemic modification? Discuss the method of resolution of racemic modification.
			2. Differentiate symmetric and asymmetric molecule? Explain asymmetric synthesis.
			3. Demonstrate with the help of examples rule in nomenclature of optical isomer by R S and D L configuration
			4. Explain in detail a) Diastereoisomers b) Meso compounds c) Enantiomers
			5. Explain the stereochemistry of Biphenyl and conditions required for optical activity.
4.	Polynuclear Hydrocarbons	CO4 Understand the Synthesis, reactions and structure and medicinal uses of Polynuclear Hydrocarbons	1. Define Polynuclear aromatic hydrocarbons
			2. Explain the chemical reactions of Naphthalene
			3. Outline any two medicinally important compounds containing naphthalene ring
			4. Illustrate the electrophilic substitution reaction in anthracene
			5. Explain the Haworth synthesis of Phenanthrene
			6. Discuss the method of preparation and chemical reactions of Diphenylmethane
			7. Differentiate fused polynuclear hydrocarbon and condensed

			polynuclearhydrocarbon
			8. Explain the chemical reactions of Phenanthrene
5	Cycloalkanes	CO5 Account the stability and chemical reactions of cycloalkanes	1. Explain Baeyer's strain theory
			2. Calculate the angle strain of cyclopropane and cyclobutane
			3. Explain Coulson and Moffitt's modification
			4. Explain Sachse Mohr's theory
			5. Explain the method of preparation of cyclopropane
			6. Explain the chemical reactions of cyclobutane?
			7. Explain the limitation of Baeyer's strain theory
			8. Explain the bent bond formation in cyclopropane
6.	Fats & Oils	CO6 Learn the chemistry, chemical reactions And analytical constant of fats and oils	1. Differentiate between fats and oils
			2. Illustrate oils are liquid at room temperature
			3. List the structure of two saturated and unsaturated fatty aci
			4. Explain the chemistry of fats and oils
			5. Define saponification value and iodine value

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Gap Identification with methods to cover the topics:

Sr. No.	Name of the topic	Gap Identified	Method to be used to bridge the gap	Reason to identify the Gap	
1	Benzene and derivative	Basic concept of organic chemistry	PPT, Chalk and Board	Prerequisite of the topic	
2	Phenols				
3	Stereo Isomerism	Knowledge of stereochemistry	Guest Session by expert	Topic requirement from the GPAT Syllabus	Taken by Ms. Harshda Puranik 13/12/2022
4	Polynuclearhydrocarbons	Knowledge of basic synthesis process	PPT, Chalk and Board	Topic requirement from the GPAT Syllabus	
5	Fats and Oils	Commercial Applications	Videos	Industrial Requirement	

Topic beyond the Syllabus

Sr. No.	Name of the topic	Reason to identify the Gap
1	Carrier Opportunities for Pharmacy	Give guidance about opportunities

Continuous Assessment Planning and Mapping:

Assignment Type:

Quiz, Term Paper, Open Book Test, Group discussion, Seminar

Sample formats for each Assignment type

- Open Book Test

	Question	CO mapped	BT Level
1	Summarize chemical reaction along with preparation method (5M) 1. Naphthalene 2. Anthracene	CO4	6
2.	Rewrite the Uses of (5M) 1. Phenanthrene 2. Diphenyl Methane 3. Triphenyl methane 4. Napthalene	CO4	5

- Term Paper:

	Question	CO Mapped	BT Level
1	Explain the optical isomerism for the compounds not having chiral centers with examples (5 M)	CO3	5
2	Summarizes the methods for resolutions of racemic mixtures (5M)	CO3	6

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Course Booklet Assessment Evaluation Criteria:

Assessment Criteria	Score	Comment if any
1. Relevance with content	2	
2. Use of recourse material	2	
3. Organization and mechanical accuracy	2	
4. Cohesion and coherence	2	
5. Language proficiency and timely Submission	2	
Total Score	10	

Sessional Examination :

1. Sessional Examination Pattern

Exam Type	Marks allotted	Duration
Theory	30	1.5 Hr
Practical	40	04 Hr

2. Question paper pattern for theory Sessional For subjects having University exams

I. Objective Type Questions (Answer 05 out of 7)	=5 x 2 = 10
II. Long Answers (Answer 1 out of 2)	=1 x 10 = 10
III. Short Answers (Answer 2 out of 3)	=2 x 5 = 10
Total	30 marks

3. Sessional Paper

Dr. D.Y.PatilPratishthan's
Dr. D.Y.Patil College of Pharmacy, Akurdi, Pune
Subject :Pharmaceutical Organic Chemistry –II (Theory) , Semester : III
First Sessional Paper

Q	Question	Marks	CO mapped	BT Level
Q.1	Objective Type question (Each carry 2 M) solve any 5			
a	Explain the resonance structure of benzene.	2	CO1	2
b	Explain the Huckel's rule	2	CO1	2
c	Recollect the structure of four non aromatic compounds	2	CO1	2
d	Explain the acidity of phenols	2	CO2	5
e	Explain the basicity of amine	2	CO2	5
f	List the synthetic uses of aryl diazonium salts	2	CO2	1
g	Illustrate examples of electron releasing and electron withdrawing group	2	CO1	4

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Q.2 Long Answers (10 M)Any one				
a	Discuss the effect of electron releasing group on the orientation of mono-substituted benzene	10	CO1	6
b	Explain the method of preparation of phenols and chemical reactions of phenol	10	CO2	6
Q.3 Write Short note on (5 M)any two				
a	Explain the evidences in the structure of benzene	5	CO1	5
b	Summaries the qualitative tests of phenols	5	CO2	5
c	Revise the application of Benzene and Phenol in organic chemistry	5	CO1,CO2.	5

Dr. D.Y.PatilPratishthan's
Dr. D.Y.Patil College of Pharmacy, Akurdi, Pune
Subject :Pharmaceutical Organic Chemistry –II (Theory) , Semester : III
Second Sessional Paper

Q	Question	Marks	CO mapped	BT Level
Q.1 Objective Type question (Each carry 2 M) solve any 5				
a	Differentiate between fats and oil..	2	CO6	2
b	Rewrite the meaning and significance of saponification number and iodine number	2	CO6	5
c	Convert Wedge dash into Fischer projection	2	CO3	2
d	Identify the R and S configuration	2	CO3	1
e	Define Isomerism and give its significance	2	CO3	1
f	Rewrite the meaning of specific rotation and optical isomerism	2	CO3	5
g	Define with examples the meaning of Mesomers, enantiomers	2	CO3	1
Q.2 Long Answers (10 M)Any one				
a	Explain what are fatty acids and explain the significance and reactions of hydrolysis, hydrogenation, rancidity and drying of oils	10	CO6	6

b	Explain in detail isomerism for the compounds not having chiral centers with examples	10	CO3	6
Q.3 Write Short note on (5 M)any two				
a	Summaries the synthetic detergent	5	CO6	4
b	Explain what racemic mixture is and explain the method for resolution of racemic mixture	5	CO3	6
c	Summarizes geometrical isomerism in alkenes and cyclic compounds	5	CO3	5

4. Question paper pattern for end semester theory examinations (75 Marks)

I.	Objective Type Questions (Answer 5 out of 7)	=5x 3= 15
II.	II. Long Answers (Answer 2 out of 4)	= 2 x 10 = 20
III.	III. Short Answers (Answer 8 out of 10)	= 8 x 5 = 40
Total		= 75marks

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BP305P. PHARMACEUTICAL ORGANIC CHEMISTRY - II (Practical) 4 Hours/Week

- Experiments involving laboratory techniques (1 Turn)
 - Recrystallization
 - Steam distillation
- Experiments involving Separation of Binary mixtures (2 Turns)
- Determination of saponification value of oil samples (Any two) (1 Turn)
- Synthesis of following compounds (11 Turn)
 - Benzanilide /phenyl benzoate /acetanilide from aniline/ phenol/ aniline by benzylation/acylation reaction
 - 2, 4, 6-Tribromoaniline/para-bromo acetanilide from aniline
 - p-bromo Acetanilide by halogenation (Bromination) reaction.
 - 5-Nitrosalicylic /meta-dinitrobenzene from salicylic acid/ nitrobenzene by nitration reaction
 - Benzoic acid/ Salicylic acid from alkyl benzoate/ alkyl salicylate by hydrolysis reaction.
 - 1-Phenylazo-2-naphthol from aniline by diazotization and coupling reactions/ pIodobenzoic acid from P-aminobenzoic acid by replacement reaction.
 - Benzil from benzoin by oxidation reaction
 - Dibenzal acetone from benzaldehyde by Claisen-Schmidt reaction

Recommended Books:

- Mann, F. G. and Saunders, B. C., Practical Organic Chemistry, IV(ed.), Pearson, UK, 2009
- Vogel's Text Book of Practical Organic Chemistry- Brian Furniss, Antony Hannaford, Peter Smith, Austrin (Eds), 5th edition, ELBS Publication, Singapore, 1997.
- A Guidebook to Mechanism in Organic Chemistry by Peter Sykes Longman Scientific and Technical, Sixth Edition, 1985.
- Advanced Organic Chemistry by Francis A. Carey, Part A: Structure and Mechanism, Springer, 2007.
- Writing Reaction Mechanisms in Organic Chemistry by Audrey Miller, Second Edition, Elsevier Science & Technology Books, 1999.
- Organic Reactions by Werner E. Bachmann, Volume I, John Wiley and Sons. INC, 1942.
- Advanced Organic Chemistry Reaction Mechanisms by Reinhard Bruckner, Elsevier, 2002
- A Practical Book of Pharmaceutical Organic Chemistry - As per PCI. by Dr. K. S. Jain, Dr. P. B. Miniyar, et al.

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Course Booklet

Syllabus plan : practical**Subject:** - Pharmaceutical Organic Chemistry-II **Subject code:BP305P****Class:** S.Y.B. Pharm 2019 Pattern**No of Hrs. assigned:** 15**No of hours planned:**15**Department:** Pharmaceutical Chemistry**Scope and objectives:**

This subject deals with general methods of preparation and reactions of some organic compounds. Reactivity of organic compounds is also studied here. The syllabus emphasizes on mechanisms & orientation of reactions. Chemistry of fats and oils are also included in the syllabus.

Practical Course Outcome:

CO1 Discuss the process of Recrystallization and Steam Distillation Techniques.

CO2 Evaluate the qualitative analysis of Binary Mixture.

CO3 Determine the process of Saponification

CO4 Elaborate the synthesis method, reaction, mechanism and uses of different organic compounds by benzoylation/acylation

CO5 Elaborate the synthesis method, reaction, mechanism and uses of different organic compounds by bromination and nitration reaction

CO6 Elaborate the synthesis method, reaction, mechanism and uses of different organic compounds by oxidation, hydrolysis, & by Claisen-Schmidt reaction

CO7 Elaborate the synthesis method, reaction, mechanism and uses of different organic compounds by diazotization and coupling reactions and replacement reaction

	Knowledge	Planning	Problem Solving	Modern tool usage	Leadership	Professional identity	Ethics	Communication	Pharmacist and society	Environment and sustainability	Life long learning
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	3	3	1	2	3	3	1	1	1	3
CO2	3	3	3	1	2	2	3	2	1	1	3
CO3	3	3	3	1	2	3	3	2	2	1	3
CO4	3	3	3	2	2	3	3	3	2	1	3
CO5	3	3	3	2	2	3	3	2	2	1	3
CO6	3	3	3	2	2	3	3	3	1	1	3
CO7	3	3	3	2	2	3	3	2	1	1	3
CO8	3	3	3	2	2	3	3	2	1	1	3

Books Referred:

- Morrison, R. T. & Boyd, R. D., Textbook of Organic Chemistry, VI(ed.) ELBS, London, 1996
- Finar, I. L., Organic Chemistry Vol. I, V(ed.), ELBS, Pearson Education, New Delhi, 2003
- Bahl A & Bahl B.S. Textbook of Organic Chemistry, Revised Edition, S. Chand & Company Limited, New Delhi.
- Indian Pharmacopoeia, Ministry of Health and Family Welfare, Controller of Publications Edition, New Delhi.
- Vogel's Text Book of Practical Organic Chemistry- Brian Furniss, Antony Hannaford, Peter Smith, Austrin (Eds), 5th edition, ELBS Publication, Singapore, 1997.
- Indian Pharmacopoeia, Ministry of Health and Family Welfare, Controller of Publications Edition, New Delhi
- A Practical Book of Pharmaceutical Organic Chemistry - As per PCI. by Dr. K. S. Jain, Dr. P. B. Miniyar, et al.

Internet:

- <https://www.mypharmaguide.com>
- <https://www.drugbank.com>
- <https://youtube.com>

Dr N S

Vyawahare

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Syllabus Plan: Practical**Practical plan:**

Sr. no	Topic to be covered	Practical No	Practical details	Books referred	Other referred
1	Experiments involving laboratory techniques	1.	To demonstrate recrystallization techniques	2,8	3
		2.	To demonstrate techniques steam distillation	2,8	2
2	Experiments involving Separation of	3.	To perform separation of binary mixture	2,8	3
		4.	To perform separation of binary mixture	2,8	3
3	Determination of saponification value of oil samples	5.	To perform determination of saponification value of oil samples	2,8	3
5	Synthesis	6.	To synthesize Benzanilide from aniline	2,8	2
		7.	To synthesize 2, 4, 6-Tribromoaniline from aniline	2,8	3
		8.	To synthesize para-bromo acetanilide by halogenation (Bromination) reaction	2,8	1
		9.	To synthesize meta-dinitrobenzene from nitrobenzene by nitration reaction	2,8	3
		10.	To synthesize 5-Nitrosalicylic from salicylic acid by nitration reaction	2,8	
		11.	To synthesize benzoic acid from alkyl benzoate by hydrolysis reaction.	2,8	
		12.	To synthesize Salicylic acid from alkyl salicylate.	2,8	2
		13.	To synthesize 1-Phenylazo-2-naphthol from aniline by diazotization and coupling reactions	2,8	3
		14.	To synthesize Iodobenzoic acid from P-aminobenzoic acid by replacement reaction.	2,8	3
		15.	To synthesize Benzil from benzoin by oxidation reaction	2,8	2
		16.	To synthesize Dibenzal acetone from benzaldehyde by Claisen-Schmidt reaction	2,8	1

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Teaching learning Outcomes

Practical No.	Unit Name	Course Outcome	Teaching Learning Outcome	
1	Experiments involving laboratory techniques	CO1	1	Explain the principal and process of Recrystallization
			2	Explain the principal and process of Steam distillation
2	Experiments involving Separation of Binary mixtures	CO2	3	Explain the process of Binary mixture.
			4	Explain the different reaction involved in Group I
			5	Explain the different reaction involved in Group II
			6	Explain the different reaction involved in Group III
			7	Explain the different reaction involved in Group IV
			8	Explain in detail sodium fusion test for element detection
3	Determine the process of Saponification	CO3	9	Explain the principle involved in saponification process
4	Elaborate the synthesis method, reaction, mechanism and uses of different organic compounds by benzylation/acylation	CO4	10	Elaborate the synthesis method, reaction, mechanism involved in benzylation
			11	Elaborate the synthesis method, reaction, mechanism involved in acylation
			12	Summarise the uses of Benzanilide.
5.	Elaborate the synthesis method, reaction, mechanism and uses of different organic compounds by bromination and nitration reaction	CO5	12	Elaborate the synthesis method, reaction, mechanism involved in bromination
			13	Elaborate the synthesis method, reaction, mechanism involved in nitration reaction
			14	Summaries the uses of 2, 4, 6-Tribromoaniline ,para-bromo acetanilide, meta-dinitrobenzene,5-Nitrosalicylic
6.	Elaborate the synthesis method, reaction, mechanism and uses of different organic compounds by oxidation, hydrolysis, & by Claisen-Schmidt reaction	CO6	15	Elaborate the synthesis method, reaction, mechanism involved in oxidation,
			16	Elaborate the synthesis method, reaction, mechanism involved in hydrolysis
			17	Elaborate the synthesis method, reaction, mechanism involved in Claisen-Schmidt reaction
			18	Summaries the uses of benzoic acid, Salicylic acid, Benzil, Dibenzal acetone
7.	Elaborate the synthesis method, reaction, mechanism and uses of different organic compounds by diazotization and coupling reactions and replacement reaction	CO7	19	Elaborate the synthesis method, reaction, mechanism involved in diazotization
			20	Elaborate the synthesis method, reaction, mechanism involved in replacement reaction
			21	Summaries the uses of 1-Phenylazo-2-naphthol,Iodobenzoic acid

Gap Identification with methods to cover the topics:

Sr. No.	Name of the Practical	Gap Identified	Method to be used to bridge the gap
1	Demonstration of Polarimeter	Differentiate between dextro and leavo rotatory compounds.	Demonstration of Polarimeter in Instrument Laboratory

Continuous Assessment Planning and Mapping:

Assignment Type :

Quiz, Term Paper, Open Book Test, Group discussion, Model preparation, Chart Preparation

1. Model and Chart Preparation (Group Activity)

	Question	CO Mapped	BT Level
1	Prepared and Demonstrate the model.	CO1,CO2,CO3,CO4,CO5,CO6	6
2.	Prepared and Demonstrate the chart	CO1,CO2,CO3,CO4,CO5,CO6	6

2. Poster Preparation:

Example:

	Topic	CO mapped	BT Level
1	Prepare the poster (1**3") size for drug from given category	Out of syllabus	6

3. Term Paper:

Sample

	Question	CO mapped	BT Level
1	Summaries the principle, reaction and mechanism involved in synthesis.	CO4, CO5, CO6,CO7	6

Assessment Evaluation Criteria:

Assessment Criteria	Score	Comment if any
1. Relevance with content		
2. Use of recourse material		
3. Organization and mechanical accuracy		
4. Cohesion and coherence		
5. Language proficiency and timely Submission		
Total Score		

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Sessional Examination:

1. Sessional Examination Format

Question paper pattern for practical sessional examinations:

I. Synopsis	10
II. Experiments	25
III. Viva voce	05
Total	40 marks

Dr. D.Y. Patil Pratishthan's
Dr. D.Y. Patil College of Pharmacy, Akurdi, Pune
Subject : Pharmaceutical Organic Chemistry –II (Practical) , Semester : III
Second Sessional
Direct Second Year

Q	Question	Marks	CO mapped	BT Level
Q.1	Synopsis (10 M)			
a	Summaries the significance of recrystallization	2	CO1	5
b	Rewrite the principal involve in steam distillation	2	CO 1	5
c	Rewrite the principal & reaction involved in synthesis of benzanilide	2	CO5	5
d	Propose the reaction and mechanism involved in synthesis of acetanilide .	2	CO5	2
e	State the GLP guidelines to be followed in POC-II practical laboratory	2	CO1,CO2	3
Q.2	Experiments (25 M)			
	To Perform Qualitative analysis of given unknown binary mixture.	25		6
Q.3	Viva Voce (05 m)			
a	Sketch the different reactions involed in different synthesis	1	CO4, CO5,CO6, CO7	3
b	Discuss involed in recrystallization & distillation	1	CO1	5

Q	Question	Marks	CO mapped	BT Level
Q.1	Synopsis (10 M)			
a	Propose the reaction and mechanism involved in synthesis of P bromoacetanilide from acetanilide	2	CO4	5
b	Revise the uses of 2,4,6 tribromoaniline	2	CO5	5
c	Rewrite the precautions to be taken while handling the bromine.	2	CO5	5
d	Propose the reaction and principle involved in synthesis of dibenzylacetone from benzaldehyde	2	CO6	2
e	Summaries the importance of recrystallization	2	CO1	3
Q.2	Experiments (25 M)			

	To Perform Qualitative analysis of given unknown binary mixture. OR	25	CO2	6
	To synthesise 1-Phenyl-azo 2 naphthol from aniline OR		CO4	6
	To synthesise 5- nitrosalicylic acid from salicylic acid OR		CO6	6
	To synthesise aspirin from salicylic acid OR		CO6	6
	To synthesise Benzanilide from aniline		CO1	6
Q.3 Viva Voce (05 m)				
a	Sketch the different reactions involed in different synthesis	1	CO4, CO5,CO6, CO7	3
b	Discuss involed in recrystallization & distillation	1	CO1	5

Q	Question	Marks	CO mapped	BT Level
Q.1 Synopsis (10 M)				
a	Give the reaction and mechanism involved in synthesis of P bromoacetanilide from acetanilide	2	CO4	5
b	Revise principle and reaction involved in synthesis of dibenzal acetone.	2	CO7	5
c	Summaries the uses of aspirin	2	CO6	5
d	Explain the importance of fume hood	2	CO1	2
e	Revice the procedure involed in recrystallization	2	CO1	3
Q.2 Experiments (25 M)				
	To synthesise 1-Phenyl-azo 2 naphthol from aniline OR	25	CO4	6
	To synthesise aspirin from salicylic acid OR		CO6	6
Q.3 Viva Voce (05 m)				
a	Sketch the different reactions involed in different synthesis	1	CO4, CO5,CO6, CO7	3
b	Discuss involed in recrystallization & distillation	1	CO1	5

Q	Question	Marks	CO mapped	BT Level
Q.1 Synopsis (10 M)				
a	Give the reaction and mechanism involved in synthesis of Benzil from benzoin	2	CO4	5
b	Rewrite principle and reaction involved in synthesis of P bromoacetanilide from acetanilide.	2	CO5	5
c	Revise the uses of 2-Phenyl azo 2 naphthol and benzanilide	2	CO7	5
d	Explain the significance of recrystallization	2	CO1	2

e	Explain the need of fire extinguisher in the near place of pharmaceutical organic chemistry lab.	2	CO1	3
Q.2 Experiments (25 M)				
	To synthesise 1-Phenyl-azo 2 naphthol from aniline OR	25	CO7	6
	To synthesise aspirin from salicylic acid OR		CO6	6
Q.3 Viva Voce (05 m)				
a	Sketch the different reactions involved in different synthesis	1	CO4, CO5, CO6, CO7	3
b	Discuss involved in recrystallization & distillation	1	CO1	5

Dr. D.Y. Patil Pratishthan's
Dr. D.Y. Patil College of Pharmacy, Akurdi, Pune
Subject :Pharmaceutical Organic Chemistry –II (Practical) , Semester : III
First Sessional

Batch B

Q	Question	Marks	CO mapped	BT Level
Q.1 Synopsis (10 M)				
a	Explain the reaction and mechanism involved in synthesis of Benzanilide from acetanilide	3	CO4	5
b	Explain principle and mechanism involved in synthesis of acetanilide from aniline	3	CO4	5
c	Rewrite the uses of 5 nitrosalicylic acid	2	CO5	5
d	Generalise the separation of binary mixture	2	CO2	2
Q.2 Experiments (25 M)				
	To synthesize Benzil from benzoin	25	CO4	6
Q.3 Viva Voce (05 m)				
a	Sketch the different reactions involved in different synthesis	1	CO4, CO5, CO6, CO7	3
b	Discuss involved in recrystallization & distillation	1	CO1	5

Batch D

Q	Question	Marks	CO mapped	BT Level
Q.1 Synopsis (10 M)				
a	Rewrite the reaction and mechanism involved in synthesis of acetyl salicylic acid from salicylic acid	3	CO4	5
b	Rewrite the principle involved in synthesis of benzanilide and 5 Nitrosalicylic acid	3	CO4, CO5	5

c	Revise the importance of recrystallization	2	CO1	5
d	Discuss in short about binary mixture separation	2	CO2	2
Q.2 Experiments (25 M)				
	To synthesize Benzil from benzoin	25	CO4	6
Q.3 Viva Voce (05 m)				
a	Sketch the different reactions involved in different synthesis	1	CO4, CO5, CO6, CO7	3
b	Discuss involved in recrystallization & distillation	1	CO1	5

Batch E

Q	Question	Marks	CO mapped	BT Level
Q.1 Synopsis (10 M)				
a	Explain the reaction and mechanism involved in synthesis of 5 Nitrosalicylic acid	3	CO5	5
b	Explain the principle involved in synthesis of acetanilide and aspirin	3	CO4	5
c	Revise the importance of recrystallization	2	CO1	5
d	Rewrite in short the process of binary mixture separation	2	CO2	2
Q.2 Experiments (25 M)				
	To synthesize Benzil from benzoin	25	CO4	6
Q.3 Viva Voce (05 m)				
a	Sketch the different reactions involved in different synthesis	1	CO4, CO5, CO6, CO7	3
b	Discuss involved in recrystallization & distillation	1	CO1	5

Question paper pattern for end semester practical examinations

Synopsis	= 5
II. Experiments	= 25
III. Viva voce	= 05
Total	= 35marks

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Question Bank

Unit 1 benzene and its derivatives Organic chemistry Questions bank
10 marks
Define activating and deactivating groups with examples. Discuss the Mechanism of Nitration and sulphonation of benzene.
Explain the mechanism of halogenation of benzene. Halogens are deactivating Group but ortho & para director. Give reasons.
Define the term „electrophilic aromatic substitution reaction”. Discuss the Effect of substituent“s on reactivity. Explain the mechanism of Friedel-Craft“s Alkylation with their limitations.
What is electrophilic aromatic substitution reaction? Classify substituent Groups with examples, Explain the mechanism of Friedel-Craft“s acylation.
What is Electrophilic aromatic substitution reaction? Discuss the mechanism of Nitration and halogenations of benzene.
Give the general mechanism of electrophilic aromatic substitution reaction with suitable example, Discuss the orientation effect of i) Hydroxyl group in phenol ii) Nitro group in benzene.
5 marks
Explain the reaction and mechanism of friedel craft“s alkylation with its Limitations.
Explain the reaction and mechanism of halogenation of benzene
Explain the reaction and mechanism of nitration of benzene.
Explain the mechanism of Friedel-Craft“s acylation.
Discuss the orientation effect of Hydroxyl and amino group in benzene.
Explain the mechanism of Friedel-Craft“s acylation
Explain why Halogens are deactivating but ortho para directions towards Electrophilic substitutions.
Explain the reaction and mechanism of nitration of benzene.
Define activating and deactivating groups with examples. Discuss the Mechanism of sulphonation of benzene.
Explain the aromaticity, orbital picture and resonance structure of benzene.
Define friedel craft“s alkylation. Explain the reaction and mechanism.
Explain aromaticity and resonance of benzene.
2 marks
Define the terms „aromaticity“ and „resonance“.
Define electrophiles? Give two examples for electrophiles.
Define activating group? Give examples.
Define deactivating group? Give examples.
What are ortho para directing groups? Give examples.
Explain huckel“s rule of aromaticity
Write the structure of DDT and BHC. List one use each of DDT and BHC.
Write the structure and uses of DDT and cloramine
Unit-2 phenols, aromatic amines, and aromatic acids
10 Marks
What are phenols? Give any three methods of preparation of phenol. Write a note on acidity of phenol.
What are aromatic amines? Give any three methods of preparation of aromatic amines. Write a note on basicity of aromatic amines.
What are phenols? Explain the of reactions of phenol. Discuss the effect of substituent“s on acidity of phenol.

What are aromatic amines? Explain the of reactions of aromatic amines. Discuss the effect of substituent's on basicity aromatic amines.

What are aromatic acids? Give any three chemical reactions of benzoic acid. Write a note on substituents on acidity of aromatic acids.

A) What are phenols? Explain acidity of phenols B) What are aromatic amines explain basicity of aromatic amines.

5 marks

What is acidity discuss the effect of substituent on acidity of aromatic

acids What is basicity explain the basicity of aromatic amines tendency

of a What are phenols Explain acidity of phenols

Give three methods of preparation and three chemical reactions of Aromatic acids

Write any three methods of preparation of aromatic amines. Give synthetic uses of aryl diazonium

salts Define aromatic acid? Give four chemical reactions of benzoic acid

Give the structure and uses of a) phenol b) o-cresol e) resorcinol d) a-naphthol e) β -naphthol

Define acidity explains the effects of substituents on acidity of aromatic acids.

What are phenols? Discuss the acidity of phenols

What are aromatic amines? Explain the basicity aromatic amines.

Give any two methods of preparation and chemical reactions of aromatic acid.

Give any two methods of synthesis of phenols. (Discuss the qualitative test of phenol

2 marks

Give the structure and uses of phenol and o-cresol

Give synthetic uses of aryl diazonium salts

Give the structure and uses of a-naphthol and resorcinol

Give any two chemical reactions of benzoic acid

Give the structure and uses of m-cresol and β -naphthol

Give qualitative test of phenol

Unit 3 fats and oil Organic chemistry Questions bank

10 marks

What are oils & fats? Give the classification of oils with examples. Enlist the analytical of fats and oils with their significance.

Enlist analytical constants of oils and fats. Discuss in detail about acid value And iodine value and give their significance.

Explain drying, semidrying and non-drying oils with examples. Define Iodine value. Give the principle involved in the determination of Iodine value (any one method)

Explain drying, semidrying and non-drying oils with examples. Define acid value. Give the principle involved in the determination of acid value (any one method)

Explain drying, semidrying and non-drying oils with examples. Define Saponification value. Give the principle involved in the determination of Saponification value (any one method)

What are fatty acids? Explain significance and reactions of hydrolysis, hydrogenation, rancidity and drying of oils.

2 marks

Describe any one method to determine Reichert Meissl (RM) value with its significance

Describe any one method to determine Acetyl value with its significance

Explain the Saponification and Rancidity of oils and their significance.

Explain significance and reactions of hydrolysis and hydrogenation of oils and fats

Describe any one method to determine iodine value with its significance

Describe any one method to determine acid value with its significance

2 marks

What are fatty acids? Give an example for saturated fatty acids.

Give the pharmaceutical applications of fats and oils.

Why oils are liquid and fats are solids at room temperature

Define saponification value. Give its significance

What do mean by Reichert Meissl (RM) value? Give its significance.

Define rancidity and drying of oils

Define acid value. Give its significance.

Define acetyl value. Give its significance

Classify fats and oils with examples

Define iodine value. Give its significance

Define iodine value. Give its significance

What are fatty acids? Give an example for unsaturated fatty acids.

Write the pharmaceutical applications of fats and oils

Write the significance of hydrogenation of fats and oils

Define rancidity? Give its significance.

Give the compositions of fats and oils.

Define saponification value. Give its significance

Define iodine value. Give its significance

Give the sources of fats and oils

Unit 4 Poly nuclear hydrocarbons

5 marks

Outline the synthesis of Anthracene by Haworth's method.

Outline the synthesis of Naphthalene by Haworth's method.

Define and classify poly nuclear hydrocarbons. Give four chemical reactions Of Anthracene

Define and classify poly nuclear hydrocarbons. Give four chemical reactions Of naphthalene.

Define and classify poly nuclear hydrocarbons. Give four chemical reactions Of

Phenanthrene. Define poly nuclear hydrocarbons Give any two synthesis of anthracene.

Define poly nuclear hydrocarbons Give any two methods of synthesis of Phenanthrene.

Define poly nuclear hydrocarbons Give any two synthesis of naphthalene.

Write the any two synthesis and reactions of phenanthrene.

Write the any two synthesis and reactions of anthracene.

Write the synthesis of anthracene and phenanthrene.

Write the structure and medicinal uses of naphthalene, anthracene, Diphenylmethane and phenanthrene.

2 marks

Write the structure and medicinal uses of diphenylmethane

Write any two reactions of phenanthrene.

Write any two reactions of Anthracene

Write the structure and medicinal uses of phenanthrene derivatives.

Write the structure and medicinal uses of triphenylmethane.

Write any two reactions of phenanthrene
Give the nitration reaction of naphthalene
Give the nitration reaction of anthracene
Give the halogenation reaction of naphthalene
Give them any one synthesis of naphthalene
Give the structure and uses of one medicinally important phenanthrene derivatives.
Define and classify poly nuclear hydrocarbons.
Unit 5 cycloalkanes
5 marks
Discuss the stability of cycloalkanes.
Explain Sacht- Mohr theory and molecular orbital concept of cycloalkanes.
What are cycloalkanes? Write any four methods of preparation
Explain Bayer's strain theory of cycloalkanes. What are its limitations?
Write the any two methods of synthesis of cyclobutane and cyclopropane
Give them any four chemical reactions of cyclopropane
Give them any four chemical reactions of cyclobutane
Discuss coulson and moffitt modifications of Bayer's strain theory of cycloalkanes
Define anglestrain? Discuss why higher cycloalkanes are more stable than lower members
Give any four methods of synthesis of cycloalkanes.
Explain ring opening reactions of cyclopropane.
Describe Bayer's strain theory. What are its limitations?
2 marks
Define cycloalkane give two examples
Define angle strain and tetrahedral angle.
Give the reactions of cyclobutane
What are coulson and moffitt modifications compound
Write preparation of cyclohexane from aromatic compound
How do you calculate the angle in cyclobutane
Write wurtz's synthesis of cycloalkane.
Why lower cycloalkanes are unstable than higher cycloalkane give reason
Give addition reactions of cyclopropanes
What is Sacht mohr's theory
How do you calculate the angle in cyclopropane
How do you synthesize cycloalkanes from aromatic compounds
6. Stereo-Isomerim
10 Marks
What is Racemic modification? Discus the method of resolution of racemic modification.
What are symmetric and asymmetric molecule? Explain asymmetric synthesis.
Write the rule in nomenclature of optical isomer by R S and D L configuration?
Define configuration. Explain the sequence rule for R S system of nomenclature of optical isomers.
Define configuration. Explain the sequence rule for R S and D L system of nomenclature of optical isomers.

A. explain the elements of symmetry.

B. what are relative and absolute configurations and explain the rules in determining R and S configuration.

5 marks

Define the terms with suitable example a) Diastereoisomers b) Meso compounds c) Enantiomers.

Write a note on elements of symmetry with example.

Write a note of R and S system of configuration.

Write the reactions of chiral molecule in which bonds to the chiral centre are broken.

Explain the reaction of chiral molecule in which bonds to the chiral centre are not broken and generation of second chiral centre.

Write the possible stereoisomers of 2,3-dichlorobutane and identify the different types of isomers.

Mention the method used for the resolutions of racemic mixture and explain any two.

Explain any two reactions of chiral molecule.

Distinguish between configuration and conformation with example.

Write a note on asymmetric synthesis.

Explain enantiomers and diastereomers with suitable example.

Define chiral and achiral molecules with example. Write any two reactions of chiral molecules.

2 marks

Define stereoisomerism with example.

What are chiral molecule? Give example.

Define centre of symmetry with example.

What are meso compounds? Give example.

Define diastereoisomerism with example.

Define plane of symmetry with example.

Define enantiomers with example.

Define alternative axis of symmetry with example.

Define meso compound with example.

Define racemisation and racemic modification.

Define asymmetric carbon atom and give the formula to calculate isomeric forms.

10 marks

Define geometric isomers and explain the method of nomenclature of geometric isomers. Discuss the methods used to determine the configuration of geometrical

isomers. Explain the stereochemistry of Biphenyl and conditions required for optical

activity. Discuss aromaticity and chemical reactivity of Furan, Thiophene and Pyrrole

Give various methods of determination of configuration of geometrical isomers

Explain the stereochemistry of Biphenyl compounds and criteria for a molecule to exhibit Optical activity



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Syllabus completion report -

Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy
Akurdi, Pune – 411044

Syllabus Completion: Practical


Subject: Pharmaceutical Organic chemistry- II

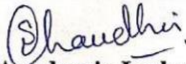
Subject code: BP305P

Class: B. Pharm

Semester: III

Sr. no	Topic to be covered	Practical No	Practical details	Target Planned	Target Achieved	% Achieved
1	Experiments involving laboratory techniques	1	To demonstrate recrystallization techniques	4hrs/week *15 turns = 60 hrs	4hrs/week*15 turns = 60 hrs	100
		2	To demonstrate techniques steam distillation			
2	Experiments involving Separation of	3	To perform separation of binary mixture			
		4	To perform separation of binary mixture			
		5	To perform separation of binary mixture			
	Determination of saponification value of oil samples	6	To perform determination of saponification value of oil samples			
5	Synthesis	7	To synthesize Benzanilide from aniline			
		8	To synthesize 2, 4, 6-Tribromoaniline acetanilide from aniline			
		9	To synthesize para-bromo acetanilide from aniline			
		10	To synthesize meta-dinitrobenzene from nitrobenzene by nitration reaction			
		11	To synthesize Salicylic acid from alkyl salicylate by hydrolysis reaction.			
		12	To synthesize 1-Phenylazo-2-naphthol from aniline by diazotization and coupling reactions			
		13	To synthesize p-aminobenzoic acid from P-aminobenzoic acid by replacement reaction.			
		14	To synthesize Benzil from benzoin by oxidation reaction			
		15	To synthesize Dibenzal acetone from benzaldehyde by Claisen-Schmidt reaction			


Sign of Faculty


Academic Incharge

Dr N S

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Vyawahare Date: 2023.05.27

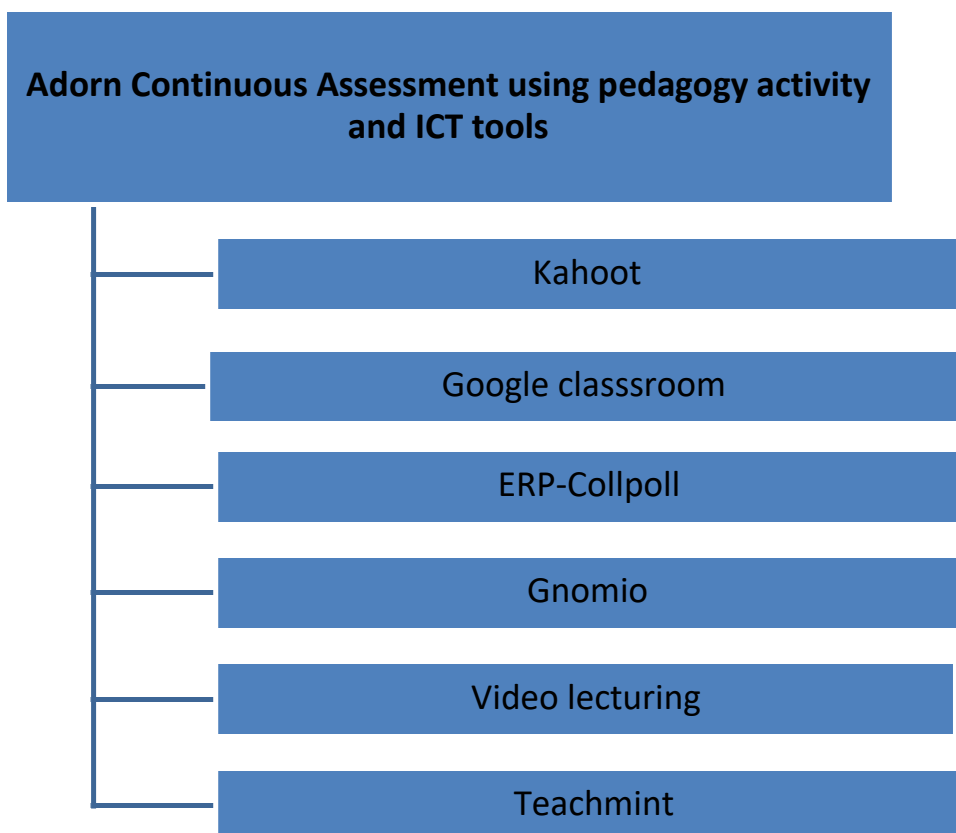
7. Continuous Internal assessment

[Back to index](#)

Continuous Assessment

List of Continuous Assessment as per SPPU course structure & syllabus

- a) Written test and /or midterm test
- b) Term paper
- c) Journal/Lecture/Library notes
- d) Seminar presentation
- e) Short Quizzes
- f) Assignments
- g) Extention work
- h) An open book test
- i) Mini research project by individual learner or group of learners



**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy
Akurdi, Pune – 411044**

Assignment and its Mapping with CO-PO

Subject: - **Pharmacology III**

Subject code: **BP 602 T**

Class: **B. Pharmacy Third Year (2019 pattern, Revised)**

Semester: **VI**

Academic year- 2021-22

Continuous Assesment - I

Sr. No.	Question	CO	PO
1	Write classification of drugs acting on Respiratory and Digestive system with Flow Chart	CO 1 CO2	PO1, PO5, PO7, PO9, PO11

CO

6.0.2.1 Describe pathophysiology and pharmacology of drug acting on Respiratory system

6.0.2.1 Explain pathophysiology and pharmacology of drug acting on digestive system

6.0.2.3 Appraise the role of chemotherapy and its agents like sulphonamide, cotrimoxazole, and antibiotics

6.0.2.4 Explain mechanism of action, antimicrobial spectrum, resistance, adverse effect and uses of various chemotherapeutic agents

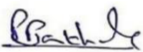
6.0.2.5 Apply the knowledge of Chrono pharmacology in various diseases and toxicology in treatment of poisoning and related clinical symptoms of various drugs.

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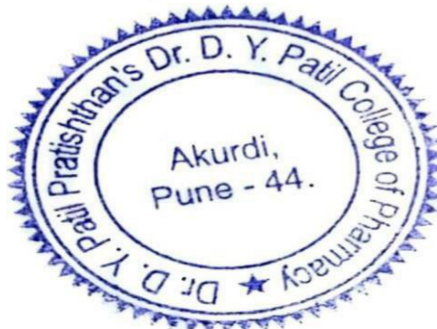
PO

- 1 – Pharmacy Knowledge
- 2 – Planning ability
- 3 – Problem Analysis
- 4 - Modern tool usage
- 5 - Leadership Skill
- 6 - Professional identity
- 7 – Pharmaceutical ethics
- 8- Communication
- 9- The Pharmacist & society
- 10- Environment & sustainability
- 11- Lifelong learning


Sign of Faculty
Mr. P.P. Wankhede

Dr N S
Vyawahare

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Roll no. = 63

Page No. _____

Date: / /

Name :- Vaishnavi Shivanand Tarwade.

Roll no. :- 63

Subject :- Pharmacology-III (Assignment)

Date :- 17 March 2022

Vaishnavi

03/10/22
Dr. N. S. Vyawahare

Q. 1 Write classification of drugs acting on Respiratory and GIT system.

Add recent drug

Management of COPD

→

Drugs Acting on Respiratory system

Cross written

Classification Part
Ref

- 1) Anti-asthmatic drugs
- 2) Drugs used in management of COPD
- 3) Expectorants & Antitussives
- 4) Nasal decongestants
- 5) Respiratory stimulants

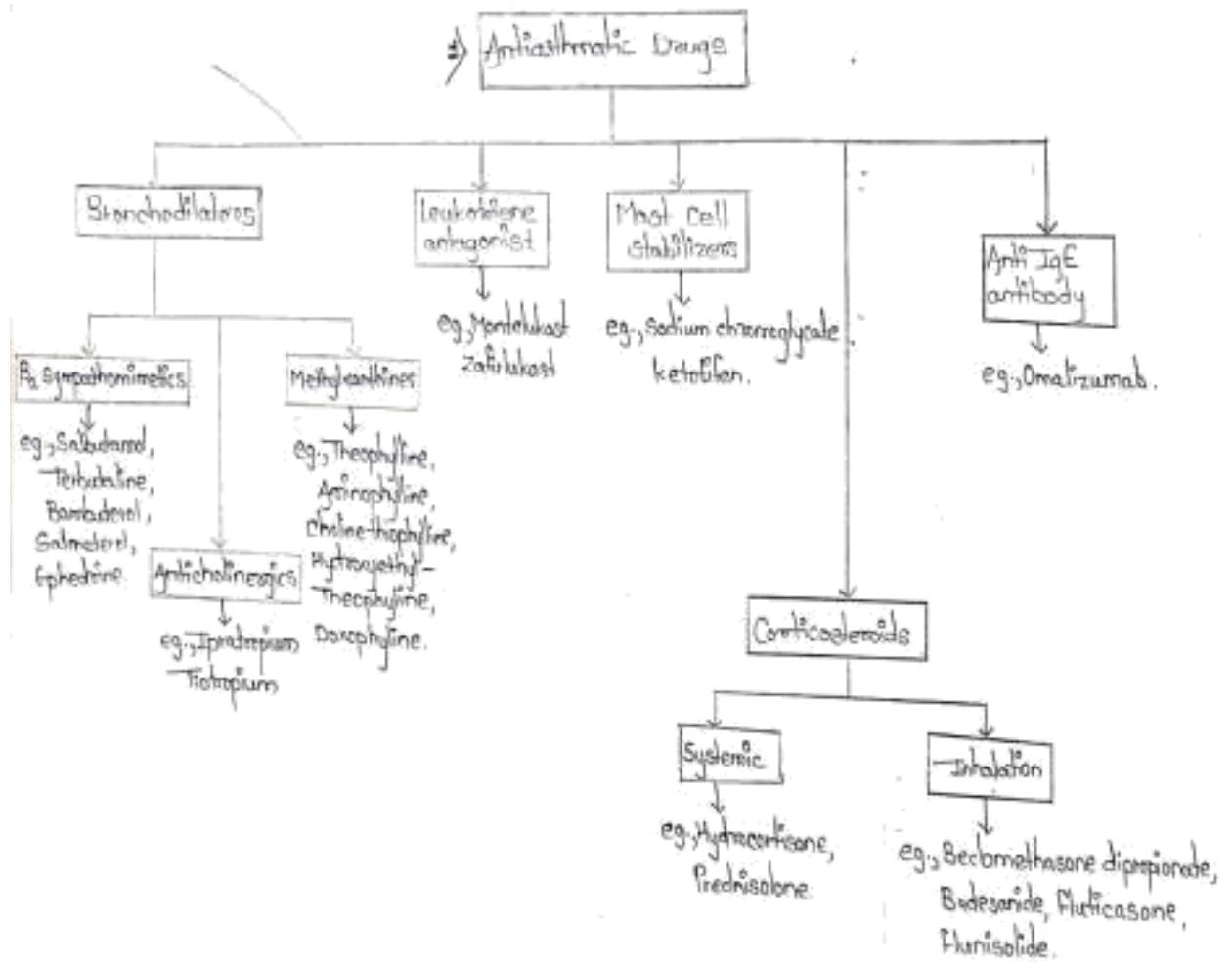
Drugs Acting on GIT system

- 1) Antiulcer agents
- 2) Drugs for Constipation & diarrhoea
- 3) Appetite stimulants & suppressants
- 4) Digestants & Carminatives
- 5) Emetics & Antiemetics

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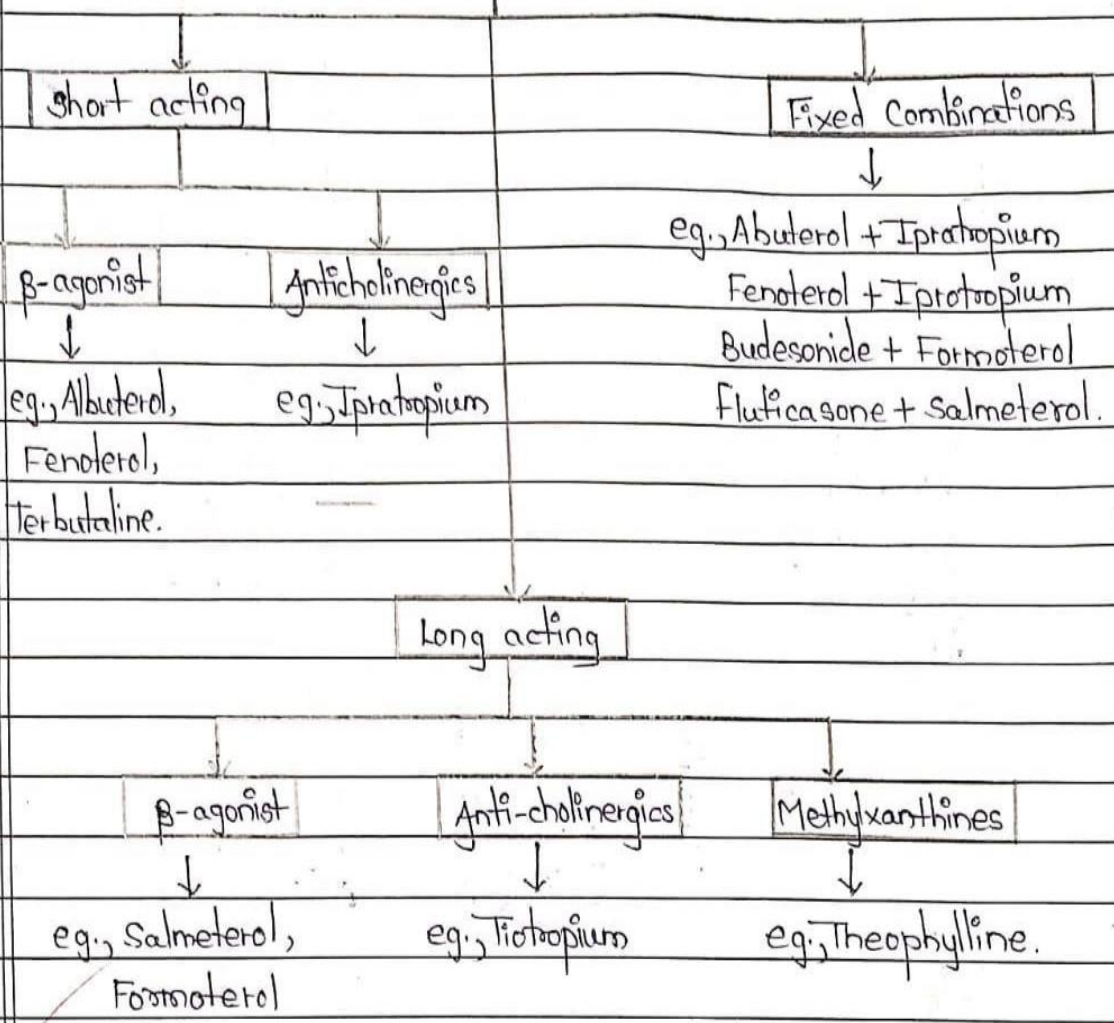
Dr N S Vyawahare

Date: 2023.06.02

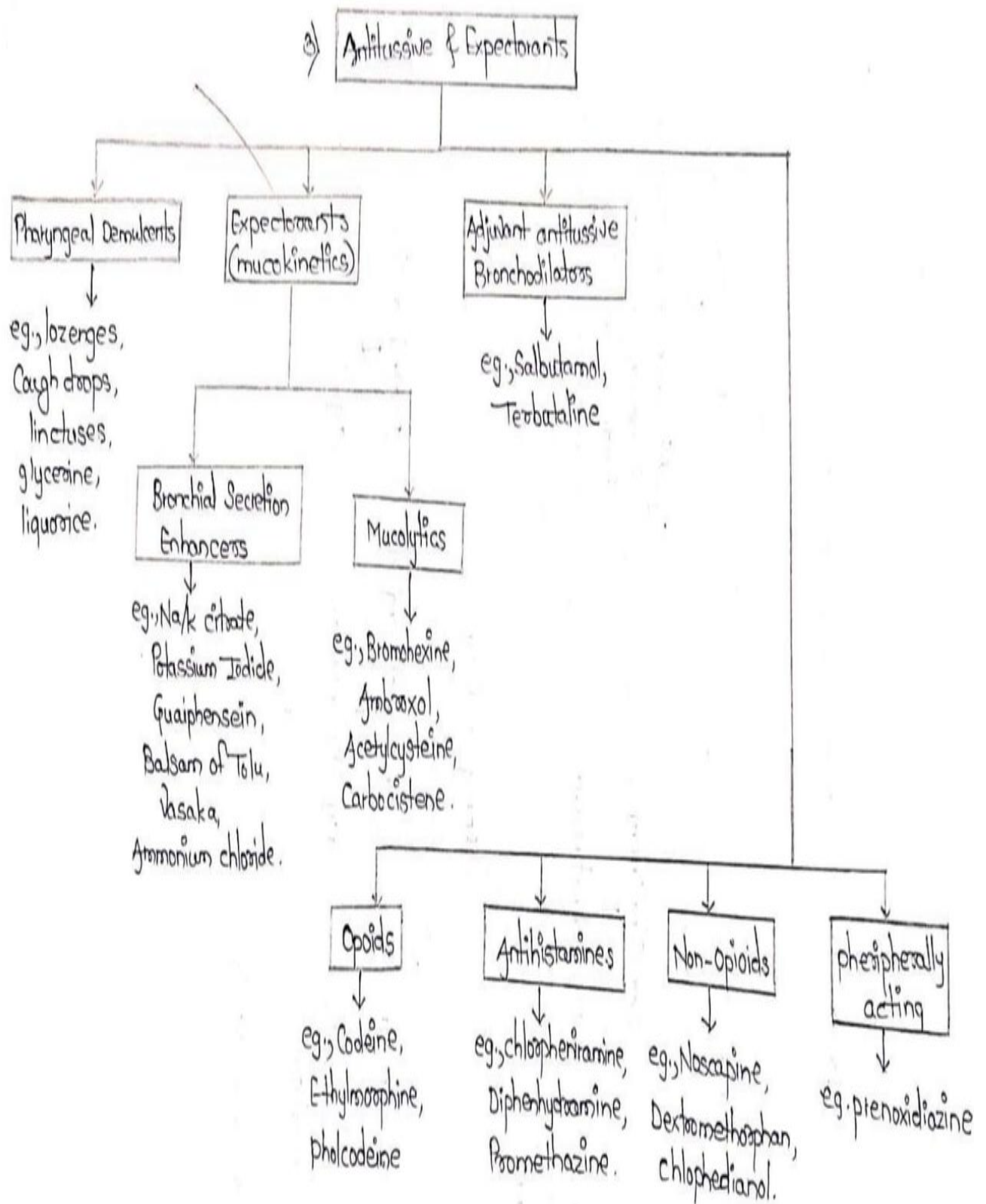
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2)

Drugs Used in management of COPD



Add Recent drug

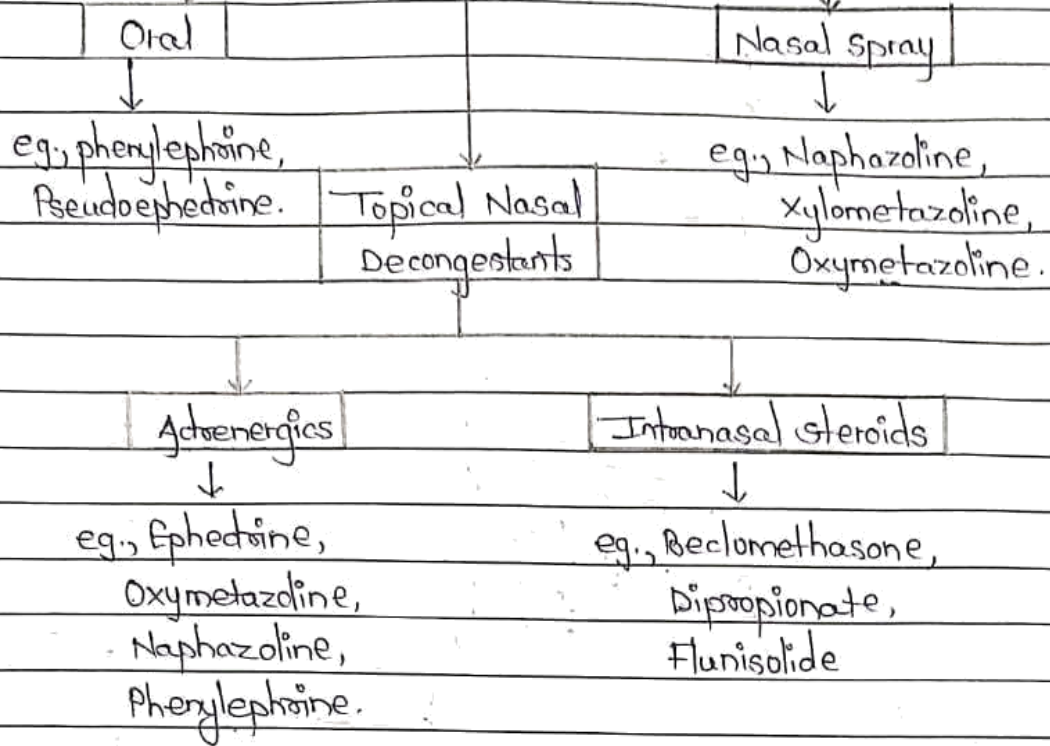


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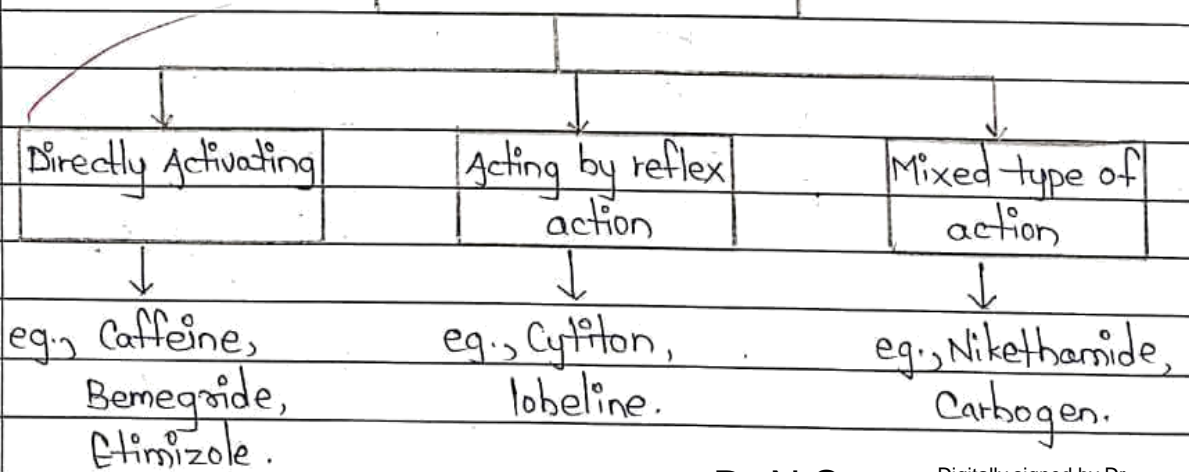
4)

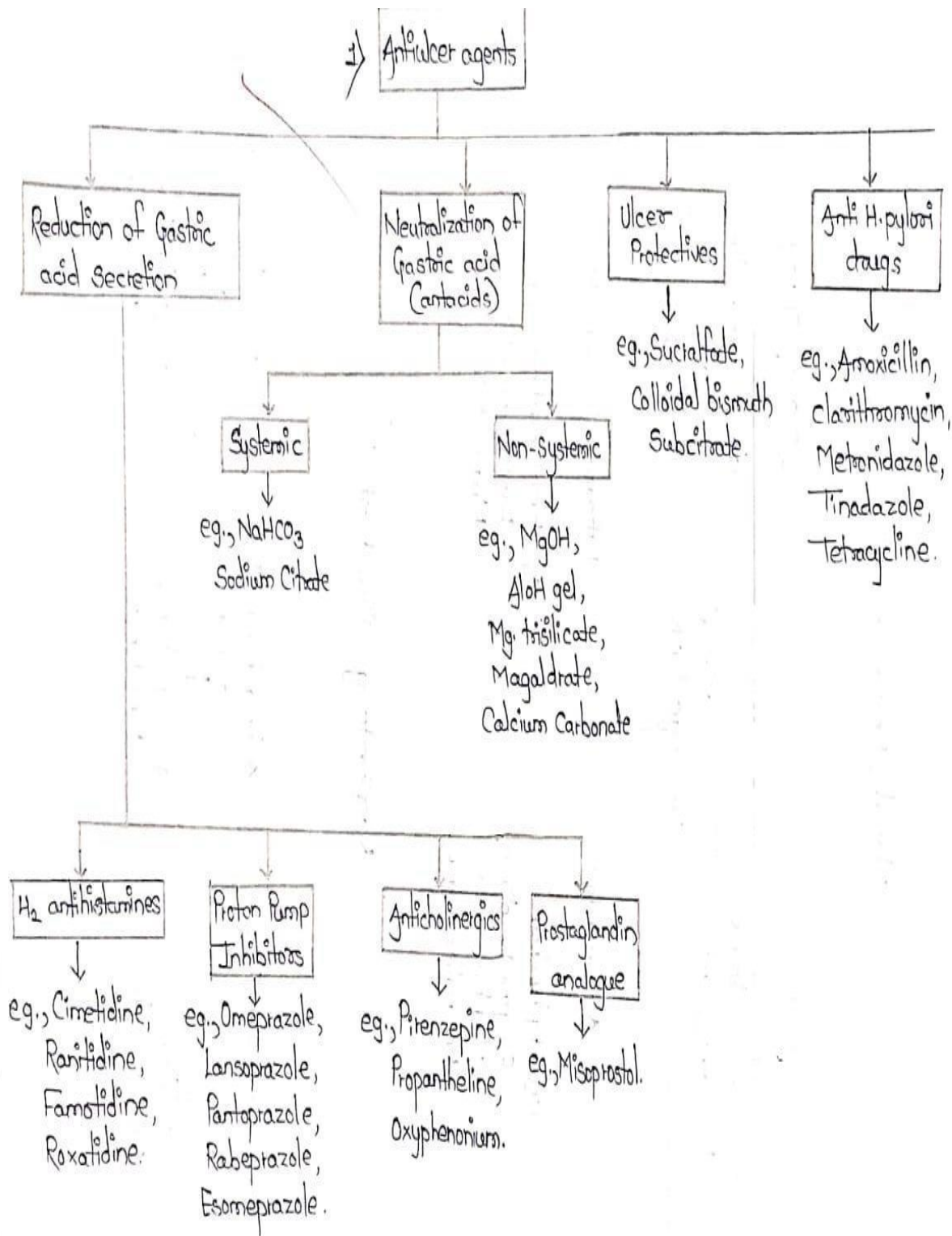
Nasal Decongestants



5)

Respiratory Stimulants





Drugs acting on GIT

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Q) Drugs Used for Constipation & diarrhoea

Constipation

Bulk
Forming

eg., Bran,
Psyllium,
Isapgghula,
Methyl Cellulose.

Stool
Softner

eg., Docusates
liq. paraffin

Osmotic Purgatives

eg., Mg. Salts-sulfate
Na. Salts-sulfate
Sodium Potassium -
tartrate lactulose

Stimulant Purgatives

Diphenylmethones

eg., phenolphthalein,
Bisacodyl,
Sodium Picosulfate

Anthraquinones

eg., Senna,
Cascara

5-HT₄ Agonist

eg., Tegaserod

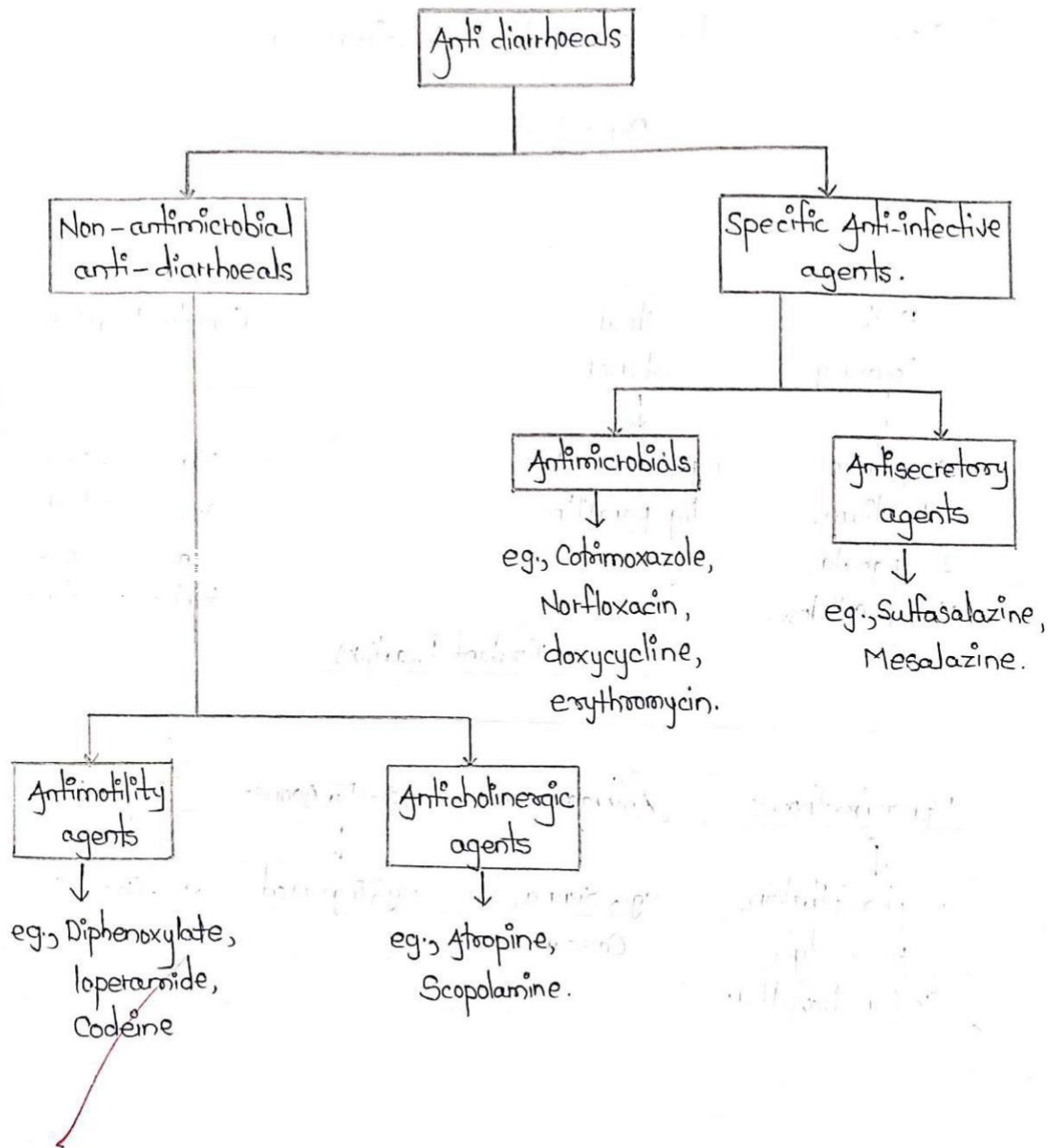
Fixed Oil

eg., Castor Oil

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Dr N S Vyawahare

Date: 2023.06.02

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4) Digestants & Carminatives :-

Digestants :- Hydrochloric acid,
Pepsin,
Papain,
Pancreatin,
diastase & Takadiastase.

Carminatives :- Sodium Bicarbonate,
Oil peppermint,
Tincture Cardamom,
Oil of dil,
Tincture ginger.

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PHARMACOLOGY - III

Roll No	Exam Seat No	Name of Student	(P)											
			CAI	CAII	Avg	T.	SI	SII	Avg	CI	CII	Avg	T.	
35		Nirwane Kunal	8	7	8	20	7	8	8	3	3	3	11	
36		Parasaiyya Shital	8	7	8	17	7	7	7	2	2	2	9	
37		Patel Falak	9	8	9	22	8	9	9	4	4	4	12	
38		Patel Payal	9	9	9	22	9	9	9	4	4	4	12	
39		Patil Bhavesh	8	7	8	16	7	7	7	2	2	2	9	
40		Patil Abhishek	8	7	8	18	6	7	7	2	2	2	9	
41		Reddy Aishwarya	9	9	9	23	9	9	9	4	4	4	12	
42		Rote Siddharth	8	7	8	19	8	7	8	3	4	4	12	
43		Roy Gopi	8	9	9	21	9	8	9	4	3	4	11	
44		Salunke Udaya	9	8	9	22	8	7	8	4	4	4	12	
45		Saaita	8	7	8	19	8	7	8	3	3	3	11	
46		Sarode Aditya	9	9	9	23	9	9	9	4	4	4	12	
47		Shilimkar Rohit	8	7	8	14	7	6	7	3	2	3	10	
48		Shinde Dipti	8	7	8	19	8	7	8	3	3	3	11	
49		Shukla Ishika	8	7	8	20	8	8	8	4	3	4	12	
50		Sontakke Ratnaraj	8	7	8	20	8	7	8	3	4	4	12	
51		Suryawanshi Shraddha	9	8	9	21	8	8	8	4	3	4	12	
52		Telge Sudarshan	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	
53		Ujankar Prathamesh	08	07	08	9	8	0	3	4	5	5	8	
54		Ukeyshende Megha	9	8	9	22	8	8	8	4	3	4	12	
55		Upadhye Shreyas	8	7	8	16	8	7	8	4	3	4	12	
56		Wagh Prajakta	8	8	9	23	9	9	9	4	4	4	12	
57		Wagh Yashraj	8	7	8	15	7	7	7	3	2	3	10	
58		Waghmare Dipti	9	8	9	23	8	9	9	4	3	4	12	
59		Zambare Siddhant	8	9	9	22	8	8	8	4	3	4	12	
60		Kunal Alone	8	7	8	14	7	6	7	3	2	3	10	
61		Rizwana Amirullah	8	7	8	19	7	6	7	3	3	3	10	
62		Shrushti Rohidas	8	7	8	16	6	7	7	3	3	3	10	
63		Tanawade Vaishnavi	9	8	9	23	9	9	9	4	4	4	12	
64		Gala Bhavik	9	8	9	23	8	9	9	4	4	4	12	
65		Shaha Smith	9	8	9	22	8	8	8	4	4	4	12	
66		Jalan Priyanka	8	8	8	22	8	8	8	4	4	4	12	
67		Ladani Bisen	8	8	8	20	7	8	8	4	3	4	12	
68		Patane Priiti	8	8	8	21	8	8	8	4	4	4	12	

B. Kulkarni
Principal P.P.

2020-2021

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1. Academic Monitoring Committee

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Dr. D. Y. Patil Pratishthan's

Dr. D. Y. PATIL COLLEGE OF PHARMACY

Dr. D. Y. Patil Educational Complex, Sector - 29, Pradhikaran, Akurdi, Pune 411 044.

Tel. : 020-27656141, Tel. Fax : 020-27656141

E-mail : info@dyppharmaakurdi.ac.in Web : www.dyppharmaakurdi.ac.in

Approved by : All India Council for Technical Education, New Delhi

Pharmacy Council of India, New Delhi. Recognized by : Government of Maharashtra

Affiliated to Savitribai Phule Pune University, Pune

Dr. Sanjay D. Patil
President

Padmashree Dr. D. Y. Patil
Founder

Shri. Satej D. Patil
Vce-President & Chairman

Dr. N. S. Vyawahare
Principal

Ref. No. : DYPCOP/
Date :

Academic Monitoring Committee

Sr. no	Members	Designation
1	Principal	Chairman
2	Academic Incharge	Member Secretary
3	Academic Coordinator	Member
4	HODS	Members
5	Class Teachers	Members
6	CEO/ Exam Incharge	Member

2. University Academic Calendar

[Back to index](#)

Savitribai Phule Pune University
(Formerly University of Pune)



Circular No. 284 of 2020

Important Notification

**Dates of Commencement and Conclusion of Ist & IInd terms for the Academic Year 2020-2021
For affiliated Colleges/recognised Institutes Only.**

It is hereby informed that, the dates of Commencement and conclusion of the Ist and IInd term of for the Academic Year 2020-2021 University Courses, under various faculties shall be as under :

Dates of Commencement and conclusion of First Year of academic session 2020-21 will be declared later.

Sr. No.	Name of the Courses and Faculties	2020-2021			
		First Term		Second Term	
		Commencement	Conclusion	Commencement	Conclusion
1	Science & Technology				
	Science	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	Engineering : SE,TE,BE	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	Engineering :ME - II Year. MCA- II & III Year	01/07/2020	24/12/2020	19/01/2021	31/05/2021
	B.Architecture II, III, IV & V Year.	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	M. Architecture II Year.	01/07/2020	24/12/2020	19/01/2021	31/05/2021
	B. Pharmacy	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	M. Pharmacy	01/07/2020	24/12/2020	19/01/2021	31/05/2021
2	Commerce & Management				
	Commerce	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	Management	01/07/2020	24/12/2020	19/01/2021	31/05/2021
3	Humanities				
	Arts & Fine Arts	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	Mental Moral and Social Sciences				
Law : UG & PG (II/III/IV/V Year.)	01/07/2020	24/12/2020	19/01/2021	31/05/2021	
4	Inter-disciplinary Studies				
	Education II Year. (B.Ed., M.Ed.)	01/07/2020	24/12/2020	19/01/2021	31/05/2021
	Physical Education II Year. (B.P.Ed., M.P.Ed.)	01/07/2020	24/12/2020	19/01/2021	31/05/2021

NOTE

1. In view of prevailing COVID-19 situation in the Country, Colleges / Institutes shall required to follow the guidelines / instructions issued by the Government of Maharashtra time to time.
2. In case, the Principal of the affiliated Colleges require to give additional holiday in exceptional circumstances, he may do by the compensating the same by keeping the College working on Sunday.
3. The Term & holidays for the Post-Graduate courses coundected in the Colleges/Institutes will be as per the University Department.


Deputy Registrar
(P.G.Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 1817
Date: 15/10/2020

Copy to: for Information and necessary action

The Members of the Management Council.
The Deans of Faculties.
The Registrar, Savitribai Phule Pune University, Pune.
The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.
The Heads of all University Departments.
The Principals of all Affiliated Colleges.
The Directors of all Recognized Institutes.
The Heads of all the Administrative Sections of the University Office.
Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University
Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

3. College Academic Calendar

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**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune – 411044**

Academic Calendar 2020-2021

B.Pharm

First half

Sr. No	Name of the activity / event	Probable Date
1	Term Start	15 th June 2020
2	Guest lecture	31 st July 2020
3	Allotment of CA1	14 th August 2020
4	Unit Test I	26 th to 31 st August 2020
5	Unit Test II	27 th to 30 th September 2020
6	1 st sessional for SY and TY B.Pharm	29 th October - 04 th November 2020
7	1 st sessional for Final year B.Pharm	23 rd November - 27 th November 2020
8	Remedial sessions	1 st December – 04 th December 2020
9	2 nd Sessional for SY and TY B.Pharm	21 st December – 28 th December 2020
	Term End	05th December 2020

Second half

Sr. No	Name of the activity / event	Probable Date
1	Term Start	01 st January 2021
2	Induction program	04 th January -09 th January 2021
3	Hospital visit	25 th January 2021
4	Sport Days	27 th January – 29 th January 2021
5	Allotment of CA1	30 th January 2021
6	Parent's meet	20 th February 2021
7	Alumni meet	13 th March 2021
8	1st sessional for FY, SY TY B.Pharm, Final year	16 th March – 22 nd March 2021
9	Campus interview	23 rd March 2021
10	Resessional exam	31 st March 2021
11	Campus interview	09 th April 2021
12	2nd sessional for FY, SY TY B.Pharm	26 th April – 03 rd May 2021
13	Campus interview	14 th May 2021
14	Term End	15th May 2021
15	Tutorial session	17 th May -22 nd May 2021

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Dr. D. Y. Patil Pratisthan's
Dr. D. Y. Patil COLLEGE OF PHARMACY,
 Akurdi, Pune-44

M.PHARM. SCHEDULE 2020-2022 batch

Semester I

Sr. No.	Activity	Proposed date
1.	Commencement of term	20/01/2021
2.	Course Induction	20/01/2021
3.	Classroom sessions	From 20/01/2021
4.	Practical sessions (Including the daily assessment)	From 20/01/2021
5.	Seminar Assignments a. Assigning of topic for assignments i) Term paper (review article) ii) Seminars [on course topics(18 min one seminar per student)]	4 th week of February 2021
	b. Submission and evaluation of assignment i) Term paper submission ii) Conduct of seminar	Second week of March 2021 Last week of March 2021
6.	Internal sessional examination. Theory Examination. 1 st sessional 2 nd Sessional Practical Examination 1 st sessional 2 nd Sessional	1 st week of March 2021 1 st week of April 2021 2 nd week of March 2021 2 nd week of April 2021
7.	External Examination Theory and Practical Examination	17 th May 2021 After Theory Examination*

*Exact date shall be as per SPPU circular

Semester II

Sr. No.	Activity	Proposed date
1.	Classroom sessions	1 st week of June 2021
2.	Practical sessions Including the daily assessment.	2 nd week of June 2021
3.	Seminar /Assignments a. Assigning of topic for assignments i) Term paper (review article) ii) Seminars [on course topics (18 min one seminar per student)]	3 rd week of June 2021
	b. Submission and evaluation of assignment i) Term paper submission ii) Conduct of seminar	3 rd week of July 2021 4 th week of July 2021
4.	Internal sessional examination. Theory Examination 1 st sessional 2 nd Sessional Practical Examination 1 st sessional 2 nd Sessional	2 nd week of July 1 st week of August 2021 3 rd week of July 2 nd week of August 2021
5.	External Examination Theory and Practical Examination	30 th August 2021 onwards After Theory Examination*

*Exact date shall be as per SPPU circular

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Semester III

Sr. No.	Activity	Proposed date
1.	Classroom sessions	4 th week of September 2021
2.	Practical sessions Including the daily assessment.	1 st week of October 2021
3.	Research Work i) Assigning of Guide/Co-guide ii) Assigning of the Research topic iii) Literature survey and preparation of review article iv) Literature survey/(Review article) presentation	2 nd week of October 2021 4 th week of October 2021 3 rd week of October 2021 4 th week of October 2021
4.	Presentation in national/ international conference	As per conference schedules
5	Seminar on Proposed research topic Presentation	1 st week of November 2021
6	Internal sessional examination.# Theory Examination 1 st sessional 2 nd sessional	2 nd week of November 2020 3 rd week of December 2021
7	External Examination Theory Examination	2 nd week of January 2022
Note: #Interested student shall complete formalities prescribed by the college to carry our research project in industry		

Semester IV

Sr. No.	Activity	Proposed date
1.	Continuation of research work	January 2022
2.	Communication of Research Paper (Publication) minimum 2	Before March 2022
3.	Colloquium	1 st week of May 2022
4.	Clearance of college Dues	May 2022
5.	Submission of Dissertation	31 st May 2022
6.	Seminar on dissertation Research work Dissertation and Defense (Viva Voce)	As per University Schedule
Note: Submission of work progress report every month.		

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4. Workload distribution

[Back to index](#)

M.Pharm Pharmaceutical Chemistry							
Dr.D.Y.Patil College of Pharmacy,Akurdi-44							
Workload Distribution 2020-21							
Sr.no	Name of faculty	Class	Subject allotted	Theory (T)	Practical (P)	T+P	Total load
Sem-I							
1	Dr.(Mrs) S P Mahaparale	M.Pharm PQA	QCQA	4	12	16	19
		M.Pharm PQA	Seminar/Assignments	0	3	3	
2	Dr. S.C.Daswadkar	M.Pharm Chem	Adv Med Chem	4	12	16	19
		M.Pharm Chem	Seminar/Assignments	0	3	3	
3	Mr.M.T.Mohite	M.Pharm PH PQA Chem PCOL	MPAT	4	0	4	16
		Final Yr	PA-IV	3	9	12	
4	Ms. Jyotsna Chopade	FY Bpharm	PA -I	4	16	20	20
5	Ms. Tejashri Deokule	SYBPharm	POC-III	4	0	4	21
		M.Pharm Chem	Adv Org Chem	4	0	4	
		M.Pharm PQA	Seminar/Assignments	0	4	4	
		Final B.Pharm	MC-III	0	9	9	
6	Mr. Sandip Kshirsagar	TY Bpharm	MC-II	4	12	16	19
		Final B.Pharm	MC-III	3	0	3	
7	Ms. Sarika Jadhav	M.Pharm Chem	Seminar/Assignments	0	4	4	20
		FY Bpharm	PIC	4	16	16	
8	Mr. Swapnil Bharati	SY BPharm	MC-I	4	12	16	20
		FY Bpharm	PIC	0	4	4	
9	Ms. Rasika Karandikar	TY BPharm	QAT	4	0	4	20
		FY Bpharm	PA -I	0	4	4	
		TY Bpharm	Biotech	4	0	4	
		FY BPharm	HAP	0	8	8	

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M.Pharm Pharmaceutics								
Dr. D. y. patil Pratishthan's								
Dr.D.Y.Patil College of Pharmacy,Akurdi-44								
Workload Distribution 2020-21								
Sr.no	Name of faculty	Designation	Class	Subject allotted	Theory (T)	Practical (P)	T+P	Total load
Sem-I								
1	Dr.(Mrs) S P Chaudhari	Professor	M.Pharm PH	Seminar/Assignments	0	3	3	19
			M.Pharm PH	Modern Pharmaceutics	4	12	16	
2	Dr. Mrs P. M.Chaudhari	Asso.prof	M.Pharm PH	DDS	4	0	4	16
			Final B.Pharm	ADDS	3	9	12	
3	Dr V. R Vaidya	Asst.prof	SY	PP II	4	12	16	20
			M.Pharm PQA	Product development and technology transfer	4	0	4	
4	Ms. Neetu Khatri	Asst. Prof	TYBpharm	Biopharm	4	0	4	16
			Final B.Pharm	Cosmetic Science	3	9	12	
5	Dr Sudhir Pandya	Asst.prof	M.Pharm PH	Regulatory Affairs	4	0	4	20
			M.Pharm PH	Seminar/Assignments	0	4	4	
			M.Pharm PQA	QMS	4	0	4	
			FY Pharm D	Pharmaceutics -I	0	8	8	
6	Ms. Pooja Pawar	Asst.prof	F.Y.B.Pharm	Pharmaceutics -I	4	12	16	19
			Final B.Pharm	QAT	3	0	3	

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M.Pharm Pharmacology							
Dr. D.Y. Patil Pratishthan's							
Dr.D.Y.Patil College of Pharmacy,Akurdi-44							
Workload Distribution 2020-21							
Sr.no	Name of faculty	Class	Subject allotted	Theory (T)	Practical (P)	T+P	Total load
Sem-I							
1	Dr.N.S.Vyawahare	FY Bpharm	Remedial Biology	2	2	4	8
		Pharm D		2	2	4	
2	Mr. A.V.Kulkarni	Final Yr B.Pharm	Pcology-V	3	9	12	19
		M.Pharm Pcology	Screening & Toxicology	4	0	4	
		M.Pharm Pcology	Sem/Assignment	0	3	3	
3	Dr. D.S.Shirode	M.Pharm Pcology	Adv Pcology-I	4	0	4	18
		M.Pharm Pcology	Experimetnal Pcology practical	0	12	12	
		M.Pharm Pcology	Sem/Assignment	0	2	2	
4	Dr. Smita Sadar	SY Bpharm	Pcology-I	4	12	16	18
		M.Pharm Pcology	Sem/Assignm	0	2	2	
5	Mr. Pawan Wankhede	TYBPharm	Pcology-III	4	12	16	20
		M.Pharm Pcology	Cell & Mol Pcology	4	0	4	
6	Mr.Atul Deshmukh	FY Bpharm	HAP	4	12	16	16

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M.Pharm Pharmacognosy								
Dr. D.Y. Patil Pratishthan's								
Dr.D.Y.Patil College of Pharmacy,Akurdi-44								
Workload Distribution 2020-21								
Sr.no	Name of faculty	Designation	Class	Subject allotted	Theory (T)	Practical (P)	T+P	Total load
Sem-I								
1	Dr. R. S. Karodi	Asst Prof	TY	HDT	4	12	16	20
			M.Pharm Chem	CNP	4	0	4	
2	Ms. S. W. Jadhaw	Asst Prof	SY	P'cognosy &	4	12	16	19
			B.Pharm	Phytochem				
			Final Yr Bpharm	NPCIR	3	0	3	

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Vyawahar

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M.Pharm Pharmaceutics							
Dr. D.Y. Patil Pratishthan's							
Dr.D.Y.Patil College of Pharmacy,Akurdi-44							
Workload Distribution 2020-21							
Sr. no	Name of faculty	Class	Subject allotted	Theory (T)	Practical (P)	T+P	Total load
Sem-II							
1	Dr.(Mrs) S P Chaudhari	M.Pharm PH	Seminar/Assignments	0	3	3	19
		M.Pharm PH	Modern Pharmaceutics	4	12	16	
2	Dr. Mrs P. M.Chaudhari	M.Pharm PH	DDS	4	0	4	4
3	Dr V. R Vaidya	M.Pharm PQA	Product development and technology transfer	4	0	4	4
4	Dr Sudhir Pandya	M.Pharm PH	Regulatory Affairs	4	0	4	12
		M.Pharm PH	Seminar/Assignments	0	4	4	
		M.Pharm PQA	QMS	4	0	4	
5	Dr.(Mrs) S P Mahaparale	M.Pharm PQA	QCQA	4	12	16	19
		M.Pharm PQA	Seminar/Assignments	0	3	3	
6	Dr. S.C.Daswadkar	M.Pharm Chem	Adv Med Chem	4	12	16	19
		M.Pharm Chem	Seminar/Assignments	0	3	3	
7	Mr.M.T.Mohite	M.Pharm PH PQA Chem PCOL	MPAT	4	0	4	4
8	Ms. Tejashri Deokule	M.Pharm Chem	Adv Org Chem	4	0	4	8
		M.Pharm PQA	Seminar/Assignments	0	4	4	
9	Ms. Sarika Jadhav	M.Pharm Chem	Seminar/Assignments	0	4	4	4
10	Mr. A.V.Kulkarni	M.Pharm Pcology	Screening & Toxicology	4	0	4	7
		M.Pharm Pcology	Sem/Assignment	0	3	3	
11	Dr. D.S.Shirode	M.Pharm Pcology	Adv Pcology-I	4	0	4	18
		M.Pharm Pcology	Experimetal Pcology practical	0	12	12	
		M.Pharm Pcology	Sem/Assignment	0	2	2	
12	Dr. Smita Sadar	M.Pharm Pcology	Sem/Assignment	0	2	2	2
13	Mr. Pawan Wankhede	M.Pharm Pcology	Cell & Mol Pcology	4	0	4	4
14	Dr. R. S. Karodi	M.Pharm Chem	CNP	4	0	4	4

5. Academic Time Table

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**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

TIME TABLE 2020-21 (First Half)

M.Pharm(Pharmaceutics)

Timings	Lecture/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10.00-11.00	1	Pharmaceutics Practical I (SPC)	Pharmaceutics Practical I (SPC)	Seminar /Assignment (SPC)	DDS (PMC)	Seminar /Assignment (SVP)	MPAT (MTM)
11.00-12.00	2			RA (SVP)	MPH (SPC)	DDS (PMC)	DDS (PMC)
12.00-1.00	3			MPH (SPC)	RA(SVP)	Seminar /Assignment (SPC)	MPH(SPC)
1.30-2.30	4			Seminar /Assignment (SVP)	Seminar /Assignment (SPC)	RA (SVP)	MPAT(MTM)
2.30-3.30	5			DDS (PMC)	RA (SVP)	MPH (SPC)	Seminar /Assignment (SVP)
3.30-4.30	6				MPAT(MTM) 3.30-4.30	MPAT (MTM)	Seminar /Assignment (SVP)

*MPH-Modern Pharmaceutics, DDS- Drug Delivery system, RA- Regulatory Affairs
SPC (Dr.Shilpa Chaudhari), PMC (Dr.Pallavi Chaudhari), SVP(Dr.Sudhir Pandya), MTM (Mr.Mukesh Mohite)*

**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

TIME TABLE 2020-21 (First Half)

M.Pharm Pharmaceutical Chemistry

Timings	Lecture/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10.00-11.00	1	Pharm Chem Practical –I (SCD)	Pharm Chem Practical –I (SCD)	Seminar /Assignment (SCD)	Seminar /Assignment (SCD)	AOC-I(TAD)	MPAT(MTM)
11.00-12.00	2			CNP (RSK)	AMC (SCD)	CNP(RSK)	AOC-I(TAD)
12.00-1.00	3			AMC (SCD)	AOC-I (TAD)	AMC(SCD)	AMC(SCD)
1.30-2.30	4			Seminar /Assignment (TAD)	Seminar /Assignment (SCD)	CNP (RSK)	MPAT(MTM)
2.30-3.30	5			AOC-I (TAD)		Seminar /Assignment (TAD)	Seminar /Assignment (TAD)
3.30-4.30	6			Seminar /Assignment (TAD)	MPAT(MTM) 3.30-4.30	MPAT(MTM)	- CNP(RSK)

AOC-I – Advanced Organic Chemistry, AMC- Advanced Medicinal Chemistry, CNP – Chemistry of Natural Products

TAD (Ms. Tejashree Deokule), SCD(Dr. Shubhangi Daswadkar), RSK (Dr.Revan Karodi), Ms. Sarika Jadhav

**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

M. Pharm Pharmacology

TIME TABLE 2020-21 (First Half)

Timings	Lecture/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10.00-11.00	1	CMP (PPW)	Pharmacology practical –I (DSS)	Pharmacology practical –I (DSS)	PTSM(AVK)	CMP(PPW)	MPAT(MTM)
11.00-12.00	2	PTSM(AVK)			AP-I(DSS)	PTSM(AVK)	Seminar /Assignment (SSS)
12.00-1.00	3	AP-I(DSS)			Seminar /Assignment (AVK)	AP-I(DSS)	- Seminar /Assignment (AVK)
1.30-2.30	4	PTSM(AVK)			CMP(PPW)	Seminar /Assignment(DSS)	MPAT(MTM)
2.30-3.30	5	Seminar /Assignment(DSS)			AP-I(DSS)	PTSM(AVK)	CMP(PPW)
3.30-4.30	6	Seminar /Assignment (AVK)			MPAT(MTM) 3.30-4.30	MPAT(MTM)	Seminar /Assignment (SSS)

AP-I – Advanced Pharmacology, PSTM -Pharmacological and Toxicological Screening Methods, CMP - Cellular and Molecular Pharmacology
DSS (Dr. Devendra Shirode), AVK (Mr. Ashish Kulkarni), PPW (Mr. Pavan Wankhade), Dr.Smeeta Sadar

**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

TIME TABLE 2020-21 (First Half)

M.Pharm Pharmaceutical Quality Assurance

Timings	Lecture/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10.00-11.00	1	QMS(SVP)	Seminar /Assignment (SHA)	PQA Practical I (SPM)	PQA Practical I (SPM)	PDTT(VRV)	MPAT(MTM)
11.00-12.00	2	Seminar /Assignment (SPM)	QMS(SVP)			QCQA(SPM)	PDTT(VRV)
12.00-1.00	3	Seminar /Assignment (SHA)	QCQA(SPM)			Seminar /Assignment (SHA)	QCQA(SPM)
1.30-2.30	4	QCQA(SPM)	QMS(SVP)			Seminar /Assignment (SHA)	MPAT(MTM)
2.30-3.30	5	QMS(SVP)	Seminar /Assignment (SPM)			PDTT(VRV)	PDTT(VRV)
3.30-4.30	6	Seminar /Assignment (SPM)				MPAT(MTM) 3.30-4.30	MPAT(MTM)

QMS –Quality Management Systems, QCQA-Quality Control &Quality Assurance, PDTT – Product Development Technology
Transfer SVP(Dr.Sudhir Pandya), SPM(Dr.Sonali Mahaparale), VRV (Dr. Vaibhav Vaidya),SHA- Sarika H Alhat

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**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

TIME TABLE 2020-21 (Second Half)

First Year B. Pharm							
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10.00-11.00 am		P'ceutics-I (PSP)	PIC (SRJ)	HAP (AAD)	PA –I (JRC)	Remedial Biology	
11.00-12.00pm	Lunch Break						
12.00-1.00pm	1	PA-I (JRC)	HAP (SSP)	PIC (SRJ)	PA-I (JRC)	Communication skills	Remedial Maths
1.00-2.00 pm	2	HAP (AAD)	PIC (SRJ)	P'ceutics-I (PSP)	PIC (SRJ)	PA-I (JRC)	Remedial Maths
2.00-3.00 pm	3	PIC (SRJ)	P'ceutics-I(PSP)	PA – I (JRC)	HAP (AAD)	RM/RB	Tutorial session/CA
3.00 -4.00 pm	4	P'ceutics-I (PSP)	Communication skills	HAP (AAD)	PIC (SRJ)	P'ceutics-I (PSP)	Tutorial session/CA

JRC- Ms. Jyotsna Chopade, PSP- Ms. Pooja Pawar, AAD- Mr. Atul Deshmukh, SRJ- Ms. Sarika Jadhav, SSB- Mr. Swapnil Bharati RPD – Ms. Rasika Deshpande

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**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

TIME TABLE 2020-21 (Second Half)

04th January 2021

Second Year B. Pharm							
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10.00-11.00 am		PP-II (VRV)	MC-I (SSB)	P Cology –I (SSS)	P Cognosy (SWJ)	Practical CA	Practical CA
11.00-12.00pm	Lunch Break						
12.00-1.00pm	1	P Cognosy (SWJ)	POC-II (TAD)	PP-II (VRV)	MC-I (SB)	P Cology –I (SSS)	TPO/CA
1.00-2.00 pm	2	PP-II (VRV)	P Cognosy (SWJ)	P Cology –I (SSS)	POC-II (TAD)	POC-II (TAD)	Tutorial session
2.00-3.00 pm	3	P Cology –I (SSS)	PP-II (VRV)	MC-I (SSB)	P Cology –I (SSS)	MC-I (SSB)	P Cognosy (SWJ)
3.00 -4.00 pm	4	P Cognosy (SWJ)	POC-II (TAD)	PP-II (VRV)	MC-I (SSB)	Tutorial session	P Cognosy (SWJ)

VRV-Dr.Vaibhav Vaidya, SSS – Dr.Smeeta Sadar, SWJ – Ms. Shubangi Jadhav, TAD –Ms. Tejashree Deokule, SSB- Mr. Swapnil Bharati

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**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

TIME TABLE 2020-21 (Second Half)

04th January 2021

Third Year B. Pharm							
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10.00-11.00 am	A	HDT (RSK)	P'Cology-III (PPW)	Med.Chem-II (SSK)	Biotech(SSP)	QAT (RPD)	Practical CA
11.00-12.00pm	Lunch Break						
12.00-1.00pm	1	HDT (RSK)	P'Cology-III (PPW)	Med.Chem-II (SSK)	QAT (RPD)	HDT (RSK)	Biopharm (NAK)
1.00-2.00 pm	2	Biotech(SSP)	HDT (RSK)	Biopharm (NAK)	Med.Chem-II (SSK)	Biotech(SSP)	Biopharm (NAK)
2.00-3.00 pm	3	Med.Chem-II (SSK)	QAT (RPD)	Biotech(SSP)	Biopharm (NAK)	QAT (RPD)	P'Cology-III (PPW)
3.00 -4.00 pm	4	P'Cology-III (PPW)	Med.Chem-II (SSK)	P'Cology-III (PPW)	HDT (RSK)	Biopharm (NAK)	P'Cology-III (PPW)

RSK- Dr. Revan Karodi, NAK - Mrs. Neetu Khatri, SSK- Mr. Sandip Kshirsagar, PPW –Mr. Pavan Wankhade, RPD- Ms. Rasika Deshpande, SSP –Ms. Shivani Patil

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Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

TIME TABLE 2020-21 (Second Half)

04th January 2021

Final Year B. Pharm							
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10.00-11.00 am	A	PA-VI (MTM)	Cosmetic Science (NAK)	Med.Chem-IV (TAD)	ADDS (PMC)	P'Cology-V (AVK)	TPO sessions
11.00-12.00pm	Lunch Break						
12.00-1.00pm	1	Med.Chem-IV (SSK)	QAT(PRK)	PA-VI (MTM)	Cosmetic Science (NAK)	Med.Chem-IV (SSK)	P'Cology-V (AVK)
1.00-2.00 pm	2	PA-VI (MTM)	Med.Chem-IV (SSK)	ADDS (PMC)	NP:CIR (SWJ)	Cosmetic Science (NAK)	P'Cology-V (AVK)
2.00-3.00 pm	3	ADDS (PMC)	P'Cology-V (AVK)	P'Cology-V (AVK)	QAT(PRK)	NP:CIR (SWJ)	QAT(PRK)
3.00 -4.00 pm	4	ADDS (PMC)	Cosmetic Science (NAK)	NP:CIR (SWJ)	Tutorial session	PA-VI (MTM)	QAT(PRK)

PMC- Dr. Pallavi Chaudhari, MTM – Mr. Mukesh Mohite, AVK- Mr. Ashish Kulkarni, SWJ – Ms. Shubangi Jadhav, TAD –Ms. Tejashree Deokule, NAK - Mrs. Neetu Khatri, SSK- Mr. Sandip Kshirsagar, PRK- Ms. Pranita Kale

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**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

TIME TABLE 2020-21 (Second Half)

Offline (For those students who have given consent to attend college)

M.Pharm (Pharmaceutics, Pharmaceutical Quality Assurance, Pharmaceutical Chemistry & Pharmacology)							
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-3.00pm	Pactical	Pharmaceutics Practical I (SPC)	Pharm Chem Practical –I (SCD)	PQA Practical I (SPM)	Pharmacology practical –I (DSS)	-	-

Online sessions

M.Pharm (Pharmaceutics, Pharmaceutical Quality Assurance, Pharmaceutical Chemistry & Pharmacology)							
Timings	Lecture/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10.00-11.00 am		AOC-I/ CMP	PTSM	AOC-I	AOC-I	PDTT/CNP/CMP	Seminar (SVP/TAD/SRJ/SSS)
11.00-12.00pm							
12.00-1.00pm	1	AMC/PTSM	DDS/QMS	DDS/QMS/AMC	DDS/ QMS/ AMC	Seminar (SVP/TAD/SRJ/SSS)	-
1.00-2.00 pm	2	QCQA/AP-I	MPH/QCQA	MPH/AOC-I/CMP	MPH/ QCQA/ CNP	DDS/QMS/AMC/CMP	-
2.00-3.00 pm	3	CNP	RA/PDTT/AP-I	RA/CNP/AP-I	RA/ PDTT / PTSM	MPH/QCQA/PTSM	-
3.00 -4.00 pm	4	MPAT	MPAT	MPAT	MPAT	RA/PDTT/AP-I	-
4.00 – 5.00 pm	5	Seminar (SPC/SPM/SCD/AVK)	Seminar (SPC/SPM/SCD/AVK)	Assignment (SPC/SPM/SCD/AVK)	Assignment (SVP/TAD/SRJ/DSS)	Seminar (SVP/TAD/SRJ/DSS)	-

M.Pharm , Pharmaceutics - MPH-Modern Pharmaceutics, DDS- Drug Delivery system, RA- Regulatory Affairs MPH- SPC (Dr.Shilpa Chaudhari), DDS-PMC (Dr.Pallavi Chaudhari), RA- SVP(Dr.Sudhir Pandya), MPAT – MTM (Mr.Mukesh Mohite)

M.Pharm, Pharmaceutical Quality Assurance: QMS –Quality Management Systems, QCQA-Quality Control & Quality Assurance, PDTT – Product Development Technology Transfer

QMS – SVP (Dr.Sudhir Pandya) , QCQA – SPM(Dr.Sonali Mahaparale), PDTT -VRV (Dr. Vaibhav Vaidya)

M.Pharm , Pharmaceutical Chemistry : AOC-I – Advanced Organic Chemistry, AMC- Advanced Medicinal Chemistry, CNP – Chemistry of Natural Products

AOC-I – TAD (Ms. Tejashree Deokule), AMC- SCD(Dr. Shubhangi Daswadkar), CNP – RSK (Dr.Revan Karodi), SRJ- Ms. Sarika Jadhav

M.Pharm, Pharmacology: AP-I – Advanced Pharmacology, PSTM -Pharmacological and Toxicological Screening Methods, CMP - Cellular and Molecular Pharmacology Dr N AP-I – DSS (Dr. Devendra Shirode), PTSM-I AVK (Mr. Ashish Kulkarni), CMP – PPW (Mr. Pavan Wankhade), SSS –

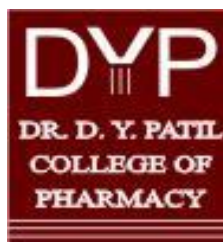
Dr.Smeeta Sadar SVyawahar

6. Course Booklet /File

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COUSE BOOKLET

THIRD YEAR B. PHARM. BP 502T-Industrial Pharmacy I



**DR. D. Y. PATIL COLLEGE OF PHARMACY,
AKURDI, PUNE, 44**

SYLLABUS
BP 502T-Industrial Pharmacy I (Theory)
45 Hours

Course content: 3 hours/ week

UNIT-I

03 Hours

Preformulation Studies: Introduction to preformulation, goals and objectives, study of physicochemical characteristics of drug substances.

UNIT-II

14 Hours

Tablets:

a. Introduction, ideal characteristics of tablets, classification of tablets. Excipients, preformulation and Formulation of tablets, granulation methods, compression and processing problems, Equipments and tablet tooling.

b. **Tablet coating:** Types of coating, coating materials, formulation of coating composition, methods of coating, equipment employed and defects in coating.

c. **Quality control tests:** In process and finished product tests

Liquid orals: Preformulation, Formulation and manufacturing consideration of syrups and elixirs suspensions and emulsions; Filling and packaging; evaluation of liquid orals official in pharmacopoeia

UNIT-III

08 Hours

Capsules:

a. **Hard gelatin capsules:** Introduction, Production of hard gelatin capsule shells. Size of capsules, Filling, finishing and special techniques of formulation of hard gelatin capsules, manufacturing defects. In process and final product quality control tests for capsules.

b. **Soft gelatin capsules:** Nature of shell and capsule content, size of capsules, importance of base adsorption and minim/gram factors, production, in process and final product quality control tests. Packing, storage and stability testing of soft gelatin capsules and their applications.

Pellets: Introduction, formulation requirements, pelletization process, equipments for manufacture of pellets

UNIT-IV

10 Hours

Parenteral Products:

- a. Definition, types, advantages and limitations. Preformulation factors and essential requirements, vehicles, additives, importance of isotonicity
- b. Production procedure, production facilities and controls, aseptic processing
- c. Formulation of injections, sterile powders, large volume parenterals and lyophilized products.
- d. Containers and closures selection, filling and sealing of ampoules, vials and infusion fluids. Quality control tests of parenteral products. Ophthalmic Preparations: Introduction, formulation considerations; formulation of eye drops, eye ointments and eye lotions; methods of preparation; labeling, containers; evaluation of ophthalmic preparations

UNIT-V

10

Hours Cosmetics: Formulation and preparation of the following cosmetic preparations: lipsticks, shampoos, cold cream and vanishing cream, tooth pastes, hair dyes and sunscreens.

Pharmaceutical Aerosols: Definition, propellants, containers, valves, types of aerosol systems; preformulation, formulation and manufacture of aerosols; Evaluation of aerosols; Quality control and stability studies.

Packaging Materials Science: Materials used for packaging of pharmaceutical products, factors influencing choice of containers, legal and official requirements for containers, stability aspects of packaging materials, quality control tests

SYLLABUS PLAN

Theory/Practical: Theory

Subject code: BP 502 T

Subject: Industrial Pharmacy-I

Class: Third year

Semester: V

No of Hrs. assigned: 3Hrs/week

No of hours planned :45

Department: Pharmaceutics

Course Description: Course enables the student to understand and appreciate the influence of pharmaceutical additives and various pharmaceutical dosage forms on the performance of the drug product. Industrial Pharmacy is a discipline which includes manufacturing, development, marketing and distribution of drug products including quality assurance of these activities. This broad research area relates to different functions in the pharmaceutical industry and having contact areas with engineering and economics.

Course Objectives:

Upon completion of the course the student shall be able to

1. illustrate various pharmaceutical dosage forms and their manufacturing techniques.
2. describe various factors to be considered in development of pharmaceutical dosage forms
3. Formulate solid, liquid and semisolid dosage forms and evaluate them for their quality

Course Outcomes:

CO1: To assess the physicochemical properties of drugs as a tool in the optimization of solid and liquid dosage forms.

CO2: Formulate and evaluate tablets, and liquid orals using established procedures and technology.

CO3: Formulate and evaluate capsules and pellets using established procedures and technology.

CO4: Appraise the formulation and evaluation of different types of parenteral and ophthalmic dosage forms with their packaging considerations.

CO5: Formulate and evaluate cosmetics and Aerosols based on their role with the packaging system.

CO6: Select and evaluate appropriate packaging materials for various pharmaceutical dosage forms.

	Knowledge	Planning	Problem Solving	Modern tool usage	Leadership	Professional identity	Ethics	Communication	Pharmacist and society	Environmental sustain
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO
CO1	3	2	2		-	-		1	1	
CO2	3	2	2	2	2	2		2	-	
CO3	3	1	2	3	2	3	3	2	2	
CO4	3	2	2	3	2	3	3	3	2	
CO5	3	2	2	3	2	3	3	2	2	
CO6	3	3	3	3	3	3	3	3	1	

Books Referred:

- 1) Banker .S.Gilbert; Cristopher.T.Rhodes; “ Modern Pharmaceutics” 4th edition, Marcel Dekker series (121);237-286,287-334,335-381.
- 2) Michael E Aulton ;” Pharmaceutics-The Design and manufacture of medicines”; 3rd edition, Churchill living stone Elsevier;4-14,70-98,336-360, 383-405, 406-482,515-538,137-144,152-167,168-180.
- 3)Loyd V Allen, Jr.; Nicolas G. Popovich Howard C. Ansel ; “ Pharmaceutical Dosage forms and Drug Delivery Systems”8th edition; Indian B.I.Publications PVT. LTD.; 204-226;227-259,276-297,385-442,316-335,92-185.

- 4) Herbert A . Liberman;Martin M Riger; Gilbert S. Banker; “Pharmaceutical Dosage forms: Disperse Systems”;Volume 1;2nd edition; Marcel Dekkar series: 153-206,17-50;53-89.
- 5) Herbert A . Liberman;Martin M Riger; Gilbert S. Banker; “Pharmaceutical Dosage forms: Disperse Systems”; Volume 2 ;2nd edition; Marcel Dekkar series: 1-43,111-145,149-177,183-239,47-97,447-492.
- 6) Cooper and Gunns; Dispensing for Pharmaceutical Students; 12th edition; CBS publisher and distributors, New Delhi;100-119,120-167,192-231,232-252,357-394,47-53,677-681,13-23.
- 7) Leon Lachman; Liberman A. Herbert; Joseph L Kanig; “The theory and Practice of Industrial Pharmacy”; 3rd edition; Varghese Publishing house, Dadar; 479-501,502-533,534-563,564-588,171-198,293-345,346-373,374-429 .
- 8) Herbert A . Liberman; Leon Lachman; Joseph B.Schwartz; “ Pharmaceutical Dosage forms: Tablets” Volume 1 ; 2nd edition; Marcel Dekkar series ; 1-68,75-127,131-189,195-245,247-284,285-326,367-415.
- 9) Herbert A . Liberman; Leon Lachman; Joseph B.Schwartz; “ Pharmaceutical Dosage forms: Tablets” Volume 2 ; 2nd edition; Marcel Dekkar series ;245-338,571,601-608 73-104,201-241,1-70.
- 10) Herbert A . Liberman; Leon Lachman; Joseph B.Schwartz; “ Pharmaceutical Dosage forms: Tablets” Volume 3 ; 2nd edition; Marcel Dekkar series ; 77-158,161-194,497-548.
- 11) Larry L .Augsburger; Stephen W.Hoag ; ““ Pharmaceutical Dosage forms: Tablets” Volume 1: Unit Operatiuons and mechanical Properties; 3rd edition;informa healthcare New York London; 261-302,303-336,337-372,555-630.

- 12)) Larry L .Augsburger; Stephen W.Hoag ; ““ Pharmaceutical Dosage forms: Tablets” Volume 2: Rational Design and formulation; 3rd edition;informa healthcare New York London;173-216,217-250,251-268,293-312.
- 13) Larry L .Augsburger; Stephen W.Hoag ; ““ Pharmaceutical Dosage forms: Tablets” Volume 3: Manufacture and process control; 3rd edition;informa healthcare New York London;,153-190,207-236,277-302,373-398,
- 14) Barel Andre O., Paye Marc, Maibach Howard I., Handbook of Cosmetic Science and Technology. Marcel Dekker, Inc.
- 15) Harry’s Cosmeticology. By J.B. Wilkinson and R.J. Moore, Longman Scientific and Technical, England.
- 16) Sharma P. P., “Cosmetic Formulation, Manufacturing and Quality Control” 7th edition,
- 17) J.Knowlton and S.Rearce“ Handbook of cosmetic science and technology” 1st edition; Elsevier science publisher; oxford, UK, 1993
- 18) Nema, R.K., Rathore, K.S. &Dubey, B.K., 2009, Textbook of Cosmetics, First Edition, CBS Publishers & Distributors, Pune
19. U. K. Jain & S. Nayak, 2018, Pharmaceutical Packaging Technology, Pharmamed Press, India
- 20) Kokare C., Tagalpallewar A., 2019, Sterile Products, CBS Publishers.
- 1) Pharma Times; “ Tablet Formulation Design and Manufacture: Oral immediate release Application” ; Vol41(N0.4)April 2009 ; 21-29.

Any other sources:

1. <http://www.aapspharmscitech.org/view.asp?art=pt060241>

2. <http://www.amerilabtech.com/docs/EffervescentTablets&KeyFacts.pdf>
3. International Pharmaceutical Excipient council USP 7th Annual Meeting Hyderabad 7th February 2008; “ Excipient Functionality, specifications and Monographs –PPT by S. D. Joag Hon Gen Secretary IPA Director, Dr.M.K.Rangnekar Lab, Mumbai.

Chapter No.	Name of the Chapter	Lecture No.	Topic to be covered	References with page no.		
				Books	Journals	Any other
1	Preformulation	1.	Discuss introduction to preformulation goals and objectives, Drug discovery process	1(167-186); 7(171-198); 2(336-360)	-	-
		2.	Explain solid state properties- bulk characterization	2(4-14);3(92-185);20(939-947)	-	-
		3.	Explain Liquid state properties- solubility studies			
2	Tablets	4.	Discuss the introduction and types of tablets	1(287-334); 3(227-259);7(293-345);8(1-68,75-127,131-189,195-245,247-284,285-326,367-415); 9(245-338,571,601-608 73-104,201-241,1-70); 10(497-548); 11(261-302,303-336,337-372,555-630); 12(173-216,217-250,251-268,293-312); 13(153-190,207-236,277-302)2(410-482)21(1712-1728,2004-2020,3553-3567,3611-3716).	1;2;3;4	1;6;8
		5.	Discuss the types of tablets continued			
		6.	Explain the additives used in tablets			
		7.	Appraise the knowledge of granulation mechanism and processes			
		8.	Evaluate of granulation			
		9.	Justify the physics of tablet compression			
		10.	Explain tablet compression machines			
		11.	Summarize the manufacturing problems and remedies thereof.			
		12.	Quality control for tablets			
		13.	Packaging and labeling strips, blister and bulk packagin			

3	Tablet coating	14.	Advantages and disadvantages, Types of coating , ideal properties for coating	7(346-374); 10(77-158,161-194); 13(373-398,399-438);2(500-514)	-	-
		15.	Sugar coating process			
		16.	Film coating and enteric coating process			
		17.	Materials used for film coating and enteric coating			
		18.	Process parameters affecting coating			
		19.	Manufacturing problems and remedies thereof.			
		20.	Compression Coating Evaluation of coated tablets			
4	Pelletization	21.	Introduction, formulation requirements	7(947-1002)	-	-
		22.	pelletization process, equipments for manufacture of pellets			
		23.	Evaluation of pellets			
5	Capsules	24.	Advantages and disadvantages of capsules, Raw material for capsule shell	1(335-380);3(204-226);7(374-411);2(515-526,527-538);19(406-430)	-	-
		25.	Preparation of hard capsule shell			
		26.	Study of Capsule sizes and standards and defects thereof			
		27.	Formulation development			
		28.	Capsule filling principles and equipments			
		29.	Q.C Parameters problems and remedies thereof.			
		30.	Soft gelatin capsule formulation development			
		31.	Manufacturing , processing and equipment			
		32.	Plant layout of Capsule Manufacturing plant			
6	Liquid orals:	33.	Preformulation	2(4-14);3(92-185);20(939-947)		
		34.	Formulation and manufacturing consideration of syrups and elixirs			
		35.	Suspension theories			
		36.	Suspensions formulation and evaluation			
		37.	Emulsion theories			
		38.	Emulsion formulation and evaluation			
7	Cosmetics	39.	Introduction to cosmetics, classification	14, 15, 16, 17, 18		

		40.	shampoos			
		41.	lipsticks			
		42.	cold cream and vanishing cream			
		43.	tooth pastes			
		44.	hair dyes			
		45.	sunscreens			
8	Aerosol	46.	Definition, propellants containers, valves, types of aerosol systems	1(335-380);3(204-226);7(374-411);2(515-526,527-538);19(406-430)		
		47.	preformulation, formulation and manufacture of aerosols			
		48.	Evaluation of aerosols; Quality control and stability studies.			
9	Parenteral Products	49.	Definition, types, advantages and limitations. Preformulation factors and essential requirements, vehicles, additives, importance of isotonicity	20		
		50.	Production procedure, production facilities and controls, aseptic processing			
		51.	Formulation of injections, sterile powders, large volume parenterals and lyophilized products.			
		52.	Containers and closures selection, filling and sealing of ampoules, vials and infusion fluids.			
		53.	Quality control tests of parenteral products.			
10	Ophthalmic Preparations:	54.	Introduction, formulation considerations;	20		
		55.	Formulation of eye drops, eye ointments and eye lotions; methods of preparation; labeling, containers; evaluation of ophthalmic preparations			
11	Packaging Materials Science:	56.	Materials used for packaging of pharmaceutical products,	19		
		57.	factors influencing choice of containers, legal and official requirements for containers,			
		58.	stability aspects of packaging materials, quality control tests			

TEACHING LEARNING OUTCOMES

Chapter No.	Name of the Chapter	Co mapped	Topic to be covered
1	Preformulation	CO1	Discuss introduction to preformulation goals and objectives, Drug discovery process
			Explain solid state properties- bulk characterization
			Explain Liquid state properties-solubility studies
2	Tablets	CO2	Discuss the introduction and types of tablets
			Discuss the types of tablets continued
			Explain the additives used in tablets
			Appraise the knowledge of granulation mechanism and processes
			Evaluate of granulation
			Justify the physics of tablet compression
			Explain tablet compression machines
			Summarize the manufacturing problems and remedies thereof.
			Quality control for tablets
3	Tablet coating	CO2	Advantages and disadvantages, Types of coating , ideal properties for coating
			Sugar coating process
			Film coating and enteric coating process
			Materials used for film coating and enteric coating
			Process parameters affecting coating
			Manufacturing problems and remedies thereof.
4	Pelletization	CO3	Introduction, formulation requirements
			pelletization process, equipments for manufacture of pellets
			Evaluation of pellets
5	Capsules	CO3	Advantages and disadvantages of capsules, Raw material for capsule shell
			Preparation of hard capsule shell
			Study of Capsule sizes and standards and defects thereof
			Formulation development
			Capsule filling principles and equipments
			Q.C Parameters problems and remedies thereof.
			Soft gelatin capsule formulation development
			Manufacturing , processing and equipment
Plant layout of Capsule Manufacturing plant			
6	Liquid orals:	CO2	Preformulation
			Formulation and manufacturing consideration of syrups and elixirs
			Suspension theories
			Suspensions formulation and evaluation
			Emulsion theories

			Emulsion formulation and evaluation
7	Cosmetics	CO5	Introduction to cosmetics, classification
			shampoos
			lipsticks
			cold cream and vanishing cream
			tooth pastes
			hair dyes
			sunscreens
8	Aerosol	CO5	Definition, propellants containers, valves, types of aerosol systems
			preformulation, formulation and manufacture of aerosols
			Evaluation of aerosols; Quality control and stability studies.
9	Parenteral Products	CO 4	Definition, types, advantages and limitations. Preformulation factors and essential requirements, vehicles, additives, importance of isotonicity
			Production procedure, production facilities and controls, aseptic processing
			Formulation of injections, sterile powders, large volume parenterals and lyophilized products.
			Containers and closures selection, filling and sealing of ampoules, vials and infusion fluids.
			Quality control tests of parenteral products.
10	Ophthalmic Preparations:	CO4	Introduction, formulation considerations;
			Formulation of eye drops, eye ointments and eye lotions; methods of preparation; labeling, containers; evaluation of ophthalmic preparations
11	Packaging Materials Science:	CO6	Materials used for packaging of pharmaceutical products,
			factors influencing choice of containers, legal and official requirements for containers,
			stability aspects of packaging materials, quality control tests

ASSESSMENT PLANING:**Assignment Type:**

Quiz, Term Paper, Open book test, Group Discussion, Seminar

QUIZ

QUESTION	CO MAPPED	BT LEVEL
1. Point Out following is used as tonicity adjusters ? a) Nacl b) Methyl cellulose c) PEG 4000 d) Lecithin	4	6
2. Justify The concentration of buffering agent used for parenteral preparation is ? a) 1% b) 5-10% c) 0.1%-5% d) 0.1%-10%	4	6
3. Point Out following is a very effective method to control microorganisms but not a sterilization technique? a) U.V Radiation b) Autoclaving c) Beta ray radiation d) Membrane filtration	4	6
4. Justify Chemically pyrogens are..... a) Lipopolysaccharides b) Protein c) Carbohydrates d) Lipoprotein	4	6
5. Point Out Water for injection differs from sterile distilled water as it is free from... a) Carbon di oxide b) Pyrogens c) Preservatives d) Anti-oxidants	4	6
6. Justify Oily injections and suspensions should not be administered through.... a) Intravenous route b) Intramuscular route	4	6

c) Rectal route d) None of these		
7. Light sensitive preparations should be stored in container containing..... a) Black color b) Brown color c) Amber color d) Red color	4	6
8. An anti-oxidant commonly used in the formulation of a non-aqueous parenteral preparation is a) Thioglycolic acid b) Ascorbic acid c) Sodium metabisulphite d) Butylated hydroxyl toluene	4	6
9. Sterilization temperature for aqueous solution in autoclave is ... a) 72 ^o C b) 121 ^o C c) 147 ^o C d) 160 ^o C	4	6
10. Definition of sterile products... a) Product free from microorganism b) Product free from all types of microorganism including spore of bacteria c) A product which is been terminally sterilized d) A product made using aseptic techniques and stored at cool place	4	1

TERM PAPER

Q. NO.	Question	CO Mapped	BT level
1.	Explain film coating of tablets	2	6
2.	Classify capsule filling machines.	3	6
3.	Evaluate granules	2	6
4.	Appraise the knowledge regarding dry granulation	2	6
5.	Justify the term cosmetics	5	6

OPEN BOOK TEST

Q. NO.	Question	CO Mapped	BT level
1.	Draw a table of marketed formulations of vials used in parenteral with its formulation.	4	6
2.	Draw a labeled diagram of tablet punching machine	1	6
3.	Classify packaging material for pharmaceuticals	6	6

GROUP DISCUSSION

Q. NO.	Question	CO Mapped	BT level
1.	Explain the role of various additives in Tablets	2	6
2.	Explain chemical parameters for preformulation studies	1	6

SEMINAR

Q. NO.	Question	CO Mapped	BT level
1.	Overview of various machines/ equipment's/instruments involved in the formulation and quality control of various solid dosage forms	2,3,4,5	6

ASSESSMENT EVALUATION CRITERIA

Assessment Criteria	Score	Comments if any
a. Relevance with Content		
b. Use of Resource Material		
c. Organization and Mechanical Accuracy		
d. Cohesion and Coherence		
e. Language Proficiency and Timely Submission		
Total Score		

SESSIONAL PAPER MAPPING**SESSIONAL 1**

Q. NO.	Question	CO Mapped	BT level
Q 1. SOLVE ANY 5 QUESTIONS			
1.	Justify the role of disintegrants in tablet and give two examples.	2	6
2.	Illustrate hydrates and solvates give examples?	1	4
3.	Justify the mechanism involved in Dry Granulation.	1	6
4.	Explain tablet troches and lozenges	2	6
5.	Explain the role of lubricants in tablets	2	6
6.	Justify chewable tablets	2	6
7.	Define granulation and their types.	2	1
Q 2. SOLVE ANY 2 QUESTIONS			
8.	Summarise the importance of partition coefficient in the drug design with suitable examples.	1	6
9.	Assess on dry granulation (roller compaction) technique and list out advantages and disadvantages	2	6
10.	Explain diluents and disintegrants used in tablet preparation	2	6
Q 2. SOLVE ANY 1 QUESTIONS			
11.	Explain different excipients and their functions used in the tablets	2	6
12.	Explain preformulation studies involved in development of tablet dosage forms	1	6

SESSIONAL II

Q. NO.	Question	CO Mapped	BT level
Q 1. SOLVE ANY 5 QUESTIONS			
1.	Justify the role of additives in cosmetics	5	6
2.	Explain use of parenterals	4	5
3.	Explain capsule	3	5
4.	Appraise the knowledge regarding hard gelatin capsule	3	6
5.	Justify the term bloom strength	3	6
6.	Summarise the soft gelatin capsule	3	6
7.	Predict the term packaging	6	6

Q 2. SOLVE ANY 2 QUESTIONS			
8.	Explain formulation of pallets	3	5
9.	Justify the packaging materials for pharmaceuticals	6	6
10.	Explain ophthalmic formulations	4	6
Q 2. SOLVE ANY 1 QUESTIONS			
11.	Explain formulation and building blocks of aerosols	5	5
12.	Summarise the sterilization process	4	6

Sessional Examination Pattern

Exam Type	Marks allotted	Duration
Theory	30	1.5 Hr
Practical	40	04 Hr

Question paper pattern for theory Sessional For subjects having University exams

I. Objective Type Questions (Answer 05 out of 7)	=5 x 2 = 10
II. Long Answers (Answer 1 out of 2)	=1 x 10 = 10
III. Short Answers (Answer 2 out of 3)	=2 x 5 = 10
Total	30 marks

Gap Identification with methods to cover the topics:

Sr. No.	Name of Topic	Gap Identified	Reason to identify the gap	Method to be used to bridge the gap
1	Tablets	Advanced methods of coating Various machines used for tablet manufacturing	Mentioned in GPAT syllabus, Industry purpose	Power point presentation

SYLLABUS
BP 506 P -Industrial Pharmacy I (Practical)
4hr/Week

1. Preformulation studies on paracetamol/aspirin/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. Quality 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)

SYLLABUS PLAN

Theory/Practical: Practical

Subject code: BP 502 T

Subject: Industrial Pharmacy-I

Class: Third year

Semester: V

No of Hrs. assigned: 4Hrs/week

Course Description: Course enables the student to understand and appreciate the influence of pharmaceutical additives and various pharmaceutical dosage forms on the performance of the drug product. Industrial Pharmacy is a discipline which includes manufacturing, development, marketing and distribution of drug products including quality assurance of these activities. This broad research area relates to different functions in the pharmaceutical industry and having contact areas with engineering and economics.

Course Objectives:

Upon completion of the course the student shall be able to

1. illustrate various pharmaceutical dosage forms and their manufacturing techniques.

2. describe various factors to be considered in development of pharmaceutical dosage forms
3. Formulate solid, liquid and semisolid dosage forms and evaluate them for their quality

Course Outcomes:

CO1: To assess the physicochemical properties of drugs as a tool in the optimization of solid and liquid dosage forms.

CO2: Formulate and evaluate tablets, and liquid orals using established procedures and technology.

CO3: Formulate and evaluate capsules and pellets using established procedures and technology. **CO4: Appraise the** formulation and evaluation of different types of parenteral and ophthalmic dosage forms with their packaging considerations.

CO5: Formulate and evaluate cosmetics and Aerosols based on their role with the packaging system.

CO6: Select and evaluate appropriate packaging materials for various pharmaceutical dosage forms.

	Knowledge	Planning	Problem Solving	Modern tool usage	Leadership	Professional identity	Ethics	Communication	Pharmacist and society	Environmental sustain
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO
CO1	3	2	2		-	-		1	1	
CO2	3	2	2	2	2	2		2	-	
CO3	3	1	2	3	2	3	3	2	2	
CO4	3	2	2	3	2	3	3	3	2	
CO5	3	2	2	3	2	3	3	2	2	
CO6	3	3	3	3	3	3	3	3	1	

Books Referred:

- 1) Banker .S.Gilbert; Cristopher.T.Rhodes; “ Modern Pharmaceutics” 4th edition, Marcel Dekker series (121);237-286,287-334,335-381.
- 2) Michael E Aulton ;” Pharmaceutics-The Design and manufacture of medicines”; 3rd edition, Churchill living stone Elsevier;4-14,70-98,336-360, 383-405, 406-482,515-538,137-144,152-167,168-180.

- 3) Loyd V Allen, Jr.; Nicolas G. Popovich Howard C. Ansel ; “ Pharmaceutical Dosage forms and Drug Delivery Systems”8th edition; Indian B.I.Publications PVT. LTD.; 204-226;227-259,276-297,385-442,316-335,92-185.
- 4) Herbert A . Liberman;Martin M Riger; Gilbert S. Banker; “Pharmaceutical Dosage forms: Disperse Systems”;Volume 1;2nd edition; Marcel Dekkar series: 153-206,17-50;53-89.
- 5) Herbert A . Liberman;Martin M Riger; Gilbert S. Banker; “Pharmaceutical Dosage forms: Disperse Systems”; Volume 2 ;2nd edition; Marcel Dekkar series: 1-43,111-145,149-177,183-239,47-97,447-492.
- 6) Cooper and Gunns; Dispensing for Pharmaceutical Students; 12th edition; CBS publisher and distributors, New Delhi;100-119,120-167,192-231,232-252,357-394,47-53,677-681,13-23.
- 7) Leon Lachman; Liberman A. Herbert; Joseph L Kanig; “The theory and Practice of Industrial Pharmacy”; 3rd edition; Varghese Publishing house, Dadar; 479-501,502-533,534-563,564-588,171-198,293-345,346-373,374-429 .
- 8) Herbert A . Liberman; Leon Lachman; Joseph B.Schwartz; “ Pharmaceutical Dosage forms: Tablets” Volume 1 ; 2nd edition; Marcel Dekkar series ; 1-68,75-127,131-189,195-245,247-284,285-326,367-415.
- 9) Herbert A . Liberman; Leon Lachman; Joseph B.Schwartz; “ Pharmaceutical Dosage forms: Tablets” Volume 2 ; 2nd edition; Marcel Dekkar series ;245-338,571,601-608 73-104,201-241,1-70.
- 10) Herbert A . Liberman; Leon Lachman; Joseph B.Schwartz; “ Pharmaceutical Dosage forms: Tablets” Volume 3 ; 2nd edition; Marcel Dekkar series ; 77-158,161-194,497-548.
- 11) Larry L .Augsburger; Stephen W.Hoag ; ““ Pharmaceutical Dosage forms: Tablets” Volume 1: Unit Operatiuons and mechanical Properties; 3rd edition;informa healthcare New York London; 261-302,303-336,337-372,555-630.
- 12)) Larry L .Augsburger; Stephen W.Hoag ; ““ Pharmaceutical Dosage forms: Tablets” Volume 2: Rational Design and formulation; 3rd edition;informa healthcare New York London;173-216,217-250,251-268,293-312.
- 13) Larry L .Augsburger; Stephen W.Hoag ; ““ Pharmaceutical Dosage forms: Tablets” Volume 3: Manufacture and process control; 3rd edition;informa healthcare New York London;153-190,207-236,277-302,373-398,

- 14) Barel Andre O., Paye Marc, Maibach Howard I., Handbook of Cosmetic Science and Technology. Marcel Dekker, Inc.
- 15) Harry's Cosmeticology. By J.B. Wilkinson and R.J. Moore, Longman Scientific and
- 16) Sharma P. P., "Cosmetic Formulation, Manufacturing and Quality Control" 7th edition, Vandana publication, 2001.
- 17) J.Knowlton and S.Rearce "Handbook of cosmetic science and technology" 1st edition; Elsevier science publisher; oxford, UK, 1993
- 18) Nema, R.K., Rathore, K.S. & Dubey, B.K., 2009, Textbook of Cosmetics, First Edition, CBS Publishers & Distributors, Pune
19. U. K. Jain & S. Nayak, 2018, Pharmaceutical Packaging Technology, Pharmamed Press, India
- 20) Kokare C., Tagalpallewar A., 2019, Sterile Products, CBS Publishers.

1) Pharma Times; "Tablet Formulation Design and Manufacture: Oral immediate release Application"; Vol41(N0.4)April 2009 ; 21-29.

Any other sources:

4. <http://www.aapspharmscitech.org/view.asp?art=pt060241>
5. <http://www.amerilabtech.com/docs/EffervescentTablets&KeyFacts.pdf>
6. International Pharmaceutical Excipient council USP 7th Annual Meeting Hyderabad 7th February 2008; "Excipient Functionality, specifications and Monographs –PPT by S. D. Joag Hon Gen Secretary IPA Director, Dr.M.K.Rangnekar Lab, Mumbai.

Chapter No.	Name of the Practical	Lecture No.	References with page no.		
			Books	Journals	Any other
1	Preformulation studies on paracetamol/aspirin/or any other drug	1	1(167-186); 7(171-198); 2(336-360)	1;2;3;4	1;6;8
2	Preparation and evaluation of Paracetamol tablets	2	21(1712-1728, 2004-2020,3553-	1;2;3;4	1;6;8
3	Preparation and evaluation of Aspirin tablets	3	21(1712-1728, 2004-2020,3553-		
4	Coating of tablets- film coating of tables/granules	4	7(346-374); 10(77-158,161-194)		

5	Preparation and evaluation of Tetracycline capsules	5	1(335-380)		
6	Preparation of Calcium Gluconate injection	6	20		
7	Preparation of Ascorbic Acid injection	7	20		
8	Quality control test of (as per IP) marketed tablets and capsules	8	20		
9	Preparation of Eye drops/ and Eye ointments	9	20		
10	Preparation of Creams (cold / vanishing cream)	10			
11	Evaluation of Glass containers (as per IP)	11			

TEACHING LEARNING OUTCOMES

Chapter No.	Name of the Chapter	Co mapped	PO Mapped	BT Level
1.	To perform the Preformulation studies on paracetamol/ aspirin/ or any other drug	1	1,2,3,4,5,6,7,8, 9,11	4
2.	Formulation of Paracetamol tablets	2	1,2,3,4,5,6,7,8, 9,11	5
3.	Evaluation of Paracetamol tablets	2	1,2,3,4,5,6,7,8, 9,11	6
4.	Formulation of Aspirin tablets	2	1,2,3,4,5,6,7,8, 9,11	5
5.	Evaluation of Aspirin tablets	2	1,2,3,4,5,6,7,8, 9,11	6
6.	To perform Coating of tablets- film coating of tables/granules	2	1,2,3,4,5,6,7,8, 9,11	4
7.	Formulation of Tetracycline capsules	3	1,2,3,4,5,6,7,8, 9,11	5
8.	Evaluation of Tetracycline capsules	3	1,2,3,4,5,6,7,8, 9,11	6

9.	Formulation of Calcium Gluconate injection	4	1,2,3,4,5,6,7,8,9,11	5
10.	Formulation of Ascorbic Acid injection	4	1,2,3,4,5,6,7,8,9,11	5
11.	Evaluate the (as per IP) marketed tablets	2	1,2,3,4,5,6,7,8,9,11	6
12.	Evaluate the (as per IP) marketed capsules	3	1,2,3,4,5,6,7,8,9,11	6
13.	Formulation of Eye drops/ and Eye ointments	4	1,2,3,4,5,6,7,8,9,11	5
14.	Formulation of Creams (cold / vanishing cream)	5	1,2,3,4,5,6,7,8,9,11	5
15.	Formulation of Glass containers (as per IP)	6	1,2,3,4,5,6,7,8,9,11	5

TERM PAPER

Q. NO.	Question	CO Mapped	BT level
6.	Explain film coating of tablets	2	6
7.	Classify capsule filling machines.	3	6
8.	Evaluate granules	2	6
9.	Appraise the knowledge regarding dry granulation	2	6
10.	Justify the term cosmetics	5	6

GROUP DISCUSSION

Q. NO.	Question	CO Mapped	BT level
3.	Explain the role of various additives in Tablets	2	6
4.	Explain chemical parameters for preformulation studies	1	6

SEMINAR

Q. NO.	Question	CO Mapped	BT level
2.	Demonstration of various machines/ equipment's /instruments involved in the formulation and quality control of various solid dosage forms	2,3,4,5	6

ASSESSMENT EVALUATION CRITERIA

Assessment Criteria	Score	Comments if any
a. Relevance with Content		
b. Use of Resource Material		
c. Organization and Mechanical Accuracy		
d. Cohesion and Coherence		
e. Language Proficiency and Timely Submission		
Total Score		

SESSIONAL PAPER MAPPING**SESSIONAL 1**

Q. NO.	Question	CO Mapped	PO Mapped	BT level	Marks
1	Define dry granulation and enlist their mechanism of granulation	2	1,6,8,11	6	2
2	Justify the role of binder	2	1,6,8,11	6	2
3	Define tablet rotary press	2	1,6,8,11	1	2
4	Explain Polymorphism	1	1,6,8,11	6	2
5	Summarize the steps involved in wet granulation	2	1,6,8,11	6	2

SESSIONAL 1

Q. NO.	Question	CO Mapped	PO Mapped	BT level	Marks
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1	Explain enteric coating	2	1,6,8,11	6	2
2	Enlit the machines used for filling of hard gelatin capsule	2	1,6,8,11	4	2
3	Explain hard gelatin capsule shell preparation	2	1,6,8,11	6	4
4	Define compression compaction and conodilation	2	1,6,8,11	1	2

Sessional Examination Pattern

Exam Type	Marks allotted	Duration
Theory	30	1.5 Hr
Practical	40	04 Hr

Gap Identification with methods to cover the topics:

Sr. No.	Name of Topic	Gap Identified	Reason to identify the gap	Method to be used to bridge the gap
1	Cosmetics	Evaluation of creams	Mentioned in GPAT syllabus, Industry purpose	Hands on Training
2.	Parenteral	Evaluation of creams	Mentioned in GPAT syllabus, Industry purpose	Hands on Training

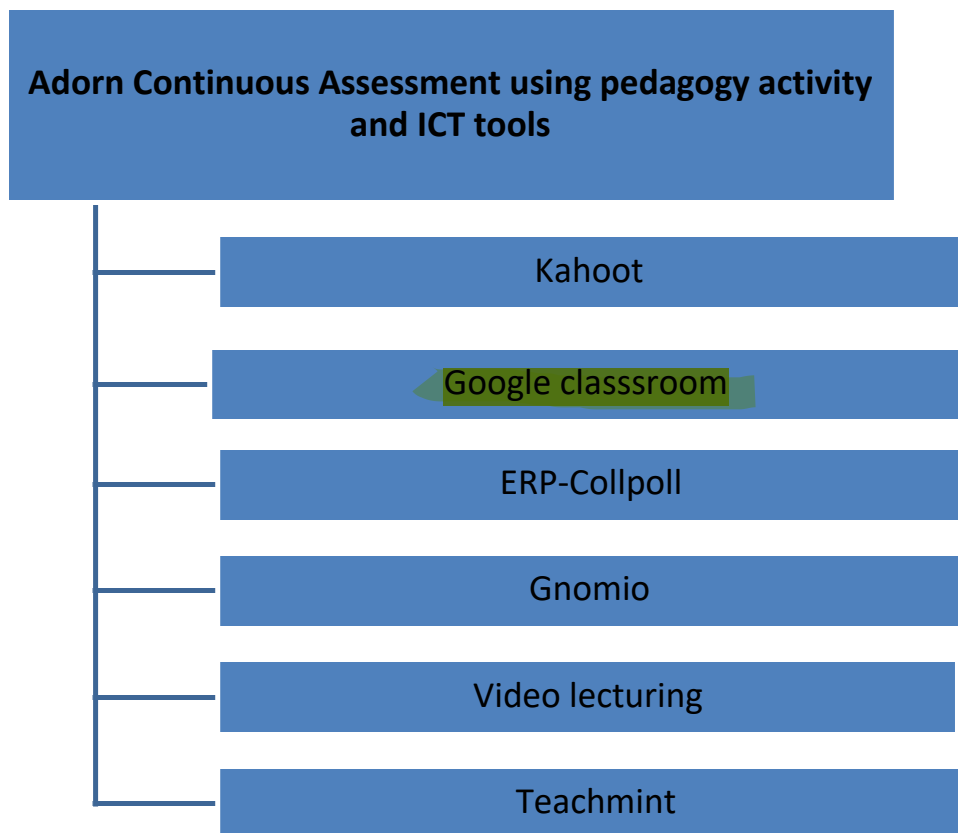
7. Continuous Internal assessment

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Continuous Assessment

List of Continuous Assessment as per SPPU course structure & syllabus

- a) Written test and /or midterm test
- b) Term paper
- c) Journal/Lecture/Library notes
- d) Seminar presentation
- e) **Short Quizzes**
- f) Assignments
- g) Extention work
- h) An open book test
- i) Mini research project by individual learner or group of learners



TY-HDT (2018 Pattern)- 2020-21

Instructions Student work

Return 10 points

- All students
- Sort by status
- Turned in
- Abhijeet shinde 0/10 Done late
- Akanksha Patil 0/10 Done late
- Armit Raje Jadhav 0/10 Done late
- Ananya Balapure 0/10
- Ankita Mashalkar 0/10
- ashu bhawar 0/10 Done late

e- Poster on Nutraceuticals

35 Turned in 24 Assigned 1 Graded

Abhijeet shinde	Akanksha Patil	Armit Raje Jadhav	Ananya Balapure	Ankita Mashalkar
Drive file Turned in late	Drive file Turned in late	Drive file Turned in late	Drive file Turned in	Drive file Turned in
ashu bhawar	Chitra Phulak	Chitreni Yasawati	Hrishikesh Wakunj	Kishor Payghan
Drive file Turned in late	Drive file Turned in	Drive file Turned in	Drive file Turned in late	Drive file Turned in late

Email Address	Score
tejashrimote1@gmail.com	1 / 10
kaleshilpa@gmail.com	4 / 10
ranajitkadam105@gmail.com	5 / 10
kulkarniprachi518@gmail.co	6 / 10
hrishiwalunj07@gmail.com	6 / 10
mashalkarankita@gmail.com	5 / 10
tejaswinichoudhary86@gmai	4 / 10
ratnajitpatil1999@gmail.com	3 / 10
shrutireddewar28@gmail.com	7 / 10
savitamohite1999@gmail.co	5 / 10
shrutipatil4999@gmail.com	4 / 10
pandayshivam92@gmail.com	5 / 10
akankshap077@gmail.com	4 / 10
tanmaiiingale0650@gmail.c	7 / 10
nehalandge21170@gmail.co	5 / 10
fitnesseagle007@gmail.com	6 / 10
pranav231199@gmail.com	6 / 10
sakshi.sk700@gmail.com	5 / 10
ananyabalapure@gmail.com	7 / 10
komalkarale20000@gmail.co	2 / 10
shindeshubham252@gmail.c	7 / 10
chitradphalak@gmail.com	7 / 10
sp158996@gmail.com	4 / 10
omkarneharkar44@gmail.co	10 / 10
shreesakshi702@gmail.com	7 / 10
rb578368@gmail.com	10 / 10
kalokhesiddhi12@gmail.com	9 / 10
kshitijabhaganagare@gmail.	9 / 10
riyamahapatra900@gmail.co	8 / 10
sayalipotkar2000@gmail.com	3 / 10
satay2211@gmail.com	5 / 10
rsjofficials@gmail.com	9 / 10
rajendra.adhal@gmail.com	6 / 10
shekatkarvipula@gmail.com	8 / 10
prugore@gmail.com	9 / 10
prathameshsharma789@gm	2 / 10
ashubhawsar18@gmail.com	10 / 10
abhimannyuramane@gmail.c	10 / 10
yashupawar2418@gmail.com	10 / 10
anujakarwande@gmail.com	5 / 10
seetadakhore58@gmail.com	5 / 10
yadurajbhamburkar@gmail.c	10 / 10
shreyash6750@gmail.com	5 / 10

2019-2020

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1. Academic Monitoring Committee

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Dr. D. Y. Patil Pratishthan's

Dr. D. Y. PATIL COLLEGE OF PHARMACY

Dr. D. Y. Patil Educational Complex, Sector - 29, Pradhikaran, Akurdi, Pune 411 044.

Tel. : 020-27656141, Tel. Fax : 020-27656141

E-mail : info@dyppharmaakurdi.ac.in Web : www.dyppharmaakurdi.ac.in

Approved by : All India Council for Technical Education, New Delhi

Pharmacy Council of India, New Delhi. Recognized by : Government of Maharashtra

Affiliated to Savitribai Phule Pune University, Pune

Dr. Sanjay D. Patil
President

Padmashree Dr. D. Y. Patil
Founder

Shri. Satej D. Patil
Vce-President & Chairman

Dr. N. S. Vyawahare
Principal

Ref. No. : DYPCOP/
Date :

Academic Monitoring Committee

Sr. no	Members	Designation
1	Principal	Chairman
2	Academic Incharge	Member Secretary
3	Academic Coordinator	Member
4	HODS	Members
5	Class Teachers	Members
6	CEO/ Exam Incharge	Member

2. University Academic Calendar

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Savitribai Phule Pune University
(Formerly University of Pune)



Circular No. 264 of 2019

**Revised Dates of Commencement and Conclusion of terms for the Academic Year 2019-20
for Science & Technology (B.Pharmacy)**

It is hereby informed that, the revised dates of commencement and conclusion of the first and second term of University Courses, under the faculty of Science & Technology (B.Pharmacy) for the academic year 2019-20 shall be as under :

Name of the Course and Faculty	2019 - 2020			
	First Term		Second Term	
	Commencement	Conclusion	Commencement	Conclusion
Science & Technology				
B.Pharmacy	15/06/2019	15/11/2019	26/12/2020	15/05/2020

Teaching will begin on the date of commencement of the terms. The teaching shall begin immediately after the finalization of admissions, however, term would stand concluded, on the dates mentioned above.

Note

1. In case, the Head of the Department require to give additional holiday in exceptional circumstances, he may do so by compensating the same by keeping Department/College working on Sundays.
2. The Term & Holidays for the Post-Graduate courses conducted in the Colleges/Institutes will be as per the University Departments.


Deputy Registrar
(P.G. Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/3747
Date: 23/10/2019

Copy to: for Information and necessary action

The Members of the Management Council.

The Deans of Faculties.

The Registrar, Savitribai Phule Pune University, Pune.

The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.

The Heads of all University Departments.

The Principals of all Affiliated Colleges.

The Directors of all Recognized Institutes.

The Heads of all the Administrative Sections of the University Office.

Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University

Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University.

3. College Academic Calendar

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Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy, Akurdi, Pune – 411044.

Academic Calender of B.Pharm Course (2019-2020)

Month	June	July	August	Sept.	October	Nov.	Dec.	Jan	Feb	March	April	May		
1	1 st sat		For S.Y	Sunday		Diwali	Sunday		1 st sat	Sunday		Maharashtra day		
2	Sunday			Ganesh chaturti	Mahatma Gandhi Jayanti	1 st sat			Sunday				1 st sat	
3			1 st sat	F.Y. 1st Sessional		Term End						Sunday		
4			Sunday					1 st sat				1 st sat		
5			Induction program		1 st sat				Sunday			Sunday		
6		1 st sat	Ist sessional T		Sunday	Sunday	Ressional							
7		Sunday			1 st sat			1 st sat			1 st sat			
8				Sunday	Dashara			Sunday		Parents Meet	Sunday			
9	Sunday				2 nd				Sunday					
10			Allotment of CA1	Moharam	sessional for F.Y., S.Y and T.Y. and Final	Sunday		Seminar /Conference	I Sessional for F.Y., and S.Y			Sunday		
11			Sunday Bakari Eid											
12						Gurunank Jayanti		Sunday				Sunday		
13														
14		Sunday								Alumni Meet				
15	1 st sat		Independence Day	Sunday			Sunday	1st Unit test	3 rd sat	Sunday		Term End		
16	Sunday		Pateti			3 rd sat			Sunday	Allotment of CA2	II Sessional for S.Y and F.Y and Sessional for T.Y			
17	Term Start		3 rd sat		Tutorial sessions	Sunday					3 rd sat			
18			Sunday					Sunday			Sunday			
19					3 rd sat									
20		3 rd sat		Allotment of CA2	Sunday									
21		Sunday		3 rd sat			3 rd sat							
22				Sunday			Sunday		Campus interview	Sunday				
23	Sunday								Sunday					
24						Sunday								
25			Sunday	Unit test II			Christmas	Hospital visit	2nd Unit test	Tutorial session	Campus interview			
26								Republic day			Republic day		Sunday	
27		Guest Lecture				Sunday					Sport Days			
28		Sunday	Ist unit test											
29					Sunday	Diwali	Term Start	Sunday					Sunday	
30	Sunday			Industry visit			Allotment of CA1	Gathering						
31										Ressional				

1st & 3rd Saturday	Holidays	MEET	SPPU Exam
Sunday	Tutorial sessions	Sessional Exam	
Sport Days	Parents Meet	Campus interview	

Dr N S

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4. Workload distribution

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Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy, Akurdi, Pune-44

Faculty Workload Distribution 2019-20 (First Half)

Sr. no	Name	Teaching workload actual					Total Load
		Sem-I					
		Class	Subject	Theory	Practical	Total	
2	Dr(Mrs) S P Chaudhari	T.Y	Industrial Pharmacy-I	3	6	9	13
		M.Pharm	Modern Pharmaceutics	4	0	4	
3	Dr. (Mrs) P. M.Chaudhari	B.Pharm	Pharmaceutics-I	4	12	16	20
		M.Pharm	Drug delivery system	4	0	4	
4	Dr V. R Vaidya	Final Year	Sterile products	3	9	12	21
		Final Year	Biopharm	3	0	3	
		M.Pharm	Pharmaceutics-I Practical	0	6	6	
5	Ms.P.V. Powar	S.Y.B.Pharm	Pharm Micro	4	12	16	19
		Third Year	BMBM	3	0	3	
7	Ms S. Nikam	S.Y.B.Pharm	PP-I	4	12	16	19
		Final year	Jurisprudence	3	0	3	
8	Mr A.V.Kulkarni	Final Year	Pharmacology-IV	3	9	12	16
		M.Pharm	Regulatory affairs	4	0	4	
9	Dr.D.S.Shirode	T.Y.B.Pharm	Pharmacology-II	3	9	12	17
		F.Y.B.Pharm	Remedial Biology	2	2	4	
10	Dr.(Mrs.) S. S Sadar	F.Y.B.Pharm	HAP-I	4	12	16	16
11	Dr (Mrs) S.P.Mahaparale	F.Y.B.Pharm	PA-I	4	8	12	19
		M.Pharm	Quality Control and Quality Assurance	4	0	4	
		Final Year	PA-V	0	3	3	
12	Mr M T Mohite	M.Pharm	Modern Pharm Analysis	4	6	10	19
		Final Year	PA-V	3	6	9	
13	Dr.S.C.Daswadkar	T.Y.B.Pharm	MC-I	3	3	6	18
		Final Year	MC-III	3	9	12	
14	Ms. J. R. Chopade	T.Y.B.Pharm	PA-III	3	9	12	18
		T.Y.B.Pharm	MC-I	0	6	6	
15	Ms.T.A. Deokule	S.Y.B.Pharm	POC-II	4	12	16	19
		T.Y.B.Pharm	APIT	3	0	3	
16	Dr R. S. Karodi	Final Year	Natural Drug Tech.	3	9	12	16
		M.Pharm	Seminar/Assignments (Pceutics)	0	4	4	
17	Ms. S.W.Jadhav	F.Y.B.Pharm	Communication skills	2	2	4	16
		T.Y.B.Pharm	APET	3	9	12	
19	Dr. S. V. Pandya	M.Pharm	Pharmaceutics-I Practical	0	6	6	16
		M.Pharm	Product development and technology transfer	4	0	4	
		M.Pharm	PQA Practical I	0	6	6	
20	Ms. N. A. Khatri	S. Y.B.Pharm	PE	4	4	8	14
		T.Y.B.Pharm	Industrial Pharmacy-I	0	3	3	
		M.Pharm	Seminar/Assignments (Pceutics)	0	3	3	
22	Dr. R. S. Telekone	M.Pharm	Quality management system	4	0	4	11

Dr. D.Y. patil Pratishthan's
Dr. D.Y. Patil College Of pharmacy Akurdi, pune.

Workload Distribution 2019-20

Second half

Sr.no	Name	Teaching workload					Total Load
		Class	Subject	Theory	Practical	Total	
1	Dr N.S Vyawahare	S.Y.B.Pharm	Pharmacology-I	2	0	2	2
2	Dr.(Mrs) S P Chaudhari	M.Pharm	Seminar/Assignments	0	4	4	14
		M.Pharm	Molecular Pharmaceutics	4	6	10	
3	Dr. Mrs P. M.Chaudhari	M.Pharm	Cosmetic and Cosmeceuticals	4	0	4	14
		M.Pharm	Advanced Biopharmaceutics an	4	6	10	
4	Mr V. R Vaidya	Final Year	Advanced Drug Delivery	3	9	12	16
		M.Pharm	Hazards and Safety	4	0	4	
5	Ms.Priyatama Powar	T.Y	Industrial Pharmacy-II	3	9	12	15
		T.Y.B.Pharm	Pharmaceutical Biotechnology	3	0	3	
6	Ms Sarika Nikam	S.Y.B.Pharm	PP-II	4	12	16	19
		T.Y.B.Pharm	MC-II	0	3	3	
7	Neetu Khatri	Final.Y.B.Pharm	Cosmetic science	3	9	12	15
		M.Pharm	Seminar/Assignments	0	3	3	
8	Ms Pooja Pawar	F.Y.B.Pharm	Computer Applications in Phar	3	6	9	21
		S.Y.B.Pharm	Pharmacology-I	0	12	12	
9	Mr A.V.Kulkarni	Final Year	Pharmacology-V	3	9	12	16
		F.Y.B.Pharm	Pathophysiology	4	0	4	
10	Dr Mr D.S.Shirode	T.Y.B.Pharm	Pharmacology-III	3	9	12	16
		S.Y.B.Pharm	Pharmacology-I	2	0	2	
11	Dr.Smeeta S Sadar	F.Y.B.Pharm	HAP-II	4	12	16	16
12	Dr Mrs S.P.Mahaparale	M.Pharm	Pharmaceutical Validation	4	6	10	16
		M.Pharm	Seminar Assignments	0	4	4	
		M.Pharm	Pharmaceutical Manufacturing Technology	2	0	2	
13	Mr Mukesh T Mohite	F.Y.B.Pharm	Environmental sciences	3	0	3	15
		Final Year	PA-VI	3	9	12	
14	Dr.Ms.S.C.Daswadkar	M.Pharm (PQA)	Seminar /Assignments	0	1	1	15
		M.Pharm	Pharmaceutical Manufacturing Technology	2	0	2	
		Final Year	MC-IV	3	9	12	
15	Ms.Jyotsana Chopade	T.Y.B.Pharm	PA-IV	3	9	12	15
		T.Y.B.Pharm	Bioorganic Chemistry & Drug Design	3	0	3	
16	Ms.T.A. Deokule	S.Y.B.Pharm	POC-III	4	12	16	19
		T.Y.B.Pharm	MC-II	0	3	3	
17	Mr Revan Karodi	Final Year	Natural Products: Commerce, Industry & Regulations	3	0	3	15
		T.Y.B.Pharm	Natural Product Chemistry	3	9	12	
18	Ms. S.W.Jadhav	S.Y.B.Pharm	Pharmacognosy and Phyto-I	4	12	16	16
19	Dr.Sudhir Pandya	M.Pharm	Computer Aided Drug Delivery System	4	0	4	16
		M.Pharm	Seminar Assignments	0	2	2	
		M.Pharm	Audits and Regulatory compliance	4	6	10	
20	Ravina Mutha	F.Y.B.Pharm	POC-I	4	12	16	19
		T.Y.B.Pharm	MC-III	0	3	3	
21	Sandip Kshirsagar	T.Y.B.Pharm	MC-III	3	0	3	19
		S.Y.B.Pharm	Medicinal Chemistry I	4	12	16	
22	Mrs. Supriya mane	First Year	Biochemistry	4	12	16	16

Dr N S

Vyawahar

Digitally signed by
Dr N S Vyawahare
Date: 2023.06.09

5. Academic Time Table

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**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

SECOND YEAR B.PHARM 2019-20 (FIRST HALF)

Timing	Lec/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00am - 1.00pm	A	Physical Pharmacy-I(SAN)	POC-II(TAD)	Pharm Micro (PVP)	-	Pharm. Engineering (NK)	POC- II(TAD)
	B	Pharm. Engineering (NK)	Physical Pharmacy-I (SAN)	POC-II(TAD)	Pharm Micro (PVP)	-	Pharm Micro (PVP)
	C	-	Pharm. Engineering (NK)	Physical Pharmacy-I (SAN)	POC-II(TAD)	Pharm Micro (PVP)	Pharm. Engineering (NK)
1.30pm-2.30pm	1	POC-II (TAD)	Pharm. Engineering (NK)	POC-II (TAD)	Pharm. Engineering (NK)	Pharm. Engineering (NK)	
2.30pm-3.30pm	2	Physical Pharmacy-I (SAN)	Physical Pharmacy- (SAN)	Pharm Micro (PVP)	Pharm Micro (PVP)	CA	
3.30pm-4.30pm	3	Pharm Micro (PVP)	POC-II (TAD)	Physical Pharmacy-I(SAN)	Physical Pharmacy-I (SAN)	CA	

TAD-Mrs Tejashree Deokule
PVP-Ms.Priyatama Powar
SAN-Mrs Sarika Nikam
NK- Mrs. Neetu Khatri

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**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

THIRD YEAR B.PHARM 2019-20 (FIRST HALF)

Timing	Lec/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00am -10.00am	1	IP- I (SPC)	Medichem-I (SCD)	APET(SWJ)	PA-III (JRC)	Medichem-I (SCD)	APIT (JRC)
10.00am-11.00am	2	Pharmacology-II (DSS)	PA-III (JRC)	PA-III (JRC)	Pharmacology-II (DSS)	APIT (JRC)	Medichem-I (SCD)
11.00am-12.00pm	3	APET (SWJ)	IP- I (SPC)	APET (SWJ)	IP- I (SPC)	APIT (JRC)	Pharmacology-II (DSS)
12.00 pm-1.00 pm	Lunch Break						
1.00pm-4.00 pm	A	APET(SWJ)	Medichem-I (SCD)	Pharmacology-II (DSS)	IP- I (SPC)	PA-III (JRC)	CA
	B	Pharmacology-III (DSS)	APET(SWJ)	IP- I (SPC)	PA-III (JRC)	Medichem-I (DSS)	CA
	C	Medichem-I (JRC)	IP- I (SPC)	PA-III (JRC)	Pharmacology-III (DSS)	APET (SWJ)	CA

SPC – Dr.(Mrs.) Shilpa Chaudhari
SCD – Dr.Shubhangi Daswadkar
DSS- Dr.Devendra Shirode
JRC- Mrs. Jyotsna Chopade
SWJ – Ms. Shubangi Jadhav

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Vyawahare Date: 2023.06.10
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**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

FINAL YEAR B.PHARM 2019-20 (FIRST HALF)

Timing	Lec/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00am -12.00pm	A	Sterile Products (VRV)	Pharmacology-IV (AVK)	NDT(RSK)	Medichem-III (SCD)	PA-V (MTM)	Jurisprudence (SAN)
	B	PA-V (MTM)	Sterile Products (VRV)	Medichem-III (SCD)	NDT(RSK)	Pharmacology-IV (AVK)	Jurisprudence (SAN)
	C	Medichem-III (SCD)	PA-V (MTM)	Pharmacology-IV (AVK)	Sterile Products (VRV)	NDT(RSK)	CA/TPO
1.00pm-2.00pm	1	PA-V (MTM)	Sterile Products (VRV)	Medichem –III (SCD)	Sterile Products (VRV)	Jurisprudence (SAN)	CA/TPO
2.00pm-3.00pm	2	Pharmacology -IV (AVK)	PA-V (MTM)	PA-V (MTM)	Pharmacology-IV (AVK)	Sterile Products (VRV)	CA/TPO
3.00pm-4.00pm	3	NDT(RSK)	Biopharmaceutics (PVP)	NDT(RSK)	Medichem –III (SCD)	Biopharmaceutics (PVP)	CA/TPO
4.00pm-5.00pm	4	Medichem – III (SCD)	Biopharmaceutics (PVP)	Pharmacology-IV (AVK)	NDT (RSK)	Jurisprudence (SAN)	CA/TPO

SCD- Dr.Shubhangi Daswadkar

RSK- Dr.Revan Karodi

VRV – Dr.Vaibhav Vaidya

AVK-Mr.Ashish V Kulkarni

MTM- Mr Mukesh T Mohite

PVP- Ms. Priyatama Powar

SAN-Mrs. Sarika Nikam

**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

M.PHARM (Pharmaceutical Quality Assurance) 2019-20 (FIRST HALF)

Timing	Lec/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00am -10.00am	1	Seminar /Assignments (SSS)	Pharm Quality Assurance practical I(SVP)	Pharm Quality Assurance practical I (RST)	QMS(RST)	Seminar /Assignments (SSS)	Modern Pharm Analysis tech (MTM)
10.00am-11.00am	2	QAQC (RSK)			Modern Pharm Analysis tech (MTM)	QAQC (SPM)	Modern Pharm Analysis tech (MTM)
11.00am-12.00pm	3	Seminar /Assignments (RSK)			Seminar /Assignments (SSS)	Seminar /Assignments (DSS)	Seminar /Assignments (RSK)
12.00pm-1.00pm	4				Lunch Break		
1.00pm-2.00 pm	5	PDTT (VRV)			QMS(RST)	QMS(RST)	Library
2.00pm-3.00pm	6	Library			QMS(RST)	Modern Pharm Analysis tech (MTM)	Library
3.00pm-4.00pm	7	Modern Pharm Analysis tech (MTM)	QAQC (RSK)	PDTT (VRV)	QAQC (SPM)	Library	
4.00pm-5.00pm	8	PDTT (VRV)	Seminar /Assignments (DSS)	PDTT (VRV)			

SPM-Dr.(Mrs.) Sonali Mahaparale

SVP- Dr. Sudhir Pandya

SSS – Dr.(Mrs.) Smeeta Sadar

RST- Dr. Rajesh Telekone

MTM- Mr. Mukesh T Mohite

RSK- Dr. Revan Karodi VRV-

Dr. Vaibhav Vaidya

**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

M.PHARM (PHARMACEUTICS) 2019-20 (FIRST HALF)

Timing	Lec /Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00am -10.00am	1	Pharmaceutics Practical I (SVP)	Pharmaceutics Practical I (PMC)	Drug delivery Systems (PMC)	Modern Pharmaceutics (SVP)	Seminar/ Assignments (SPC)	Modern Pharm Analysis tech (MTM)
10.00am-11.00am	2			Drug delivery Systems (PMC)	Modern Pharm Analysis tech (MTM)	Drug delivery Systems (PMC)	Modern Pharm Analysis tech (MTM)
11.00am-12.00pm	3			Seminar/ Assignments (SPC)	Regulatory Affairs (PMC)	Seminar/ Assignments (SPC)	Library
12.00pm-1.00pm	4			Lunch Break			
1.00pm-2.00 pm	5			Seminar/ Assignments (NK)	Seminar/ Assignments (SPC)	Modern Pharmaceutics (SVP)	Library
2.00pm-3.00pm	6			Regulatory Affairs (PMC)	Regulatory Affairs (PMC)	Modern Pharm Analysis tech(MTM)	
3.00pm-4.00pm	7	Modern Pharm Analysis tech (MTM)	Modern Pharmaceutics (SVP)	Modern Pharmaceutics (SVP)	Seminar/ Assignments (NK)	Seminar/ Assignments (NK)	
4.00pm-5.00pm	8	Regulatory Affairs (PMC)	Drug delivery Systems (PMC)	Library			

SPC- Dr. (Mrs) Shilpa Chaudhari

SVP – Dr.Sudhir Pandya

PMC-Dr. (Mrs) Pallavi Chaudhari

MTM-Mr. Mukesh Mohite

AVK – Mr.Ashish Kulkarni

NK – Mrs. Neetu Khatri

**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

M.PHARM (PHARMACEUTICS & PQA) 2019-20 (Semester III)

Timing	Lec /Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00am -10.00am	1	Journal Club	Research Work		Research Methodology (AVK)	Research Work	Research Methodology (AVK)
10.00am-11.00am	2	Research Methodology (AVK)	Research Work				Research Methodology (AVK)
11.00am-12.00pm	3	Research Work					
12.00pm-1.00pm		Lunch Break					
1.00pm-2.00 pm	5	Research Work				Research Methodology (AVK)	Research Work
2.00pm-3.00pm	6						
3.00pm-4.00pm	7						
4.00pm-5.00pm	8						

SPC- Dr. (Mrs) Shilpa Chaudhari

SVP – Dr.Sudhir Pandya

PMC-Dr. (Mrs) Pallavi Chaudhari

SPM – Dr.(Mrs.) Sonali Mahaparale

RST- Dr. Rajesh Telekone`

MTM-Mr. Mukesh Mohite

AVK – Mr.Ashish Kulkarni

**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

TIME TABLE 2019-20 (Second Half)

Second Year B. Pharm							
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-1.00 pm	A	PP-II (SN)	Pharmacognosy & Phyto-I (SWJ)	CA/Library	Pharmacology-I (PP)	Med Chem-I (SK)	PP-II(SN)
	B	Pharmacology-I (PP)	PP-II(SN)	Pharmacognosy & Phyto-I (SWJ)	Med Chem-I (SK)	CA/Library	PP-II(SN) Tutorial
	C	Pharmacognosy & Phyto-I (SWJ)	Med Chem-I (SK)	PP-II (SN)	CA/Library	Pharmacology-I (PP)	POC-III (TAD)
1.00 – 1.20 pm	Lunch Break						
1.20-2.20pm	1	PP-II (SN)	POC-III (TAD)	PP-II (SN)	Pharmacology-I (DSS)	Pharmacognosy & Phyto-I (SWJ)	POC-III (TAD) Tutorial
2.20-3.20pm	2	Pharmacognosy & Phyto-I (SWJ)	Med Chem-I (SK)	POC-III (TAD)	Med Chem-I (SK)	Pharmacology-I (NSV)	CA/TPO
3.20-4.20pm	3	Med Chem-I (SK)	PP-II (SN)	Pharmacology-I (DSS)	Pharmacognosy & Phyto-I(SWJ)	Pharmacology-I (NSV) Tutorial	CA/TPO
4.20-5.20pm	4	Pharmacognosy & Phyto-I (SWJ) Tutorial	CA	POC-III (TAD)	CA	Med Chem-I (SK) Tutorial	CA

DSS – Dr. Devendra Shirode
SWJ - Mrs Shubhangi Jadhav- Pharande
JRC- Ms. Jyotsana Chopade
TAD -Mrs. Tejashree Deokule-Gaikwad
SN -Ms. Sarika Nikam
SK – Mr. Sandeep Ksirsagar
PP – Mrs. Pooja Pawar

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**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

TIME TABLE 2019-20 (Second Half)

Third Year B. Pharm							
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00am	1	Med.Chem-II (SK)	P'Cology-III(DSS)	Biotech (PVP)	BCDD (JRC)	Biotech (PVP)	Med.Chem-II (SK)
10.00-11.00 am	2	NPC (RSK)	PA-IV(JRC)	P'Cology-III (DSS)	Ind.Pharm-II (PVP)	BCDD (JRC)	Med.Chem-II (SK)
11.00-12.00pm	3	PA-IV (JRC)	NPC (RSK)	PA-IV(JRC)	NPC (RSK)	Biotech (PVP)	CA
12.00-1.00pm	4	P'Cology-III (DSS)	Ind.Pharm-II (PVP)	Med.Chem-II (SK)	Ind. Pharm-II (PVP)	BCDD (JRC)	CA
1.00-1.40 pm	Lunch Break						
1.40-4.40pm	A	NPC (RSK)	P'Cology-III (DSS)	PA-IV(JRC)	Ind.Pharm-II (PVP)	Med.Chem-II (TAD)	CA
	B	Med.Chem-II (TAD)	NPC(RSK)	P'Cology-II (DSS)	PA-IV(JRC)	Ind.Pharm-II (PVP)	CA
	C	P'Cology-II (DSS)	Ind.Pharm-II (PVP)	NPC(RSK)	Med.Chem-II (TAD)	PA-IV(JRC)	CA

DSS – Dr. Devendra Shirode
 SCD- Dr. Shubhangi Daswadkar
 RSK- Dr. Revan Karodi
 JRC- Ms. Jyotsana Chopade
 TAD- Mrs. Tejashree Deokule-Gaikwad
 PVP- Ms. Priyatama Powar
 SK- Mr. Sandeep Ksirsagar
 SN- Ms. Sarika Nikam
 RSM – Ms. Ravina Mutha

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 Dr N S Vyawahare
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**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

TIME TABLE 2019-20 (Second Half)

Final Year B. Pharm							
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-12.00 pm	A	Cosmetic Science (NK)	PA-VI (MTM)	Med.Chem-IV (SCD)	P'Cology-V (AVK)	ADDS (VRV)	NP:CIR(RSK)
	B	Med.Chem-IV (SCD)	Cosmetic Science (NK)	ADDS (VRV)	PA-VI (MTM)	P'Cology-V (AVK)	NP:CIR(RSK)
	C	ADDS (VRV)	Med.Chem-IV (SCD)	P'Cology-V (AVK)	Cosmetic Science (NK)	PA-VI (MTM)	CA
12.00-12.40pm	Lunch Break						
12.40-1.40pm	1	Med.Chem-IV (SCD)	QAT(NK)	P'Cology-V (AVK)	PA-VI (MTM)	Cosmetic Science (NK)	TPO/CA
1.40-2.40 pm	2	QAT(NK)	Med.Chem-IV (SCD)	ADDS (VRV)	NP:CIR (RSK)	Med.Chem-IV (SCD)	TPO/CA
2.40-3.40 pm	3	ADDS (VRV)	P'Cology-V (AVK)	PA-VI (MTM)	Cosmetic Science (NK)	NP:CIR (RSK)	CA
3.40 -4.40 pm	4	P'Cology-V (AVK)	PA-VI (MTM)	QAT(NK)	Cosmetic Science (NK)	ADDS (VRV)	CA

SCD- Dr. Shubhangi Daswadkar

RSK- Dr. Revan S Karodi

VRV- Dr. Vaibhav Vaidya

MTM – Mr. Mukesh Mohite

AVK- Mr. Ashish Kulkarni

NK - Mrs. Neetu Khatri-Kaushal

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Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

TIME TABLE 2019-20 (Second Half)

M.PHARM (PQA)

Timing	Lec/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00am - 10.00am	1	Audits & Regulatory Compliance (SVP)	Pharm Quality Assurance practical II (SVP)	Pharm Quality Assurance practical II (SPM)	Hazards & Safety Management (SCD)	Pharmaceutical Validation (SPM)	Hazards & Safety Management (SCD)
10.00am-11.00am	2	Seminar /Assignments (SPM)			Seminar /Assignments (SPM)	Audits & Regulatory Compliance (SVP)	Hazards & Safety Management (SCD)
11.00 am-12.00pm	3	Pharmaceutical Validation (SPM)			Pharmaceutical Manufacturing Technology (VRV)	Seminar /Assignments (SPM)	Pharmaceutical Manufacturing Technology (VRV)
12.00pm-1.00pm		Lunch Break			Lunch Break		
1.00pm-2.00 pm	4	Pharmaceutical Validation (SPM)			Audits & Regulatory Compliance (SVP)	Seminar /Assignments (SPM)	Library
2.00pm-3.00pm	5	Seminar /Assignments (SCD)			Library	Pharmaceutical Validation (SPM)	Pharmaceutical Manufacturing Technology (VRV)
3.00pm-4.00pm	6	Library	Pharmaceutical Manufacturing Technology (VRV)	Hazards & Safety Management (SPM)	Pharmaceutical Manufacturing Technology (VRV)	Library	
4.00pm-5.00pm	7	Library	Hazards & Safety Management (SPM)	Audits & Regulatory Compliance (SVP)	Seminar /Assignments (SVP)	Seminar /Assignments (SVP)	

SPM-Dr (Mrs) Sonali Mahaparale

SVP – Dr. Sudhir Pandya

SCD- Dr. Shubhangi Daswadkar

VRV – Dr. Vaibhav Vaidya

TIME TABLE 2019-20 (Second Half)

M.PHARM (PHARMACEUTICS)									
Timing	Lec/ Bat ch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday		
9.00am -10.00am	1	Pharmaceutics Practical II (PMC)	Pharmaceutics Practical II (SPC)	Advanced Biopharmaceutics & Pharmacokinetics (PMC)	Computer Aided DDS (SVP)	Seminar/ Assignment (SPC)	Computer Aided DDS (SVP)		
10.00am-11.00am	2			Advanced Biopharmaceutics & Pharmacokinetics (PMC)	Molecular Pharmaceutics (Nano Tech & Targeted DDS) (SPC)	Advanced Biopharmaceutics & Pharmacokinetics (PMC)	Computer Aided DDS (SVP)		
11.00 am-12.00pm	3			Seminar/Assignment (SPC)	Seminar/Assignment (SPC)	Seminar/Assignment (SPC)	Library		
12.00pm-1.00pm				Lunch Break					
1.00pm-2.00 pm	4			Molecular Pharmaceutics (Nano Tech & Targeted DDS) (SPC)	Library	Molecular Pharmaceutics (Nano Tech & Targeted DDS) (SPC)	Library		
2.00pm-3.00pm	5			Seminar/Assignment (NK)	Cosmetics & Cosmeceuticals (PMC)	Seminar/ Assignment (NK)	Library		
3.00pm-4.00pm	6	Cosmetics & Cosmeceuticals (PMC)	Molecular Pharmaceutics (Nano Tech & Targeted DDS) (SPC)	Cosmetics & Cosmeceuticals (PMC)	Computer Aided DDS (SVP)	Computer Aided DDS (SVP)			
4.00pm-5.00pm	7	Cosmetics & Cosmeceuticals (PMC)	Advanced Biopharmaceutics & Pharmacokinetics (PMC)	Library	Library	Seminar/ Assignment (NK)			

SPC- Dr (Mrs) Shilpa Chaudhari

SVP- Dr.Sudhir Pandya

PMC-Dr.(Mrs) Pallavi Chaudhari

NK- Ms. Neetu Khatri

6. Course Booklet /Syllabus Planning

Dr. D. Y. Patil Pratishthan's
Padmashree Dr. D. Y. Patil College of Pharmacy
Akurdi, Pune – 411044

(2019-20)

Syllabus Plan:

Subject: Medicinal Chemistry-IV

Class: Final year B. Pharm

Marks allotted: 40 Marks

No of hours planned: 45 Hrs.

Theory

Subject code: 4.8.4T

Semester: VIII

No. of Hrs assigned: 3 hrs / week

Department: Pharmaceutical Chemistry

Course description:

Medicinal Chemistry-IV course deal with design & development of drugs including history, classification, nomenclature, structure activity relationship (SAR), mechanism of action, adverse effects, therapeutic uses and recent developments in categories such as chemotherapeutic agents, antibiotics, hormones & anti-fertility agents.

Course objective: At the end of course student will able to

1. Discuss general aspects of the design & development of drugs including classification, nomenclature, structure activity relationship (SAR) agonists and antagonists.
2. Estimate mechanism of action of agonists and antagonists.
3. Explain adverse effects, therapeutic uses and recent developments of agonists and antagonists
4. Outline synthetic Scheme of drugs.

Continuous assessment Planning: MCQs, Seminar.

Books referred:

1. Wilson and Gisvold's Textbook of Organic Medicinal and Pharmaceutical Chemistry by Wilson and Gisvold, J. Lippincot Co. Philadelphia.
2. Foye's Principles of Medicinal Chemistry by Foye, 6th edition, Lippincott William Wilkins.
3. A Companion to Medicinal Chemistry by N.N. Inamdar, Career Publications.
4. Medicinal Chemistry-II by Rajendra B. Patil, Tech-Max Publication
5. Principles of Medicinal Chemistry by Kadam SS, Mahadik KR, Bothara KG, Vol. I & II, 10th Edition, Nirali Prakashan.
6. Burger' s Medicinal Chemistry by Wolff ME, John Wiley & Sons, New York.

Journals Referred:

1. Ana Tačić, Vesna Nikolić, Ljubiša Nikolić, Ivan Savić, Antimicrobial Sulfonamide Drugs, Advanced technologies, 2017, 6(1), 58-71.
2. G. S. TILLOTSON, Quinolones: structure-activity relationships and future predictions, J. Med. Microbiol, 1996, 44, 320-324.


3. M. Vass, K. Hruska, M. Franek, Nitrofurantoin antibiotics: a review on the application, prohibition and residual analysis, *Veterinarni Medicina*, 53, 2008 (9): 469–500
4. Guilherme Felipe dos Santos Fernandes, Chung Man Chin and Jean Leandro Dos Santos, Review Advances in Drug Discovery of New Antitubercular Multidrug-Resistant Compounds, *Pharmaceuticals* 2017, 10, 51, 1-17.
5. Prashant B. Mane, Rishikesh V. Antre and Rajesh J. Oswal, Antileprotic Drugs: An Overview, *International Journal of Pharmaceutical And Chemical Sciences*, 2012, 1(2), 738-746.
6. Jeniel E. Nett, David R. Andes, Antifungal Agents Spectrum of Activity, Pharmacology, and Clinical Indications, *Infect Dis Clin N Am*, 2015, 1-33.
7. Sreekanth Thota and Rajeshwar Yerra, Drug Discovery and Development of Antimalarial Agents: Recent Advances, *Current Protein and Peptide Science*, 2016, 17(1), 1-5.
8. Simon L. Croft, Karin Seifert & Vanessa Yardley, Current scenario of drug development for leishmaniasis, *Indian J Med Res* 123, 2006, 399-410.
9. Piyush Yadav, Rupali Singh, A Review on Anthelmintic Drugs And Their Future Scope, *International Journal of Pharmacy and Pharmaceutical Sciences*, Vol 3, Issue 3, 2011, 17-21.
10. George j. Galasso, Antiviral agents for the control of viral diseases, *Bulletin of the World Health Organization*, 1981, 59 (4): 503-512.
11. Ebimiewei Etebu and Ibemologi Ariekpar, Antibiotics: Classification and mechanisms of action with emphasis on molecular perspectives, *IJAMBR* 4 (2016), 90-101.
12. M. L. Avent, B. A. Rogers, A. C. Cheng and D. L. Paterson, Current use of aminoglycosides: indications, pharmacokinetics and monitoring for toxicity, *Internal Medicine Journal*, 41, 2011, 441-449.
13. Domenico Fuoco, New Classification Framework and Structure-Activity Relationship (SAR) of Tetracycline-Structure-Based Drugs, *Cornell University Library Arxiv.org/quantitative-biology/biomolecules*, 1-8.
14. Adam Dubin, Paweł Mak, Grzegorz Dubin, Małgorzata Rzychon, Justyna Stec-Adam Dubin - Niemczyk, Benedykt Władysław, Katarzyna Maziarka and Dorota Chmiel, New generation of peptidomimetic antibiotics, *Acta Biochimica Polonica*, Vol. 52 No. 3/2005, 633–638.
15. L Abdennebi, L Couture, D Grebert, E Pajot, R Salesse and J-J Remy, Generating FSH antagonists and agonists through immunization against FSH receptor N-terminal decapeptides, *Journal of Molecular Endocrinology* (1999) 22, 151–159
16. Istvan Berczi, Reino Laatikainen and Juha Pulkkinen, Sex Hormones and their Analogues in Neuroimmune Biology, *Immun., Endoc. & Metab. Agents in Med. Chem.*, 2010, 10, 1-40.


Lecture Plan:

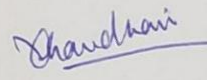
Sr. No	Topic to be covered	Lecture No	Lecture details	Teaching Method/ aids to be used	Books referred	Journal referred	Other sources
1.	Chemotherapeutic Agents	1	Classification, nomenclature, structure activity relationship (SAR) of Sulfonamides	Power point presentation and chalk and talk method	1-6	1	1,2
		2	Mechanism of action, adverse effects, therapeutic uses and recent developments of Sulfonamides		1-6	1	3
		3	Classification, nomenclature, structure activity relationship (SAR) of Quinolones		1-6	2	4
		4	Mechanism of action, adverse effects, therapeutic uses and recent developments of Quinolones		1-6	2	5
		5	Classification, nomenclature, structure activity relationship (SAR), mechanism of action, adverse effects, therapeutic uses and recent developments of Nitrofurans		1-6	3	6
		6	Classification, nomenclature and SAR of Antitubercular agents		1-6	--	7,8
		7	Mechanism of action, adverse effects, therapeutic uses and recent developments of Antitubercular agents		1-6	4	9
		8	Classification, nomenclature, structure activity relationship (SAR), mechanism of action, adverse effects, therapeutic uses and recent developments of Antileprotic agents		1-6	5	10
		9	Classification, nomenclature and SAR of Antifungal agents		1-6	6	11
		10	Mechanism of action, adverse effects, therapeutic uses and recent developments of Antifungal agents		1-6	6	
		11	Classification, nomenclature and SAR of Antimalarials		1-6	--	13
		12	Mechanism of action, adverse effects, therapeutic uses and recent developments of Antimalarials		1-6	7	14
		13	Classification, nomenclature, structure activity relationship (SAR), mechanism of action, adverse effects, therapeutic uses and recent developments of Antiamebic agents		1-6	--	15
		14	Classification, nomenclature, structure activity relationship (SAR), mechanism of action, adverse effects, therapeutic uses and recent developments of Trypanosomicidal drugs		1-6	--	16
		15	Classification, nomenclature,		1-6		17

			structure activity relationship (SAR), mechanism of action, adverse effects, therapeutic uses and recent developments of drugs acting against leishmaniasis			
		16	Classification, nomenclature, SAR of Anthelmintics		1-6	9 18
		17	Mechanism of action, adverse effects, therapeutic uses and recent developments of Anthelmintics		1-6	9 19
		18	Classification, nomenclature and SAR of Antiviral agents		1-6	10 20
		19	Mechanism of action, adverse effects, therapeutic uses and recent developments of Antiviral agents		1-6	10 20
		20	Antiretroviral		1-6	-- 21
		21	Classification, nomenclature and SAR of Antineoplastic agents		1-6	22
		22	Mechanism of action, adverse effects, therapeutic uses and recent developments of Antineoplastic agents		1-6	22
		23	Monoclonal antibodies		1-6	
		24	Synthetic Scheme of Metronidazole, Ciprofloxacin, Proguanil, Amodiaquine, PAS, Isoniazid, Clotrimazole		1-6	-- --
		25	5-Floctosine, Nevirapine, Saquinavir, Albendazole, Melphalan, Chlorambucil, Methotrexate		1-6	-- --
2.	Antibiotics	26	Classification, nomenclature of β -lactam antibiotics		1,2,3	11 23
		27	SAR of β -lactam antibiotics		1,2,3	-- 24
		28	Mechanism of action, adverse effects of β -lactam antibiotics		1,2,3	11 24
		29	Therapeutic uses and Recent developments of β -lactam antibiotics		1,2,3	-- 25
		30	Classification, nomenclature, structure activity relationship (SAR), mechanism of action, adverse effects, therapeutic uses and recent developments of Aminoglycosides		1,2,3	12 26,27
		31	Classification, nomenclature, structure activity relationship (SAR), mechanism of action, adverse effects, therapeutic uses and recent developments of Tetracyclines		1,2,3	13 28
		32	Classification, nomenclature, structure activity relationship (SAR), mechanism of action, adverse effects, therapeutic uses and recent developments of macrolides	Power point presentation and chalk and talk method	1,2,3	-- 29
		33	Classification, nomenclature, structure activity relationship (SAR), mechanism of action, adverse effects, therapeutic uses and recent		1,2,3	-- 30

			developments of Lincomycins				
		34	Classification, nomenclature, structure activity relationship (SAR), mechanism of action, adverse effects, therapeutic uses and recent developments of Polypeptides		1,2,3	14	31
		35	Classification, nomenclature, structure activity relationship (SAR), mechanism of action, adverse effects, therapeutic uses and recent developments of Unclassified antibiotics. Synthetic Scheme of Amoxycillin Trihydrate, Cephadroxil		1,2,3	--	32
3.	Hormones	36	Classification, nomenclature, structure activity relationship (SAR), mechanism of action, adverse effects, therapeutic uses and recent developments of Thyroid agents	Power point presentation and chalk and talk method	1,3,4	--	33, 34
		37	Classification, nomenclature, structure activity relationship (SAR), mechanism of action, adverse effects, therapeutic uses and recent developments of antithyroidal agents		1,3,4	--	34
		38	Classification, nomenclature, structure activity relationship (SAR), mechanism of action, adverse effects, therapeutic uses and recent developments of GnRH agonists and antagonists		1,3	--	35
		39	Classification, nomenclature, structure activity relationship (SAR), mechanism of action, adverse effects, therapeutic uses and recent developments of FSH agonists and antagonists		1,3	15	--
		40	Classification, nomenclature of Sex hormones and their synthetic analogs		1,2,3,4	16	36,37
4.	Steroids	41	SAR of Sex hormones and their synthetic analogues	Power point presentation and chalk and talk method	1,2,3,4	--	37
		42	Mechanism of action of Sex hormones and their synthetic analogues		1,2,3,4	16	36,37
		43	Adverse effects and therapeutic uses of Sex hormones and their synthetic analogs		1,2,3,4	16	36,37
		44	Recent Developments in Sex hormones and their synthetic analogs		1,2,3,4	--	36,37
		45	Antifertility agents		1,2,3,4	--	38


Ms. S.C. Daswadkar
 Sign of Faculty


Dr. S. P. Mahaparale
 HOD


Dr. P. M. Chaudhari
 Academic Incharge

Dr. D. Y. Patil Pratishthan's
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Akurdi, Pune – 411044
(2019-2020)

Syllabus Completion:

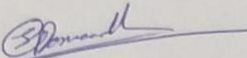
Subject: Medicinal Chemistry-IV


Subject code: 4.8.4T

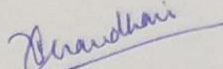
Class: Final year B. Pharm

Semester: VIII

Sr. No.	Topic covered	No of hrs Target planned	Target achieved in no of hrs	% target achieved
1.	Chemotherapeutic Agents	25	25	100
2.	Antibiotics	10	10	100
3.	Hormones	04	04	100
4.	Steroids	06	06	100
	Total	45	45	100


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Dr. S. P. Mahaparale
HOD


Dr. P. M. Chaudhari
Academic Incharge

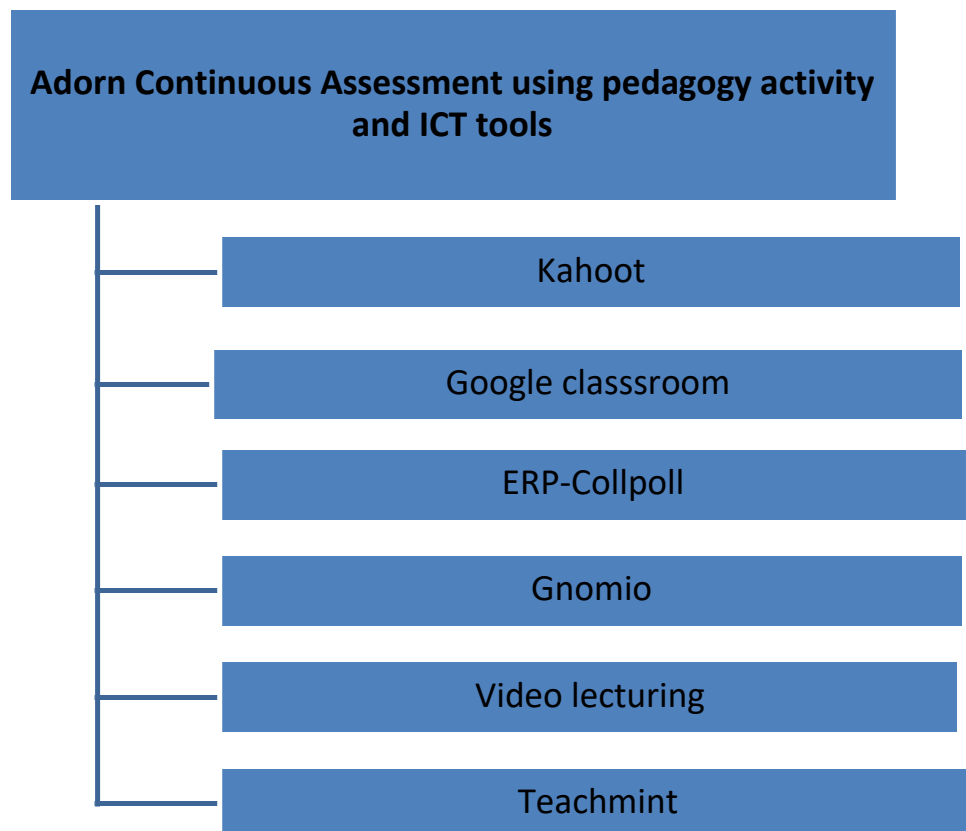
7. Continuous Internal assessment

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Continuous Assessment

List of Continuous Assessment as per SPPU course structure & syllabus

- a) Written test and /or midterm test
- b) **Term paper**
- c) Journal/Lecture/Library notes
- d) Seminar presentation
- e) Short Quizzes
- f) Assignments
- g) Extention work
- h) An open book test
- i) Mini research project by individual learner or group of learners



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Akurdi, Pune-411044.

APET (Theory - CA) Term Paper **Third Year B. Pharm 2019-20**

Roll. No.	Student Name	Sessional (12 October 2019)	Resessional (14 Nov 2019)	CA1 (MCQ) (18 Sept 2019)	CA2 (Term Paper) (23 Sept 2019)	TOTAL (40)
1	ADITYA RAMACHANDRAN	12	-	8	9	17
2	ANNADATE SOURABH PRAVIN	14	-	4	8	12
3	BALGHARE SAYALI DNYANESHW	11	-	2	6	8
4	BANDAL RUTUJA GANESH	16	-	5	8	13
5	BAVASKAR AKSHAY SUBHASH	17	-	0	8	8
6	BEHERA BHAGYASHREE NARAY	18	-	6	8	14
7	BHADALE SHIVANI SUBHASH	10	-	3	9	12
8	BHANSALI KARAN SANJAY	5	-	2	9	11
9	BHOSALE KALPESH NARAYAN	5	11	4	8	23
10	BORADE SNEHAL AJITKUMAR	16	-	4	8	12
11	CHABUKSWAR SONALI SIDHARA	13	-	2	8	10
12	CHANDE PRASHANT UTTAM	13	-	6	7	13
13	DANI VAIBHAV VINOD	3	10		7	17
14	DHAKANE TANUJA SUNILDATTA	17	-	7	8	15
15	DHANNE KIRTI ARJUN	11	-	1	5	6
16	DIWATE RUTUJA RAMDAS	14	-	6	6	12
17	GADIYA DIVYA GULABCHAND	AB	16	6	8	30
18	GHATGE AKANKSHA BASAPPA	13	-	3	6	9
19	JADHAV AISHAWARYA KASHINA	10	-	3	6	9
20	JADHAV VIVEK SANJAY	17	-	3	6	10
21	JAGDALE SUPRIYA MACHINDRA	15	-	2	8	16
22	JAGTIYA SAKSHI RAJESH	18	-	8	8	8
23	JAGTAP DHEERAJ	10	-	2	6	9
24	JOSHI DHANSHREE RAJESHWAR	15	-	1	8	9
25	KAMBLE SACHIN NAGNATH	14	-	5	6	11
26	KANADE PRAVIN RAJU	AB	9	5	5	19
27	KANDALKAR GEETA MUKUND	11	-	4	8	12
28	KATARIYA ROHIT RAVINDRA	15	-	9	8	17
29	KATKAR SHIVANI DNYANDEV	15	-	4	8	12
30	KHARAT MANOJ ASHOK	14	-	4	8	12
31	KHUDE ABHISHEK	8	-	AB	8	8
32	KORDE SONI VISHNU	7	-	3	6	9
33	KOTHARI BHAVESH	14	-	10	5	15
34	KUDALE ROHAN SOMNATH	9	-	1	8	9
35	KUMAR DEERAJ	12	-	7	10	17



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36	LANDGE ANUSHKA HANUMANT	10	-	5	8	13
37	LAVEKAR VEDANGA	10	-	AB	6	6
38	MARATHE PALLAVI RAJESH	AB	-	AB	AB	AB
39	MEGHRAJANI NISHA DINESH	17	-	6	8	14
40	MISALE PRAGALBH MADHAVRAO	6	12	5	8	25
41	MUDAL SIVKANYA SANTOSH	13	-	1	5	6
42	NAGUTHNE DANISH KHALIL AHM	10	-	4	7	11
43	OSWAL SALONI SANJAY	15	-	4	9	13
44	PARDESHI RUSHIKESH SHAM	11	-	3	10	13
45	PATEL PREETI SHANKARLAL	18	-	4	7	11
46	PATHAK BHAKTI ARUN	16	-	6	6	12
47	PATIL NIKITA VINOD	13	-	2	5	7
48	PATIL NILESH SANJAY	14	-	7	8	15
49	PATIL PRATHMESH LAXMIKANT	AB	9	AB	8	17
50	PATIL PRATIK GANESH	11	-	6	8	14
51	PAWAR NEHA SANTOSH	15	-	1	5	6
52	PONDE SUPRIYA BHAGCHAND	15	-	3	7	10
53	PUROHIT DISHA JAISHANKAR	15	-	3	8	11
54	RATHOD JAYKUMAR	5	12	3	8	23
55	SABLE PRAJAKTA SAMBHAJI	15	-	5	8	13
56	SHELAR SAURABH SATISH	14	-	3	7	10
57	SHELKE PAYAL SANJAY	10	-	AB	6	6
58	TAGTODE ABHIJEET KRISHNA	14	-	1	5	6
59	TAJANE MAYURI VILAS	13	-	1	5	6
60	TAKAWANE AARTI ASHOK	19	-	8	8	16
61	TATIYA JAY JITENDRA	18	-	7	10	17
62	VISHVAKARMA SONAM RAMSHA	17	-	3	7	10
63	VISHWAD ANUJA ANIL	16	-	5	8	13
64	WAKCHAURE AKASH SUNIL	AB	13	10	6	29
65	WARKHADE VAIBHAV DATTATY	13	-	1	5	6
66	ZURE PRAVEEN NANASAHEB	17	-	AB	10	10

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Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-411044.

APET (Theory - CA) Term Paper		Third Year B. Pharm 2019-20	
Roll No	Name of the Student	Topic	Marks (Out of 10)
1	ADITYA RAMACHANDR	Nipah virus	9
2	ANNADATE SOURABH	Fasting for healthy life	8
3	BALGHARE SAYALI	Electrosome	6
4	BANDAL RUTUJA	Sunlight increases happiness hormone	8
5	BAVASKAR AKSHAY	Nanotechnology in pharmacognosy	8
6	BEHERA BHAGYASHREE	Natural compound in grape seed extract could increase strength, life of composite-resin fillings	8
7	BHADALE SHIVANI	Biorefinery	9
8	BHANSALI KARAN	Fasting for healthy life	9
9	BHOSALE KALPESH	Mauritian medical herbs possess antitumor properties	8
10	BORADE SNEHAL	Conservation of aquatic ecosystem	8
11	CHABUKSWAR SONALI	Plant milking technology	7
12	CHANDE PRASHANT	Increased anthocyanin level causes purple colour in tomatoes	7
13	DANI VAIBHAV	Gene editing techniques for algae	8
14	DHAKANE TANUJA	Mystery of motion sickness	5
15	DHANNE KIRTI ARJUN	Microwave hydrodiffusion and gravity	6
16	DIWATE RUTUJA	Connection between sugar and cancer growth	8
17	GADIYA DIVYA	Anti biofilm activity of chitosan from crab	6
18	GHATGE AKANKSHA	Magic mushroom could be treating depression in next five years	6
19	JADHAV AISHWARYA	Purple cabbage Vs green cabbage	6
20	JADHAV VIVEK	Herbal cosmetics and cosmeceuticals	8
21	JAGDALE SUPRIYA	Biodegradable plastic	8
22	JAGTIYA SAKSHI	Healing through diet	6
23	JAGTAP DHEERAJ	Ayurveda-The ancient science of healing	8
24	JOSHI DHANSHREE	Omics - a newer technique in herbal drug standardization	6
25	KAMBLE SACHIN	The wireless future of medicine	5
26	KANADE PRAVIN	Effects of salt stress on growth of medicinal plants	8
27	KANDALKAR GEETA	Plant Invasion	8
28	KATARIYA ROHIT	The incredible (endangered) biodiversity of the Amazon Rainforest	8
29	KATKAR SHIVANI	Antibiotics produced from slime of snail	8
30	KHARAT MANOJ	Essential oil analysis of the fruit of piper capense	8
31	KHUDE ABHISHEK	Silk: The ancient material of future	8
32	KORDE SONI	Ethnobotany	6
33	KOTHARI BHAVESH	Can medicinal properties of watercress be relevant to human health?	5
34	KUDALE ROHAN	Bitter melon: a panacea for inflammation and cancer	8
35	KUMAR DEERAJ	Kaal ink	10
36	LANDGE ANUSHKA	Antimicrobial properties of terrestrial snail and slug mucus	8
37	LAVEKAR VEDANGA	Toxicological studies of plant products	6
38	MARATHE PALLAVI	AB	AB
39	MEGHRAJANI NISHA	Artificial intelligence making it easier to diagnose diseases	8
40	MISALE PRAGALBH	Ayurveda	8
41	MUDAL SHIVKANYA	Pharmacogenomics	5

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42	NAGUTHNE DANISH	Foldscope	7
43	OSWAL SALONI	Benefits of virgin coconut	9
44	PARDESHI RUSHIKESH	Mexican drig - Salvia divinorum	10
45	PATEL PREETI	Nanorobotics and its applications in pharmacy	7
46	PATHAK BHAKTI	Nanocarriers for cosmetic antioxidant	6
47	PATIL NIKITA	Antibacterial activity of hesperidin extracted and isolated from dried orange peels	5
48	PATIL NILESH	Carnivorous plants and recent developments in the field of cancer research	8
49	PATIL PRATHMESH	Acid rain	8
50	PATIL PRATIK	Neuro-Nutrition used as anti - Alzheimer' plant	8
51	PAWAR NEHA	Biomedical waste management	5
52	PONDE SUPRIYA	Molecular Pharmacognosy	7
53	PUROHIT DISHA	Biofuel	8
54	RATHOD JAYKUMAR	Biodiesel	8
55	SABLE PRAJAKTA	Radioactive waste management	8
56	SHELAR SAURABH	Medicinal Herbs Used in The Civil War Could Help Us Kill Drug-Resistant Bacteria	7
57	SHELKE PAYAL	Principles of ayurveda and ayurvedic dosage forms	6
58	TAGTODE ABHIJEET	Producton of Phytomedicines	5
59	TAJANE MAYURI	Using ethnobotany and pharmacognosy for novel drug Discovery	5
60	TAKAWANE AARTI	Algae as a medicinal purpose	8
61	TATIYA JAY	Quantum biology	10
62	VISHVAKARMA SONAM	Reverse Pharmacognosy	7
63	VISHWAD ANUJA	Non recyclable Plstic use in speakers	8
64	WAKCHAURE AKASH	Chocolate for treatment of cough	6
65	WARKHADE VAIBHAV	Impact of plant disease's on human health and prevention of such type of disease's on medicinal plants by protecting them.	5
66	ZURE PRAVEEN	Plant compound more powerful than AZT against HIV	10

Dr. D. Y. Patil College of Pharmacy, Akrudi, Pune, 411044

ANALYTICAL PHARMACOGNOSY & EXTRACTION TECHNOLOGY

TERM PAPER

Topic name

CARNIVOROUS PLANTS AND RECENT DEVELOPMENTS IN
THE FIELD OF CANCER RESEARCH

Submitted By: Nilesh Sanjay Patil
Roll no: 48

Nilesh Patil esp

Marks Obtained: /10

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CARNIVOROUS PLANTS AND RECENT DEVELOPMENTS IN THE FIELD OF CANCER RESEARCH

*Abstract

There are many novel techniques which are being developed from natural resources most importantly plants. By this review we tried to prove the efficiency of Carnivorous plants like *Dionaea muscipula*, *Drosera indica* in preventing varied types of cancers.

Dionaea muscipula, *Drosera indica*, have the capacity to cure cancer which is one of the most dangerous disease

*Introduction

1. There are various secretory glands such as alluring glands, mucilage glands and digestive glands which are helpful in trapping insects and other microbes which are essential for their survival.
2. The trap is generally present in this plants.
3. On the inner side of the trap are present four-armed (quadrifid) and two-armed (bifid) hairs. In the outside part of the plant there are dome shaped external glands and closely arranged epithelial cells lining the threshold of the doorway.



FIG. 1: DROSERA



FIG. 2: DIONAEA



FIG. 3: DARLINGTONIA

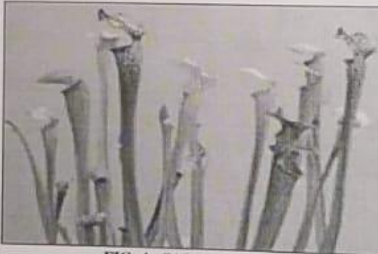


FIG. 4: SARRACINEA

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***Drosera Plant Species: Bio Inspired Hydrogel for Catching and Killing Cancer Cells:**

- The hydrogel is bilayered in which one layer consists of oligonucleotides and the other with double stranded DNA.
- The study concluded that the top layer was able to trap the target cells and the bottom layer could sequester Doxorubicin (DOX) that sustains drug release.
- The bifunctional hydrogel is synthesized by a two step free radical polymerization.
-

***Drosera indica Linn.: Potential effect on liver enzyme, lipid profile and hormone change in Dalton's lymphoma ascites (DLA) bearing mice:**

(1) This study was mainly carried out to observe the effect of ethanol and aqueous extracts of *Drosera indica* L. in mice using Dalton's lymphoma ascites cells (DLA) which is performed by Raju Asirvatham et al.

(2) Cancer induced liver enzyme, lipid profile and hormonal variations were also studied along with the preparations of ethanol and aqueous extracts.

(3) Firstly animals were divided into seven groups and each group was designated as the normal control, DLA control, standard (5FU) and the ethanol and aqueous extracts (250 and 500 mg/kg each) of *D. indica* L. + DLA (four groups) 3 were given the respective treatments 24 h after tumor cell inoculation, for 14 days.

(4) The doses of ethanol and aqueous extracts of *D. indica* at 250 and 500 mg/kg showed significant effects on elevated liver enzyme, lipid profile and hormonal variations.

(5) When the alcoholic and aqueous extracts were administered into the body at high levels of concentration there was no sign of any toxicity manifestation which proved that it was safe and healthy to use which was an unique factor which differentiates this from other metabolic drugs.

(6) The wider fluctuation of serum hormonal levels of female mice was normalized after addition of ethanol and aqueous extracts at required doses.

(7) Thus this study on alcoholic and aqueous extracts of *D. indica* proved to be a novel solution for the treatment of cancer without any involvement of side effects.

***Dionaea Species: Anti - Cancerous Secondary metabolites present in Venus flytrap (*Dionaea muscipula* Solander ex Ellis):**

(1) In this study on evaluation of the secondary metabolites of Venus fly trap performed by François Gaascht et al., discusses about the importance of chemoprevention process which utilizes synthetic or natural molecules without toxic effects to block infectious diseases most importantly cancer from spreading in our body.

(2) Most of the natural molecules used in chemoprevention help by modulating mitotic signals involved in cell survival, apoptosis, cell cycle regulation, angiogenesis, or on

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processes involved in the development of metastasis which occur naturally, especially in fruits, vegetables and also in non-comestible plants.

(3) Naphthoquinone acts as an inhibitor in the case of activated NF- κ B (Nuclear Factor κ B) signaling pathway induced by carcinogens which proves its anticancer causing nature.

***Recent Developments in the Area of Cancer Research:**

*Pan beta blockers which are least prescribed and helps in treatment of heart attacks and also in prevention of lowering blood pressure in patients when given during immunotherapy helps in effectively eradicating melanoma cancer cells.

(Reference No.1
https://www.researchgate.net/publication/325110820_A_SHORT_REVIEW_ON_CARNIVOROUS_PLANTS_AND_RECENT_DEVELOPMENTS_IN_THE_FIELD_OF_CANCER_RESEARCH)

*At the present time, more than 15 compounds have been isolated from *D. muscipula*, mostly flavonoids, and phenolic compounds. Most of these secondary metabolites are also present in other plants and up to now, only one *D. muscipula*-specific molecule with therapeutic potential has been isolated from Venus flytrap, diomuscipulone. But this naphthoquinone has not yet been tested for its biological properties like several others compounds as diomuscinone, droserone, 3-chloroplumbagin, and hydroplumbagin 4-O- β -glucopyranoside or p-coumaric acid) which are also present in other plants. Many of these anti-cancer compounds present in *D. muscipula* have been described as NF- κ B pathway modulators like plumbagin, ellagic acid, or salicylic acid. The reason is that the NF- κ B pathway is an interesting anti-cancer drug target due to its involvement into the development and the progression of many cancers. However it's important to keep in mind that the NF- κ B pathway is not responsible for all types of cancer and that there are many other pathways and phenomena involved in cancer development and progression that can be the targets for drugs of natural origins

(Reference No.2 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3747514/>)

***Recent News**

*Ramentaceone, a Naphthoquinone Derived from *Drosera* sp., Induces Apoptosis by Suppressing PI3K/Akt Signaling in Breast Cancer Cells

(Reference No. 3)

***Carnivorous plant inspires nano-tech blood cleanser in blood cancer**

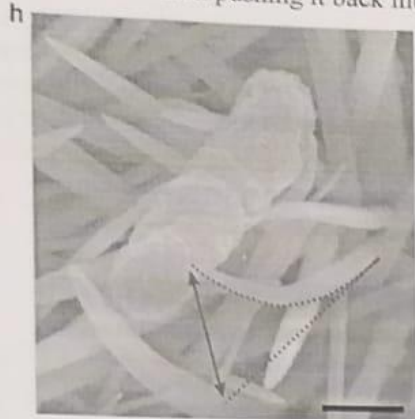
A nanoscale invention inspired by the tiny hairs on a Venus Flytrap could revolutionise anti-bacterial treatments for the seriously ill.

The invention, a refinement of an existing type of machine known as a dialyser, is reported in the journal *Nature Communications*, by a team led by Lizhi Liu of the Beijing National Laboratory for Molecular Sciences, in China.

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If antibiotics fail to defeat harmful bacteria in a patient, the next available process is to remove the person's entire blood supply and run it through a machine – a dialyser – to scrub it. This involves extracting through one blood vessel, pumping it through the scrubber and then pushing it back into the body through another.



Bendable nanowires capturing a blood borne bacterium.

A nanoscale invention inspired by the tiny hairs on a Venus Flytrap could revolutionise anti-bacterial treatments for the seriously ill.

The invention, a refinement of an existing type of machine known as a dialyser, is reported in the journal *Nature Communications*, by a team led by Lizhi Liu of the Beijing National Laboratory for Molecular Sciences, in China.

If antibiotics fail to defeat harmful bacteria in a patient, the next available process is to remove the person's entire blood supply and run it through a machine – a dialyser – to scrub it. This involves extracting through one blood vessel, pumping it through the scrubber and then pushing it back into the body through another.

The practice has been available for some years now, but existing dialysers are notably inefficient. A human bloodstream flows quickly, with considerable force.

Current dialysers use a range of extraction techniques, including filtration, microfluidic devices and nanoparticle separation, but all fail to capture the bulk of the bacteria carried in the blood. Many, too, are overwhelmed by the force of the flow, and end up releasing caught microbes back into the mix.

Taking a lesson from the tiny curved hair-like structures found on the hinged capture apparatus of the Venus Flytrap (*Dionaea muscipula*), Liu and his colleagues constructed a substrate of three-dimensional carbon foam into which were inserted a miniature plantation of flexible polycrystalline nanowires.

(Reference No. 4)

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*CONCLUSION:

From this we have found that insectivorous plants have been found to be rich in secondary metabolites which are very much useful in treatment of cancer. There are many secondary metabolites identified in plants such as *Drosera indica*, *Dionaea muscipula*, *Darlingtonia* and *Sarracenia* which possess anti cancer property. Metabolites like naphthoquinones, phenolic acids, flavonoids are present in these insectivorous plants.

*REFERENCES:

- (1) International journal of Pharmacognosy (IJP) (2018), Vol. 5, Issue 4
Received on 19 November, 2017; received in revised form, 11 January, 2018;
accepted, 13 February, 2018; published 01 April, 2018
by Syed Tazib Rahaman *and Pentakota Ruhitha Sai
Gitam Institute of Pharmacy, Gitam University, Visakhapatnam - 530045, Andhra Pradesh, India.
URL- https://www.researchgate.net/publication/325110820_A_SHORT_REVIEW_ON_CARNIVOROUS_PLANTS_AND_RECENT_DEVELOPMENTS_IN_THE_FIELD_OF_CANCER_RESEARCH
- (2) Venus Flytrap (*Dionaea muscipula* Solander ex Ellis) Contains Powerful Compounds that Prevent and Cure Cancer
François Gaascht, Mario Dicato, and Marc Diederich
URL- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3747514/>
- (3) URL- https://journals.plos.org/plosone/browse/carnivorous_plants
Article Name- Ramentaceone in cancer
- (4) Carnivorous plant inspires nano-tech blood cleanser
URL- <https://cosmosmagazine.com/technology/carnivorous-plant-inspires-nano-tech-blood-cleanser>

Roll no.	Exam Seat no.	Name of Student	A P E T				Total	High Marks
			Final Marks	CA I	CA II			
34	22293	Kudale Rohan	09	01	08	18	14	
35	22254	Kumar Deelaj	12	07	10	29	18	
36	22295	Londge Anushka	10	05	08	23	18	
37	22296	Lavakas Vedan	10	Ab	06	16	12	
38		Malathe Rellaw	-	-	-	-	-	
39	22301	Megharajani Noha	17	06	08	31	15	
40	22302	Misale Pragalbh	12	05	08	25	12	
41	22305	Mudal Shivkany	13	01	05	19	13	
42	22308	Naguthane Danish	10	04	07	21	15	
43	22312	Oswal Saloni	15	04	09	28	19	
44	22314	Pariderhi Rushiket	11	03	10	24	19	
45	22316	Patel Preeti	18	04	07	29	16	
46	22317	Parnak Bhakti	16	06	06	28	15	
47		Patil Nikita	15	02	05	20	13	
48	22320	Patil Nilub	14	07	08	29	18	
49	22326	Patil Prathmesh	09	Ab	08	17	13	
50		Patil Preetik	11	06	08	25	16	
51	22322	Pavani Neha	15	01	05	21	16	
52	22325	Ponde Supriya	15	03	07	25	15	
53	22328	Purohit Disha	15	08	03	26	16	
54	22330	Rathod Jaykumar	12	03	08	23	14	
55	22332	Sable Prajakta	15	05	08	28	18	
56	22339	Shelar Samabh	14	03	07	24	16	
57	22340	Shetke Poojal	10	Ab	06	16	12	
58		Shetke Poojal	14	01	05	20	15	
59	22300	Tajane Mayuri	13	01	05	19	15	
60	22349	Takawane Aarti	19	08	08	35	19	
61	22350	Taliya Jay	18	07	10	35	19	
62	22354	Vishwakarma Sonam	17	03	07	27	17	
63	22355	Vishwad Anuja	16	05	08	29	18	
64		Wakchane Atash	13	10	06	29	16	
65		Wadhade Vaibhav	13	01	05	19	17	
66	22361	Zure Pranveer	17	Ab	10	27	18	

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2018-2019

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1. Academic Monitoring Committee

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Dr. D. Y. Patil Pratishthan's

Dr. D. Y. PATIL COLLEGE OF PHARMACY

Dr. D. Y. Patil Educational Complex, Sector - 29, Pradhikaran, Akurdi, Pune 411 044.

Tel. : 020-27656141, Tel. Fax : 020-27656141

E-mail : info@dyppharmaakurdi.ac.in Web : www.dyppharmaakurdi.ac.in

Approved by : All India Council for Technical Education, New Delhi

Pharmacy Council of India, New Delhi. Recognized by : Government of Maharashtra

Affiliated to Savitribai Phule Pune University, Pune

Dr. Sanjay D. Patil
President

Padmashree Dr. D. Y. Patil
Founder

Shri. Satej D. Patil
Vce-President & Chairman

Dr. N. S. Vyawahare
Principal

Ref. No. : DYPCOP/
Date :

Academic Monitoring Committee

Sr. no	Members	Designation
1	Principal	Chairman
2	Academic Incharge	Member Secretary
3	Academic Coordinator	Member
4	HODs	Members
5	Class Teachers	Members
6	CEO/ Exam Incharge	Member

2. University Academic Calendar

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Savitribai Phule Pune University
(Formerly University of Pune)



Circular No. 67 of 2018

**Dates of Commencement and Conclusion of terms for the Academic Year 2018-2019
For Affiliated Colleges Only.**

It is hereby informed that, the dates of commencement and conclusion of the First and Second term of University Courses, under various faculties, for the academic year 2018-2019 shall be as under :

Sr. No.	Name of the Courses and Faculties	2018-19			
		First Term		Second Term	
		Commencement	Conclusion	Commencement	Conclusion
1	Science & Technology				
	Science	15/06/2018	03/11/2018	29/11/2018	30/04/2019
	Engineering : SE,TE,BE & MCA- II, & III Year	15/06/2018	03/11/2018	17/12/2018	25/04/2019
	Engineering :ME - II Year.	02/07/2018	03/11/2018	15/01/2019	20/05/2019
	B.Architecture II, III, IV & V Year.	15/06/2018	03/11/2018	29/11/2018	30/04/2019
	M. Architecture II Year.	02/07/2018	03/11/2018	17/12/2018	30/04/2019
	B. Pharmacy	15/06/2018	03/11/2018	29/11/2018	30/04/2019
	M. Pharmacy	02/07/2018	03/11/2018	29/11/2018	15/05/2019
2	Commerce & Management				
	Commerce	15/06/2018	03/11/2018	29/11/2018	30/04/2019
	Management	02/07/2018	03/11/2018	29/11/2018	15/05/2019
3	Humanities				
	Arts & Fine Arts	15/06/2018	03/11/2018	29/11/2018	30/04/2019
	Mental Moral and Social Sciences				
Law : UG & PG (II/III/IV/V Year.)	15/06/2018	03/11/2018	29/11/2018	30/04/2019	
4	Inter-disciplinary Studies				
	Education II Year.	02/07/2018	03/11/2018	29/11/2018	15/05/2019
	Physical Education II Year.				

Teaching will begin on the date of commencement of the terms and immediately after the finalization of admissions; however, term would stand concluded on the dates mentioned above.

NOTE

1. In case, the Principal of the Affiliated Colleges require to give additional holiday in exceptional circumstances, he/she may do so by compensating the same by keeping the College working on Sunday.
2. The Term & holidays for the Post-graduate courses conducted in the Colleges/Institutes will be as per the University Department.
3. Details of Various Activities for Engineering and Architecture Courses for the Academic Year 2018-19 attached Separately.


Deputy Registrar
(P.G.Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 1333
Date: 23/04/2018

Copy to: for Information and necessary action

- The Members of the Management Council.
- The Deans of Faculties.
- The Registrar, Savitribai Phule Pune University, Pune.
- The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.
- The Heads of all University Departments.
- The Principals of all Affiliated Colleges.
- The Directors of all Recognized Institutes.
- The Heads of all the Administrative Sections of the University Office.
- Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University
- Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

3. College Academic Calendar

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Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy, Akurdi, Pune – 411044.
Academic Calender of B.Pharm Course (2018-2019)

	June	July	August	Sept.	October	Nov.	Dec.	Jan	Feb	March	April	May
1		Sunday	Term start for 1st year	1st sat			1st sat	Sports week	Principal-Faculty Meeting	Principal-Non Teaching Meeting	Resessional	Maharashtra DIN
2		Assigning of 1st assignment		Sunday	Gandhi Jayanti	Term end	Sunday		1st sat	1st sat		
3			Induction programme / Freshers Party			1st sat			Sunday	Sunday		
4			1st sat			Sunday		Gathering		Mahshivra tri		1st sat
5			Sunday					1st sat				Sunday
6				1st Sessional exam for 1st year	1st sat			Sunday			Gudhipadwa /1st sat	
7		1st Sat.			Sunday						Sunday	
8		Monday				Diwali Vacations		GPAT test Series/Assigning of 3rd Assignment				
9				Sunday	Sessional exam for all year including first year		Sunday		Seminar one day	Campus Interviews		
10		Subject wise submission of assignment to be co-ordinated by class teachers		2nd assignment for 1st year					Sunday	Sunday		
11	Sunday		Subject experts from various Industry	HOD-Principal Meeting								
12			Sunday					GPAT test Series				Sunday
13				Ganesh Chaturthi				Sunday				
14				Principal Faculty Meeting	Sunday						Sunday	
15	Term Start	Sunday	Independence Day	3rd Sat.			3rd Sat.					
16	3rd Sat		2nd assignment for 2nd 3rd and final year and 1st assignment	Sunday	Tutorial sessions		Sunday	1st Unit test	3rd Sat.	3rd Sat.		
17	Sunday		Pateti Holiday			3rd Sat.	Industrial tour		Sunday	Sunday	Mahavir Jayanti	
18			3rd Sat.	Unit test for 1st year	Dassera	Sunday			Assigning of 4th assignment			3rd Sat.
19			Sunday					3rd Sat.			Good Friday	Sunday
20			unit test Exam for First	Moharram				Sunday	Unit test 2	Sessional Exam for all the years including 1st year	3rd Sat.	
21	3rd Sat				3rd Sat.						Sunday	
22	Subject experts from various Industry	Sunday			Sunday							
23	Sunday		Bakri ID	Sunday			Sunday					
24	Principal Faculty Meeting						Christmas Holiday		Sunday	Sunday		
25							NSS Camp	Principal faculty Meeting		Tutorial sessions		
26			Sunday			Sunday		Republic day	Parents Meet			Sunday
27					Resessional			Sunday				
28		Subject experts from various Industry									Sunday	
29		Sunday			Sunday	Term start		1st Sessional Exam for 2nd semester 1st year				
30	Sunday						Sunday				2nd Term end	
31			Subject experts from various Industry							Sunday		
of Day	12	24	22	21	17	2	23	23	22	23	22	4
Extra Curricular activities					SPPU Theory Exam				Theory Sessional Exam.			
1st & 3rd Saturday					Holidays				Vacation			
Assignment dates					Resessional				Tutorial session			

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4. Workload distribution

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Dr. D.Y. Patil Pratishthan's

Dr. D.Y. Patil College of Pharmacy, Akurdi-44

Workload Distribution 2018-19

Sr. no	Name	Teaching workload actual					Total Load
		Sem-I					
		Class	Subject	Theory	Practical	Total	
1	Dr.(Mrs) S P Chaudhari	M.Pharm	Seminar/Assignments	0	4	4	15
		Ph.D	learning hours	1	0	1	
		M.Pharm	Modern Pharmaceutics	4	6	10	
2	Dr. Mrs P. M.Chaudhari	M.Pharm	Regulatory affairs	4	0	4	17
		M.Pharm	Seminar/Assignments	0	3	3	
		M.Pharm	Drug Delivery System	4	6	10	
3	Mr V. R Vaidya	Final Year	Sterile products	3	9	12	16
		M.Pharm	Product development and technology transfer	4	0	4	
4	Ms.Priyatam Powar	S.Y.B.Pharm	Pharm Micro	3	9	12	20
		F.Y.B.Pharm	PA-I	0	8	8	
5	Mrs Rajalaxmi S	F.Y.B.Pharm	Pharmaceutics-I	4	12	16	19
		Final Year	Biopharm	3	0	3	
6	Ms Sarika Nikam	S.Y.B.Pharm	PP-I	3	9	12	18
		S.Y.B.Pharm	Biochem	0	3	3	
		Final year	Jurisprudence	3	0	3	
7	Neetu Khatri	T.Y	Industrial Pharmacy-I	3	9	12	12
8	Mr A.V.Kulkarni	Final Year	Pharmacology-IV	3	9	12	16
		M.Pharm	Seminar/Assignments	0	4	4	
9	Dr Mr D.S.Shirode	T.Y.B.Pharm	Pharmacology-II	3	9	12	18
		S.Y.B.Pharm	Biochem	0	3	3	
		S.Y.B.Pharm	Pharmacology-I	3	0	3	
10	Dr Mrs S.P.Mahaparale	F.Y.B.Pharm	PA-I	3	4	7	17
		M.Pharm	Quality Control and Quality Assurance	4	6	10	
11	Mr Mukesh T Mohite	M.Pharm	Modern Pharm Analysis tech	4	0	4	16
		Final Year	PA-V	3	9	12	
12	Dr.Ms.S.C.Daswadkar	T.Y.B.Pharm	MC-I	3	3	6	18
		Final Year	MC-ii	3	9	12	
13	Ms.Jyotsana Chopade	T.Y.B.Pharm	PA-III	3	9	12	18
		S.Y.B.Pharm	Biochem	3	3	6	
14	Ms.T.A. Deokule	S.Y.B.Pharm	POC-III	3	9	12	19
		T.Y.B.Pharm	MC-I	0	6	6	
		T.Y.B.Pharm	APIT	3	0	3	
15	Mr Revan Karodi	Final Year	Natural Drug Tech.	3	9	12	18
		T.Y.B.Pharm	APET	3	3	6	
16	Ms. S.W.Jadhav	S.Y.B.Pharm	Pharmacognosy-I	3	9	12	18
		T.Y.B.Pharm	APET	0	6	6	
17	Mr Umesh Johri	M.Pharm	Modern Pharm Analysis tech	0	6	6	13
		T.Y.B.Pharm	BMDM	3	0	3	
		M.Pharm	Quality management system	4	0	4	
18	Dr.Smeeta S Sadar	F.Y.B.Pharm	HAP-I	4	12	16	19
		M.Pharm	Seminar/Assignments	0	3	3	
19	Mrs. Supriya mane	First Year	PIC	4	12	16	19
		First Year	PA-I	1	0	1	
		S.Y.B.Pharm	EVS	2	0	2	

Dr. D.Y. Patil Pratishthan's
 Dr. D.Y. Patil College of Pharmacy, Akurdi-44
Workload Distribution 2018-19
 Second Half

Sr. no	Name	Teaching workload					Total Load
		Sem-II					
		Class	Subject	Theory	Practical	Total	
1	Dr.(Mrs) S P Chaudhari	M.Pharm	Seminar/Assignments	0	4	4	15
		Ph.D	learning hours	1	0	1	
		M.Pharm	Molecular Pharmaceutics	4	6	10	
2	Dr. Mrs P. M.Chaudhari	M.Pharm	Cosmetic and Cosmeceuticals	4	0	4	17
		M.Pharm	Seminar/Assignments	0	3	3	
		M.Pharm	Advanced Biopharmaceutics and Pharmacokinetics	4	6	10	
3	Mr V. R Vaidya	Final Year	Advanced Drug Delivery System	3	9	12	16
		M.Pharm	Computer Aided Drug Delivery System	4	0	4	
4	Ms.Priyatam Powar	T.Y	Industrial Pharmacy-II	3	9	12	19
		S.Y.B.Pharm	POC-I	0	4	4	
		T.Y.B.Pharm	Pharmaceutical Biotechnology	3	0	3	
5	Mrs Rajalaxmi S	F.Y.B.Pharm	Computer Applications in Pharmacy	3	6	9	18
		S.Y.B.Pharm	PA-II	0	6	6	
		Final Year	Quality Assurance Tech	3	0	3	
6	Ms Sarika Nikam	S.Y.B.Pharm	PP-II	3	9	12	19
		S.Y.B.Pharm	Pharm Engineering	3	0	3	
		F.Y.B.Pharm	POC-I	0	4	4	
7	Neetu Khatri	Final.Y.B.Pharm	Cosmetic science	3	9	12	12
8	Mr A.V.Kulkarni	Final Year	Pharmacology-V	3	9	12	16
		F.Y.B.Pharm	Pathophysiology	4	0	4	
9	Dr Mr D.S.Shirode	T.Y.B.Pharm	Pharmacology-III	3	9	12	21
		S.Y.B.Pharm	Pathophysiology and clinicalBiochem	3	6	9	
10	Dr Mrs S.P.Mahaparale	M.Pharm	Pharmaceutical Validation	4	6	10	16
		M.Pharm	Seminar Assignments	0	4	4	
		F.Y.B.Pharm	POC-I	0	4	4	
11	Mr Mukesh T Mohite	F.Y.B.Pharm	Environmental sciences	3	0	3	12
		Final Year	PA-VI	3	9	12	
12	Dr.Ms.S.C. Daswadkar	T.Y.B.Pharm	MC-II	3	3	6	18
		Final Year	MC-IV	3	9	12	
13	Ms.Jyotsana Chopade	T.Y.B.Pharm	PA-IV	3	9	12	18
		S.Y.B.Pharm	PA-II	3	3	6	
14	Ms.T.A. Deokule	S.Y.B.Pharm	POC-IV	3	9	12	21
		T.Y.B.Pharm	MC-III	0	6	6	
		T.Y.B.Pharm	Bioorganic Chemistry & Drug Design	3	0	3	
15	Mr Revan Karodi	Final Year	Natural Products: Commerce, Industry & Regulations	3	0	3	17
		M.Pharm (PQA)	Seminar /Assignments	0	2	2	
		T.Y.B.Pharm	Natural Product Chemistry	3	9	12	
16	Ms. S.W.Jadhav	S.Y.B.Pharm	Pharmacognosy and Phyto-II	3	9	12	16
		M.Pharm	Hazards and Safety Management	4	0	4	
17	Dr.Sudhir Pandya	M.Pharm	Pharmaceutical Manufacturing Technology	4	0	4	14
		M.Pharm	Audits and Regulatory compliance	4	6	10	
18	Dr.Smeeta S Sadar	F.Y.B.Pharm	HAP-II	4	12	16	19
		S.Y.B.Pharm	Pathophysiology and clinicalBiochem	0	3	3	
19	Mrs. Supriya mane	First Year	Biochemistry	4	12	16	20
		F.Y.B.Pharm	POC-I	4	0	4	

5. Academic Time Table

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Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44.

First year B. Pharm 2018-19(First Half)

Timing	Lec/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00am-10.00am	1	PA-I(SPM)	HAP(SSS)	PIC (SM)	Pharmaceutics-I (RSB)	PA-I(SM)	Remedial Biology(Practical)
10.00am -11.00am	2	PIC (SM)	PA-I(SPM)	PIC (SM)	HAP(SSS)	Pharmaceutics-I (RSB)	
11.00am-12.00Pm	3	Pharmaceutics-I (RSB)	PIC (SM)	Pharmaceutics-I (RSB)	Communication skills	PA-I (SPM)	Remedial Biology(Practical)
12.00 Pm-1.00pm	4	Remedial maths	Remedial maths	HAP(SSS)	Communication skills	HAP(SSS)	
1.40pm-5.40 pm	A	HAP(SSS)	PIC (SM)	Pharmaceutics-I (RSB)	PA-I(SPM)	Communication skills (1.40-3.40pm)	Remedial Biology
	B	Communication skills (1.40-3.40pm)	HAP(SSS)	PIC(SM)	Pharmaceutics-I (RSB)	PA-I(XYZ)	Remedial Biology
	C	Pharmaceutics-I (RSB)	PA-I(PVP)	Communication skills 1.40-3.40pm	PIC (SM)	HAP(SSS)	

SPM-Dr.(Mrs) S.P.Mahaparale

SCD- Dr.(Ms)S.C.Daswadkar

SSS- Dr.(Mrs) S.S.Sadar

RSB- Mrs. Rajlakhmi S

Sm-Mrs Supriya Mane

PVP-Ms. Priyatama Powar

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Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44.

Second year b. pharm 2018-19

Timing	Lec/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00am - 12.00pm	A	Physical Pharmacy-I(SAN)	POC-III(TAD)	Pharm Micro (PVP)	Biochem (SAN)	Pharmacognosy (SWJ)	POC- III(TAD)
	B	Biochem (JRC)	Physical Pharmacy-I (SAN)	POC-III(TAD)	Pharmacognosy(S WJ)	Pharm Micro (PVP)	POC- III(TAD)
	C	Pharm Micro (PVP)	Pharmacognosy (SWJ)	Physical Pharmacy-I (SAN)	POC-III(TAD)	Biochem (DSS)	EVS(SM)
12.40pm-1.40pm	1	Pharm Micro (PVP)	Pharmacology –I (DSS)	POC-III (TAD)	Pharmacognosy (SWJ)	EVS (SM)	EVS(SM)
1.40pm-2.40pm	2	Biochem (JRC)	Biochem (JRC)	Pharmacognosy (SWJ)	Pharm Micro (PVP)	Pharmacognosy (SWJ)	
2.40pm-3.40pm	3	Physical Pharmacy-I (SAN)	Pharmacology –I (DSS)	Physical Pharmacy-I(SAN)	Physical Pharmacy-I (SAN)	Pharmacology –I (DSS)	
3.40pm-4.40pm	4	Pharm Micro (PVP)	Biochem(JRC)	CA	POC-III(TAD)	CA	

DSS- Dr. D. S. Shirode

SWJ- Mrs Shubhangi Jadhav -Pharande

JRC- Mrs J.D.Patil-Chopade

TAD-Mrs Tejashree Deokule-Gaikwad

PVP-Ms.Priyatama Powar

SAN-Mrs Sarika Nikam-Deshmukh

Sm- Mrs Supriya Mane

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Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44.

Third year b. pharm 2018-19

Timing	Lec/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00am -10.00am	1	IP- I (NPK)	BMDM(PVP)	Medichem (SCD)	PA-III (JRC)	IP- I (NPK)	IP- I (NPK)
10.00am-11.00am	2	APIT (TAD)	APET(RSK)	PA-III (JRC)	Pharmacology-III (DSS)	APIT (TAD)	IP- I (SPC)
11.00 am-12.00pm	3	APET (RSK)	BMDM (PVP)	Medichem (SCD)	PA-III (JRC)	Medichem (SCD)	
12.00 Pm-1.00 Pm	4	Pharmacology-III (DSS)	APET (RSK)	Pharmacology-III (DSS)	BMDM(PVP)	APIT (TAD)	
1.40pm-4.40 pm	A	APET(SWJ)	Medichem (SCD)	Pharmacology-III (DSS)	IP- I (NPK)	PA-III (JRC)	
	B	Pharmacology-III (DSS)	APET(SWJ)	IP- I (NPK)	PA-III (JRC)	Medichem (TAD)	
	C	Medichem (TAD)	IP- I (NPK)	PA-III (JRC)	Pharmacology-III (DSS)	APET (RSK)	

SPC- Dr.(Mrs) S.P.Chaudhari

DSS- Dr. D.S.Shirode

RSK- Dr. Revan Karodi

SWJ- Mrs. Shubhangi Jadhav -Pharande

JRC- Mrs. J.M. Chopade- Patil

TAD-Mrs. Tejashree Deokule-Gaikwad

NPK- Mrs. Neetu Kaushal

UMJ Mr. Umesh Johari

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Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44.

Final year b.pharm 2018-19

Timing	Lec/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00am -10.00am	A	Sterile Products (VRV)	Pharmacology-IV (AVK)	NDT(RSK)	Medichem (SCD)	PA-V (MTM)	Jurisprudence (SAN)
10.00am-11.00am	B	PA-V (MTM)	Medichem-III (SCD)	Sterile Products (VRV)	NDT(RSK)	Pharmacology-IV (AVK)	Jurisprudence (SAN)
11.00 am-12.00pm	C	Medichem (SCD)	PA-V (MTM)	Pharmacology-IV (AVK)	Sterile Products (VRV)	NDT(RSK)	CA/TPO
1.00pm-2.00pm	1	PA-V (MTM)	Sterile Products (VRV)	Medichem –III (SCD)	Pharmacology-IV (AVK)	Jurisprudence (SAN)	CA/TPO
2.00pm-3.00pm	2	Pharmacology -IV (AVK)	PA-V (MTM)	PA-V (MTM)	Sterile Products (VRV)	Sterile Products (VRV)	CA/TPO
3.00pm-4.00pm	3	NDT(RSK)	Biopharmaceutics (RSB)	NDT(RSK)	Medichem –III (SCD)	Biopharmaceutics (RSB)	CA/TPO
4.00pm-5.00pm	4	Medichem – III (SCD)	Biopharmaceutics (RSB)	Pharmacology-IV (AVK)	NDT(RSK)	Jurisprudence (SAN)	CA/TPO

RSK- Dr. Revan Karodi

SCD- Dr.(Ms)S.C. Daswadkar

AVK-Mr. Ashish V Kulkarni

VRV- Mr Vaibhav R Vaidya

MTM- Mr Mukesh T Mohite

SAN-Mrs Sarika Nikam-Deshmukh

RSB- Mrs Rajlakshmi S

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Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44.

M. pharm (QAT) 2018-19

Timing	Lec/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00am -10.00am	1	QMS(SSP)	Pharm Quality Assurance practical (SSP)	Pharm Quality Assurance practical (SPM)	Modern Pharm Analysis tech (MTM)	QAQC (SPM)	Modern Pharm Analysis tech (MTM)
10.00am-11.00am	2	Seminar /Assignments (SSS)			QAQC (SPM)	PDTT (VRV)	Modern Pharm Analysis tech (MTM)
11.00 am- 12.00pm	3	QMS(SSP)			QAQC (SPM)	Seminar /Assignments (SSS)	
12.00pm-1.00pm	4						
1.00pm-2.00 pm	5	PDTT (VRV)			QMS(SSP)	Seminar /Assignments (AVK)	
2.00pm-3.00pm	6	QAQC (SPM)			Seminar /Assignments (AVK)	Seminar /Assignments (AVK)	
3.00pm-4.00pm	7	Seminar /Assignments (AVK)	PDTT (VRV)	PDTT (VRV)	Modern Pharm Analysis tech (MTM)	Modern Pharm Analysis tech (MTM)	
4.00pm-5.00pm	8		Seminar /Assignments (SSS)	Library		QMS(SSP)	

SPM-Dr (Mrs) S.P. Mahaparale

VRV- Mr Vaibhav R Vaidya

MTM- Mr Mukesh T Mohite

SSS- Dr.(Mrs) Smita Sadar

SSP-Dr. Sudhir Pandya

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Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44.

M.pharm (pharmaceutics)2018-19 (First Half)

Timing	Lec /Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
9.00am -10.00am	1	Pharmaceutics Practical (PMC)	Pharmaceutics Practical (SPC)	Drug delivery Systems (PMC)	Modern Pharm Analysis tech (MTM)	Seminar/Assignment (SPC)	Modern Pharm Analysis tech (MTM)	
10.00am-11.00am	2			Drug delivery Systems (PMC)	Modern Pharmaceutics (SPC)	Drug delivery Systems (PMC)	Modern Pharm Analysis tech (MTM)	
11.00 am-12.00pm	3			Seminar/Assignment (PMC)	Seminar/Assignment (SPC)	Seminar/Assignment (SPC)		
12.00pm-1.00pm	4			Lunch Break				
1.00pm-2.00 pm	5			Modern Pharmaceutics(SPC)	Seminar/Assignment (SPC)	Modern Pharmaceutics (SPC)		
2.00pm-3.00pm	6			Seminar/Assignment (PMC)	Regulatory Affairs (PMC)	Seminar/Assignment (PMC)		
3.00pm-4.00pm	7	Regulatory Affairs (PMC)	Modern Pharmaceutics (SPC)	Regulatory Affairs (PMC)	Modern Pharm Analysis tech (MTM)	Modern Pharm Analysis tech(MTM)		
4.00pm-5.00pm	8	Regulatory Affairs (PMC)	Drug delivery Systems (PMC)	Library	Library			

SPC- Dr (Mrs) S.P. Chaudhari
PMC-Dr.(Mrs) P.M. Chaudhari
MTM-Mr. Mukesh T Mohite

Dr N S

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**Dr. D.Y. Patil College of Pharmacy,
Akurdi, Pune-44**

TIME TABLE 2018-19 (Second Half)

First Year B. Pharm							
Timings	Lecture/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00am	1	Patho (AVK)	HAP(SSS)	POC-I (SM)	Comp Application(RB)	Bio chem(SM)	Bio chem(SM)
10.00-11.00am	2	POC-I (SM)	Patho (AVK)	Comp Application(RB)	Bio chem(SM)	HAP-II (SSS)	Patho (AVK)
11.00-12.00pm	3	POC-I (SM)	POC-I (SM)	EVS (MTM)	EVS (MTM)	HAP-II (SSS)	Patho (AVK)
12.00 -12.40 pm	Lunch Break						
12.40-4.40pm	A	POC-I (PVP)	HAP-II (SSS)	Bio chem(SM)	Comp Application (RB) practical & lecture	Patho (AVK)	HAP-II(SSS)
	B	Comp Application (RB) practical & lecture	POC-I(SAN)	Bio chem(SM)	HAP-II (SSS)	EVS (MTM)	HAP-II(SSS)
	C	HAP -II (SSS)	Bio chem(SM)	Comp Application (RB) practical & lecture	POC-I(SPM)	CA	Bio chem(SM)

SPM – Dr. (Mrs.) Sonali Mahaparale

SSS- Dr.(Mrs.) Smeeta Sadar

MTM – Mr. Mukesh Mohite

AVK- Mr. Ashish Kulkarni

PVP- Ms. Priyatama Powar

RB- Mrs. Rajlaxmi S

SAN Mrs. SarikaNikam

SM- Mrs. Supriya Mane

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TIME TABLE 2018-19 (Second Half)

Second Year B. Pharm							
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-12.00 pm	A	PP-II (SN)	Pharmacognosy - II (SWJ)	POC-IV(TAD)	Patho (DSS)	PA-II(RB)	Pharm Eng(SN)
	B	Patho (SSS)	PP-II(SN)	Pharmacognosy - II (SWJ)	PA-II(JRC)	POC-IV(TAD)	PP-II(SN)
	C	Pharmacognosy -II (SWJ)	PA-II(RB)	PP-II (SN)	POC-IV(TAD)	Patho (DSS)	CA
12.00 – 12.40 pm	Lunch Break						
12.40-1.40pm	1	PP-II (SN)	POC-IV(TAD)	Patho (DSS)	Pharmacognosy -II (SWJ)	Pharmacognosy - II (SWJ)	CA/TPO
1.40-2.40pm	2	Pharmacognosy - II (SWJ)	PA-II(JRC)	POC-IV(TAD)	POC-IV(TAD)	Patho (DSS)	CA
2.40-3.40pm	3	PA-II(JRC)	PP-II (SN)	PA-II(JRC)	Pharm Eng(SN)	Pharm Eng(SN)	CA
3.40-4.40pm	4	CA	CA	PP-II (SN)	Patho (DSS)	Pharm Eng(SN)	CA

DSS – Dr. Devendra Shirode
 SWJ – Mrs. Shubhangi Jadhav- Pharande
 JRC- Ms. Jyotsana Chopade
 TAD -Mrs. Tejashree Deokule-Gaikwad
 SN -Ms. Sarika Nikam
 RB- Mrs. Rajlakshmi

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**Dr. D.Y. Patil Pratishthan's
Dr. D.Y. Patil College of Pharmacy,
Akurdi, Pune-44**

TIME TABLE 2018-19 (Second Half)

Third Year B.Pharm							
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00am	1	Drug Design (TAD)	P'Cology-III(DSS)	PA-IV(JC)	NPC (RSK)	Biotech (PVP)	Drug design (TAD)
10.00-11.00 am	2	NPC (RSK)	Drug Design (TAD)	P'Cology-III (DSS)	Med.Chem-II (SCD)	Med.Chem-II (SCD)	Drug design (TAD)
11.00-12.00pm	3	PA-IV (JRC)	NPC (RSK)	Biotech (PVP)	Ind.Pharm (PVP)	PA-IV(JRC)	CA/TPO
12.00-1.00pm	4	P'Cology-III (DSS)	Ind.Pharm (PVP)	Ind. Pharm (PVP)	Med.Chem-I (SCD)	Biotech (PVP)	CA
1.00-1.40 pm	Lunch Break						
1.40-4.40pm	A	NPC (RSK)	P'Cology-III (DSS)	PA-IV(JRC)	Ind.Pharm(PVP)	Med.Chem-II (TAD)	CA
	B	Med.Chem-II (TAD)	NPC(RSK)	P'Cology-II (DSS)	PA-IV(JRC)	Ind.Pharm(PVP)	CA
	C	P'Cology-II(DSS)	Ind.Pharm (PVP)	NPC(RSK)	Med.Chem-II (SCD)	PA-IV(JRC)	CA

SCD- Dr. Shubhangi Daswadkar

DSS – Dr. Devendra Shirode

RSK- Dr. Revan Karodi

JRC- Ms. Jyotsana Chopade

TAD- Mrs. Tejashree Deokule-Gaikwad

PVP- Ms. Priyatama Powar

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**Dr N S
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**Dr.D.Y.PatilPratishthan's
Dr.D.Y.Patil College of Pharmacy,
Akurdi, Pune-44**

TIME TABLE 2018-19 (Second Half)

Final Year B.Pharm							
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-12.00 pm	A	Cosmetic Science (NK)	PA-VI (MTM)	Med.Chem-IV (SCD)	P'Cology-V(AVK)	ADDS (VRV)	NP:CIR(RSK)
	B	Med.Chem-IV (SCD)	Cosmetic Science (NK)	ADDS (VRV)	PA-VI(MTM)	P'Cology-V (AVK)	NP:CIR(RSK)
	C	ADDS (VRV)	Med.Chem-IV (SCD)	P'Cology-V(AVK)	Cosmetic Science (NK)	PA-VI(MTM)	CA
12.00-12.40pm	Lunch Break						
12.40-1.40pm	1	PA-VI (MTM)	Med.Chem-IV (SCD)	P'Cology-V (AVK)	QAT(SPC)	Cosmetic Science (NK)	TPO/CA
1.40-2.40pm	2	Med.Chem-IV (SCD)	QAT(SPC)	ADDS (VRV)	NP:CIR (RSK)	Med.Chem-IV (SCD)	TPO/CA
2.40-3.40pm	3	ADDS (VRV)	P'Cology-V (AVK)	PA-VI (MTM)	Cosmetic Science (NK)	NP:CIR (RSK)	CA
3.40 -4.40 pm	4	P'Cology-V (AVK)	PA-VI (MTM)	QAT(SPC)	Cosmetic Science (NK)	ADDS (VRV)	CA

SCD- Dr. Shubhangi Daswadkar

RSK- Dr. Revan S Karodi

VRV- Dr. Vaibhav Vaidya

MTM –Mr. Mukesh Mohite

AVK- Mr. Ashish Kulkarni

RB- Mrs. Rajlaxmi S

NK - Mrs. Neetu Khatri-Kaushal

Dr N S

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TIME TABLE 2018-19 (Second Half)

M.PHARM (QAT)

Timing	Lec/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
9.00am - 10.00am	1	Pharmaceutical Manufacturing Technology (SVP)	Pharm Quality Assurance practical II (SVP)	Pharm Quality Assurance practical II (SPM)	Hazards & Safety Management (SWJ)	Pharmaceutical Validation (SPM)	Hazards & Safety Management (SWJ)	
10.00am-11.00am	2	Pharmaceutical Validation (SPM)			Seminar /Assignments (RSK)	Pharmaceutical Manufacturing Technology (SVP)	Hazards & Safety Management (SWJ)	
11.00 am-12.00pm	3	Seminar /Assignments (RSK)			Pharmaceutical Manufacturing Technology (SVP)	Seminar /Assignments (RSK)		
12.00pm-1.00pm		Lunch Break			Lunch Break			
1.00pm-2.00 pm	4	Audits & Regulatory Compliance (SVP)			Audits & Regulatory Compliance (SVP)	Seminar /Assignments (RSK)	Pharmaceutical Validation (SPM)	
2.00pm-3.00pm	5	Pharmaceutical Validation (SPM)			Library	Audits & Regulatory Compliance (SVP)	Pharmaceutical Validation (SPM)	
3.00pm-4.00pm	6	Library			Pharmaceutical Manufacturing Technology (SVP)	Hazards & Safety Management (SWJ)		
4.00pm-5.00pm	7		Hazards & Safety Management (SWJ)	Audits & Regulatory Compliance (SVP)				

SVP – Dr. Sudhir Pandya, SPM-Dr (Mrs) Sonali Mahapare, RSK – Dr. Revan Karodi, SWJ – Mrs. Shubhangi Jadhav-Pharande

**Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44**

TIME TABLE 2018-19 (Second Half)

M.PHARM (PHARMACEUTICS)

Timing	Lec/ Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
9.00am -10.00am	1	Pharmaceutics Practical II (PMC)	Pharmaceutics Practical II (SPC)	Advanced Biopharmaceutics & Pharmacokinetics (PMC)	Computer Aided DDS (VRV)	Seminar/ Assignment (SPC)	Computer Aided DDS (VRV)	
10.00am-11.00am	2			Advanced Biopharmaceutics & Pharmacokinetics (PMC)	Molecular Pharmaceutics (Nano Tech & Targeted DDS) (SPC)	Advanced Biopharmaceutics & Pharmacokinetics (PMC)	Computer Aided DDS (VRV)	
11.00 am-12.00pm	3			Seminar/Assignment (PMC)	Seminar/Assignment (SPC)	Seminar/Assignment (SPC)		
12.00pm-1.00pm				Lunch Break				
1.00pm-2.00 pm	4			Molecular Pharmaceutics (Nano Tech & Targeted DDS) (SPC)	Seminar/ Assignment (SPC)	Molecular Pharmaceutics (Nano Tech & Targeted DDS) (SPC)		
2.00pm-3.00pm	5			Seminar/Assignment (PMC)	Cosmetics & Cosmeceuticals (PMC)	Seminar/ Assignment (PMC)		
3.00pm-4.00pm	6			Cosmetics & Cosmeceuticals (PMC)	Molecular Pharmaceutics (Nano Tech & Targeted DDS) (SPC)	Cosmetics & Cosmeceuticals (PMC)	Computer Aided DDS (VRV)	Computer Aided DDS (VRV)
4.00pm-5.00pm	7	Cosmetics & Cosmeceuticals (PMC)	Advanced Biopharmaceutics & Pharmacokinetics (PMC)	Library	Library			

SPC- Dr (Mrs) Shilpa Chaudhari
PMC-Dr.(Mrs) Pallavi Chaudhari
VRV – Dr. Vaibhav Vaidya

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6. Course Booklet /Syllabus Planning

Dr. D. Y. Patil Pratishthan's
Dr. D. Y. Patil College of Pharmacy
Akurdi, Pune – 411044

Syllabus Planning: 2018-19

Theory

Subject: Pharmacognosy & Phytochemistry –I

Subject code: 2.3.6 T

Class: S.Y.B.Pharm

Semester: III

Marks /Credits allotted: NA

No. of Hrs assigned: 03 Hrs/ Week i.e. 45 Hrs/ Sem

No. of hours planned: 03 Hrs/Week i.e. 45 Hrs/ Sem

Department: Pharmacognosy

Course description:

Pharmacognosy and phytochemistry deals with the basics of the different metabolites present in the plants and animals and their value in pharmaceutical industry.

COURSE OUTCOME/ COMBINED LEARNING OUTCOME (Learning outcomes related to Knowledge and cognitive skills):

By the end of this course, the student will be able to:

2.3.6.T.1. Identify the primary and secondary metabolites along with their examples and its medicinal utility.

2.3.6.T.2. Describe the different techniques used for analyzing the metabolites.

2.3.6.T.3. Classify the crude drugs under different categories based on the presence of chemical constituents & their applications.

Books referred:

1. Cseke et al, A Textbook of "Natural Products from Plants", Chapter Regulation of Metabolite Synthesis in Plants, Second Edition, Taylor & Francis group, 101-103.
2. Francisco A. Macas et al, Evolution and current status of ecological phytochemistry, Phytochemistry 68 (2007) 2917–2936.
3. Chemical Basis of Flower Color in Angiosperms (Flowering Plants), Natural Products from Plants, Second Edition, page 94.
4. Pharmacognosy, C. K. Kokate, A. P. Purohit, S. B. Gokhale, Nirali Prakashan, 147.
5. Khandelwal, K. R., "Practical Pharmacognosy- Techniques and Experiments", Nirali Prakashan, 12th edition, 2003, page no.157
6. Kokate, C.K., "Practical Pharmacognosy", Vallabh Prakashan, 11th edition, 2001, page no.67
7. Rangari V.D. Pharmacognosy and Phytochemistry, 1st edition, Career Publications, 2004, page no. 220
8. Pharmacognosy, Trease and Evans, 16th edition, page 194-204, 208-213.
9. Textbook of Pharmacognosy & Phytochemistry, By Dr Biren Shah, Pg no. 187
10. Pharmacognosy, Trease and Evans, 16th edition, page 194-204, 204-208.
11. E. Edwin Jarald, Sheeja Edwin Jarald, Textbook of Pharmacognosy and Phytochemistry, CBS Publishers, Pg no. 191-205.
12. Textbook of Pharmacognosy & Phytochemistry, E. Jarald, S. Jarald, Lipids, Page no. 542-465.
13. Pharmacognosy, J.S.Qadry, 16th Edition, Fixed oils, Fats & Waxes-Lipids, Page no. 147-174.
14. Pharmacognosy, Trease & Evans, 16th Edition, Hydrocarbons and derivatives, Page no. 173-193.

15. A Textbook of Pharmacognosy and Phytochemistry, Dr. G.S.Kumar, Dr. K.N.Jayaveera, Primary metabolites – Lipids, Page no. 175 – 206
16. Essentials of Pharmacognosy, Dr. S.H.Ansari, Lipids, Page no. 271-308.
17. Gelatin Handbook, Gelatin Manufacturers Institute Of America, January 2012.
18. Khandelwal, K. R., “Practical Pharmacognosy- Techniques and Experiments”, Nirali
19. Kokate, C.K., “Practical Pharmacognosy”, Vallabh Prakashan, 11th edition, 2001, page no.583.
20. Manual of methods of Analysis of foods, Food Safety and Standards Authority of India, Ministry of Health and Family Welfare, Government of India, New Delhi, 2012, 1-99
21. Wallis T. E., Textbook of Pharmacognosy. CBS Publisher & Distributors, 1985.ISBN:81-239-0886-5.

Journals Referred:

1. Hyeon-Jin Sun, Hiroshi Kataoka, Megumo Yano, Hiroshi Ezura, Genetically stable expression of functional miraculin, a new type of alternative sweetener, in transgenic tomato plants, Plant Biotechnology Journal, (2007), 5.
2. Bindu R. Nair and Fahsa K. S., Isolation And Characterization Of Mucilage From Some Selected Species Of *Abelmoschus* Medik. (Malvaceae) And Their Application In Pharmaceutical Suspension Preparation, International Journal of Pharmacy and Pharmaceutical Sciences, (2013), Vol 5, Issue 1, 398-402.
3. Nilesh Jain, Ruchi Jain, Vaibhav Jain and Surendra Jain, A Review On: *Abelmoschus Esculentus*, Pharmacia, (2012), Vol I, Issue 3, 84-89.
4. Pradip Kumar Dutta, Joydeep Dutta, V S Tripathi, Chitin and chitosan: Chemistry, properties and applications, Journal of Scientific & Industrial Research, Vol. 63, January 2004, pp 20-31.
5. International journal of research in pharmacy and chemistry, IJRPC 2011, 1(4), 992 – 997, Lipids - the instrumental excipient in, pharmaceutical dosages form, Prashant Zurao, Suraj Landge, S.B. Jaiswal and A.V. Chandewar.
6. Nawa Raj Dahal, X. M. Xu, Sweetest Protein –Thaumatococcus, J. Food Sci. & Technol. Nepal, Vol. 7 (112-118), 2012
7. Margarita M. Andrade-Mahecha, Olga Morales-Rodriguez, and Hugo A. Martinez-Correa, Study of the extraction process of papain from latex of papaya (*Carica papaya* L.) fruits cv. Maradol , ACTA AGRONÓMICA. 60 (3) 2011, p 217-223
8. Rubens Monti, Carmelita A. Basilio, Henrique C. Trevisan and Jonas Contiero, Purification of Papain from Fresh Latex of *Carica papaya*, Brazilian Archives of Biology and Technology, v.43, n.5, p. 501-507, 2000
9. David E. Burke, Sidney D. Lewis, And Jules A. Shafer, A Two-Step Procedure for Purification of Papain From Extract of Papaya Latex’, Archives Of Biochemistry And Biophysics 164, 30-36 (1974)
10. C.Ramalingam, R.Srinath and N.Nasimun Islam, Isolation and characterization of Bromelain from pineapple (*Ananas Comosus*) and comparing its anti-browning activity on apple juice with commercial antibrowning agents, Elixir Food Science 45 (2012) 7822-7826.
11. Barun K Bhattacharya, Bromelain: An Overview, Natural Product Radiance, Vol. 7 (4), 2008, pp 359-363.
12. R. Dubey, J. Kumar, D. Agrawala, T. Char and P. Pusp, Isolation, production, purification, assay and characterization of fibrinolytic enzymes (Nattokinase, Streptokinase and Urokinase) from bacterial sources, African Journal of Biotechnology Vol. 10(8), pp. 1408-1420, 21 February, 2011.
13. Anurag A. Agrawal, Georg Petschenka, Robin A. Bingham, Marjorie G., Weber and Sergio Rasmann, Tansley review, Toxic cardenolides: chemical ecology and coevolution of specialized plant–herbivoreInteractions, New Phytologist (2012), 194: 28–45.

14. Lakshmi T, Anitha Roy & Geetha R.V, Panax ginseng a Universal panacea in the herbal medicine with diverse Pharmacological spectrum – A review, Asian J Pharm Clin Res, Vol 4, Suppl 1, 2011, 1418.
15. Franklin W. Martin, The species of Dioscorea containing Saponin, Reprinted from Economic Botany, Vol. 23, No. 4, October – December 1969, Page no. 373-379.

Other Sources for reference (Weblink):

1. <http://www.dailymail.co.uk/news/article-514799/The-orange-purple-green-cauliflowers-scientists-claim-healthier-you.html>
2. <http://news.bbc.co.uk/2/hi/health/7688310.stm>
3. <http://www.telegraph.co.uk/news/worldnews/asia/japan/3327043/Worlds-first-blue-roses-on-display-in-Japan.html>
4. <http://www.uu.nl/EN/Current/Pages/Researchergrowsrootsonupperpartofplant.aspx>

Lecture Plan:

Sr. No	Topic to be covered	Lecture No	Lecture details	Teaching Method/ aids to be used	Books referred	Journal referred	Other sources (Weblink)
1.	Plant metabolites	1	Meaning, types, & their functions in plant; Comparative account of primary & secondary metabolism	Traditional chalk and talk Method	1,2,3	--	--
		2	Role of secondary metabolites in plants		1,2,3	1	1,2,3,4
		3	Rationale behind use of secondary metabolites as medicinal compounds; Overview of historical contribution in development of phytochemistry		1,2,3	--	--
2	Pharmacognostic scheme for study of crude drugs	4	Meaning, component	Powerpoint presentation	4, 5,6, 7	--	--
		5	significance of individual Pharmacognostic parameter			--	--
		6	Morphological, microscopical study, quality control of crude drugs			--	--
		7	Qualitative chemical tests, pharmacological actions, adulterants			--	--
3	Primary metabolite of Pharmaceutical & industrial utility: A. Carbohydrate	8	Definition, classification, occurrences, properties, nomenclature, chemistry (including general biogenesis, qualitative/quantitative analysis) & pharmaceutical & industrial applications of		8	--	--

	tes:		carbohydrates	Traditional Chalk and Talk Method			
		9	Agar, Guar gum		8	--	--
		10	Acacia, Isabgol		8,9	--	--
		11	Sterculia, Tragacanth		8	--	--
		12	Okra mucilage			2,3	--
		13	Source, extraction, properties & uses of : Starch		10, 11	--	--
		14	Pectin		10, 11	--	--
		15	Inulin		10, 11	--	--
		16	Chitosan			4	--
	17	Cyclodextrins	10, 11		--		
	B. Lipids	18	Definition, classification, occurrences, properties, nomenclature, chemistry & pharmaceutical & industrial applications of lipids	12,13,14,15,16	5	--	
		19	Castor oil, Linseed oil, Neem oil, Hydnocarpus oil	12,13,14,15,16,20	5	--	
		20	Codliver oil, Shark liver oil, Rice Bran oil, Cocoa butter	12,13,14,15,16,20	5	--	
		21	Kokum butter, Wool fat, & Bees wax; b) Source, extraction, properties & uses of: Lecithin	12,13,14,15,16,20	5	--	
		22	Polyunsaturated fatty acids, & Carotenoids	12,13,14,15,16,20	5	--	
	C. Proteins & enzymes	23	Thaumatococcus, Papain		5,6,7,8,9,10,11,12	--	
		24	Bromelain, Streptokinase & gelatin	17	6,7,8,9,10,11,12	--	
D. Natural fibers:	25	Source, method of preparation, properties & applications of Cotton	18, 19	--	--		
	26	Wool & Jute	18, 19	--	--		
	27	Silk	18, 19	--	--		
4	Secondary metabolites for medicinal utility: A. Glycosides	28	Definition, classification of carbohydrates	Powerpoint presentation	1,12,13,14,21	--	--
		29	occurrences, properties, nomenclature, & chemistry (including general biogenesis, qualitative / quantitative analysis) of glycoside containing drugs			--	--
		30	<i>Saponin glycosides:</i> Liquorice, ginseng, dioscorea			14, 15	--
		31	<i>Cardioactive glycosides:</i>			13	--

			Digitalis				
		32	squill, & strophanthus				--
		33	<i>Anthraquinone glycosides:</i> Aloe, senna, rhubarb				----
		34	Cascara, Kalmegh				--
		35	Gentian				--
		36	Citrus peels				--
		37	Artemisia				--
		38	Visnaga				--
	B. Tannins	39	Definition, classification of tannins, occurrences, properties, nomenclature,	Traditional Chalk and talk method Powerpoint presentation	1,12,13, 14,21	--	--
		40	general ex traction, qualitative / quantitative analysis			--	--
		41	Gambier			--	--
		42	black catechu			--	--
		43	Amla			--	--
		44	Beleric			--	--
		45	Chebulic Myrobalan			--	--

**Dr. D. Y. Patil Pratishthan's
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Akurdi, Pune – 411044**

Course Objectives - Theory

Subject: Pharmacognosy & Phytochemistry –I **Subject code:** 2.3.6 T
Class: S.Y.B.Pharm **Semester:** III
Marks /Credits allotted: **No. of Hrs assigned:** 03 Hrs/ Week i.e. 45 Hrs/ Sem
No. of hours planned: 03 Hrs/Week i.e. 45 Hrs/ Sem **Department:** Pharmacognosy

Course description:

Pharmacognosy and phytochemistry deals with the basics of the different metabolites present in the plants and animals and their value in pharmaceutical industry.

COURSE OUTCOME/ COMBINED LEARNING OUTCOME (Learning outcomes related to Knowledge and cognitive skills):

By the end of this course, the student will be able to:

2.3.6.T.1. Identify the primary and secondary metabolites along with their examples and its medicinal utility.

2.3.6.T.2. Describe the different techniques used for analyzing the metabolites.

2.3.6.T.3. Classify the crude drugs under different categories based on the presence of chemical constituents & their applications.

Continuous Assessment Plan:

Chapter	Topics	Learning outcomes related to knowledge, aptitude and cognitive skills
On completion of theory student will be able to		
1.	Plant metabolites	2.3.6.1.T - Discuss the formation and applications of metabolites in plants
2.	Pharmacognostic scheme for study of crude drugs	2.3.6.2.T - Determine the various qualitative & quantitative analytical parameters for standardization of crude drugs
3.	Primary metabolites of Pharmaceutical & industrial utility: A. Carbohydrates B. Lipids	2.3.6.3.T – Illustrate the different primary metabolites 2.3.6.4.T - Discuss the individual primary metabolites by studying its systematic pharmacognostic profile 2.3.6.5.T - Explain the source, properties and extraction of some isolated metabolites
	C. Proteins & enzymes	2.3.6.6.T- Explain the various preparation methods of some proteins and enzymes
	D. Natural fibers	2.3.6.7.T- Identify the difference between natural and synthetic fibers 2.3.6.8.T- Recognize the different fibres by its properties
4.	Secondary metabolites for medicinal utility:	2.3.6.9.T – Define and classify glycosides and tannins as a secondary metabolite

	A. Glycosides B. Tannins	2.3.6.10.T – Explain the occurrence, physicochemical properties and various phytochemical aspects of glycosides & tannins 2.3.6.11.T – Discuss the systematic approach of individual specified crude drugs.
--	-----------------------------	--

Note: The evaluation of the students will be done on the basis of

1. Assignment- Seminars,
2. Multiple choice questions test,
3. Internal examination, and
4. Final examination.

Correlation of course outcome with core course outcome:

		2.3.6.1	2.3.6.2	2.3.6.3	2.3.6.4	2.3.6.5	2.3.6.6
1	2.3.6.1.a.T	√	√				
	2.3.6.1.b.T	√	√				
	2.3.6.1.c.T	√	√				
2	2.3.6.2.a.T			√			√
	2.3.6.2.b.T			√			√
3	2.3.6.3.a.T		√		√	√	√
	2.3.6.3.b.T		√		√	√	√
	2.3.6.3.c.T		√		√	√	√
	2.3.6.3.d.T		√		√	√	√
	2.3.6.3.e.T		√		√	√	√
	2.3.6.3.f.T		√		√	√	√
	2.3.6.3.g.T		√		√	√	√
4	2.3.6.4.a.T		√		√	√	√
	2.3.6.4.b.T		√		√	√	√
	2.3.6.4.c.T		√		√	√	√
	2.3.6.4.d.T		√		√	√	√
	2.3.6.4.e.T		√		√	√	√
	2.3.6.4.f.T		√		√	√	√

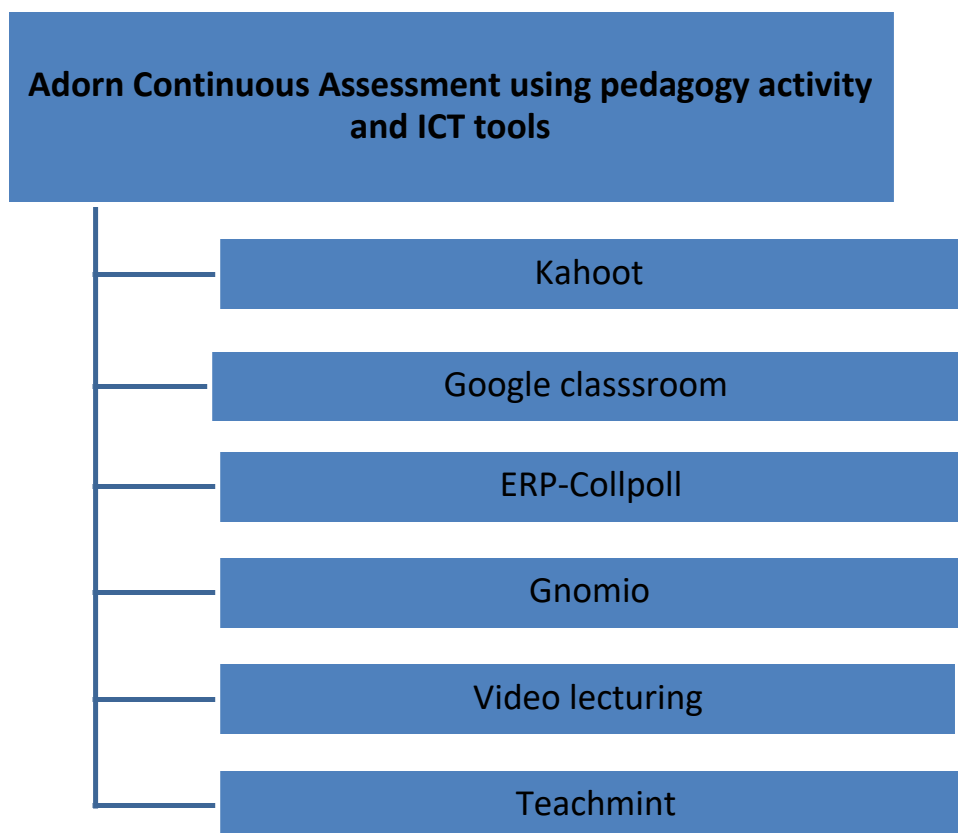
7. Continuous Internal assessment

[Back to index](#)

Continuous Assessment

List of Continuous Assessment as per SPPU course structure & syllabus

- a) Written test and /or midterm test
- b) Term paper
- c) Journal/Lecture/Library notes
- d) Seminar presentation
- e) Short Quizzes
- f) Assignments
- g) Extention work
- h) **An open book test**
- i) Mini research project by individual learner or group of learners



Open book test (CA-I)

09/10

- Q.1 Explain murexide test along with its significance.
- Q.2 Elaborate on the source, active constituents and uses of Vinca.
- Q.3 Discuss the chemical constituents and uses of nuxvomica.
- Q.4 Explain any one quinoline alkaloid
- Q.5 Elaborate on the chemical test for tropane alkaloids & isoquinoline alkaloids with example.

Q.5

→ Tropane alkaloids -

e.g - datura, coca

chemical test:

1. The tropane alkaloid is treated with fuming nitric acid, followed by evaporation to dryness & addition of methanolic potassium hydroxide solⁿ an acetone solⁿ of nitrated residue violet coloration takes place due to tropane derivative.
2. On addition of silver nitrate solⁿ to solⁿ of hyoscyne hydrobromide, yellowish white ppt is formed, which is insoluble in nitric acid, but soluble in dilute ammoni

Q.2

→ Biological source :- It is dried entire plant of *Catharanthus roseus* Linn. of family Apocynaceae.

CC :- Alkaloids are present in entire shrub but leaves & roots contain more alkaloids.

- The important alkaloids are the dimeric indole indoline alkaloids vincristine & vinorelbine & possess anticancer activity.
- Vindoline & catharanthine are indole monomeric alkaloids.
- Also contain monoterpenes, sesquiterpene, indole & indoline glycoside.

Uses :-

- Treat Hodgkin's disease.
- Antitumour alkaloid
- used to treat leukaemia in children.
- used as astringent

Q.3

→ C.C. :- contain alkaloids strychnine (1.25%) & Brucine (1.5%). also traces of strychnine, and a glucoside loganin about 3%. fatty matter, caffeotannic acid & copper.

- The main acid present is gallic acid
- Vomisine & pseudo strychnine are minor alkaloids.

- uses :-
- + Increasing appetite
 - + stimulate peristalsis.
 - Strychnine also act as a bitter, increasing the flow of gastric juice.
 - Strychnine has a stimulant action on spinal cord & reflex movement are better. It is considered as Nervine & sex tonic.
 - Improve the pulse & raises B.p.
 - used in pruritis

Q.4

Cinchona :-

C.N - cortex cinchonae, Countess, Peruvian or Jesuit's bark, cinchona.

B.S - cinchona is the dried bark of the stem of the root of cinchona officinalis Lind of Family Rubiaceae.

Geographical source - India, America, Bolivia, Ceylon etc.

Collection & preparation - The plant is allowed to grow till 6 years & first crop is collected by coppicing, uprooting or by felling method. Bark is collected till plant is 9 years old.

- The trunk & branches are broken to loose the periderm.

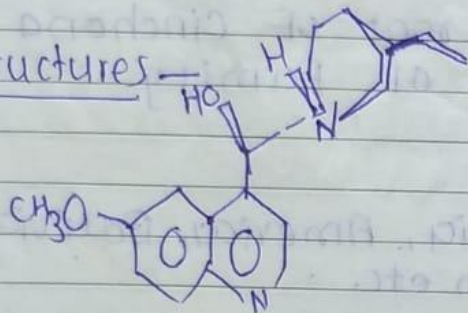
CC :- More than 30 alkaloids reported in cinchona.

- chiefly identified alkaloids are quinidine, quinine, cinchonine & cinchonidine.
- These constituents are stereoisomers of each other.
- The other constituents available are quiniamine, cinchotine, hydroquinine, hydrocinchonidine, cinchotannic acids.
- It also contains starch, Ca Oxalate crystal & crystal of quinic acid.

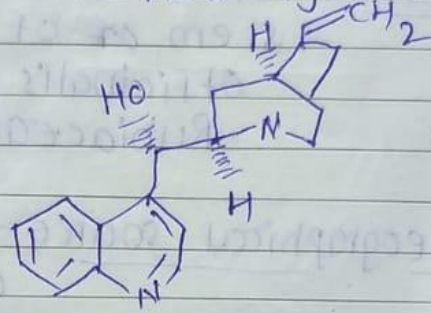
uses :- Antimalarial drug

- Analgesic
- Antipyretic
- protoplasmic
- cardiac depressant
- used in rheumatism & neuralgia.

structures



Quinine



cinchonine

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Q.1 murexide test -

→ Alkaloids are mixed with a tiny amount of potassium chlorate and a drop of HCl.

The sample is then evaporated to dryness and the resulting residue is exposed to ammonia vapor.

→ Purine alkaloids produce pink color in this test.

- - Murexide with a purple color is also produced in this test.

Method of extraction of caffeine from coffee -

Significance - ① This test is specific for purine alkaloids.

②

Q.5

→

Isoquinoline alkaloids - (Opium)

1] general test to detect opium is by testing meconic acid

Opium dissolved CO_2 & to the filtrate, ferric chloride is added deep reddish purple colour obtained.

2] No phase when sprinkled on nitric acid gives orange red colour.

Codeine does not report this test.

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Q.1 -

Methods of extraction of caffeine from coffee :-

- 1) Direct organic solvent extraction
- 2) Water process method
- 3) Supercritical carbon dioxide extraction

Q.2

References:-

1. Indiana state university: Extraction of caffeine
2. University of Bristol school of chemistry: organic solvent extraction
3. penn state department of chemistry: Liquid/Liquid extraction.
4. Chemical Engineering transactions: ~~Supercritical~~ CO₂. Decaffeination process: A Life Cycle Assessment study.

Dr N S

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N S Vyawahare

Vyawahare Date: 2023.06.10
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47	PUROHIT DISHA JAISHANKAR	08	06
48	SABLE PRAJAKTA SAMBHAJI	06	06
49	SHELAR SAURABH SATISH	06	06
50	TAGTODE ABHJEET KRISHNA	06	09
51	TAJANE MAYURI VILAS	07	09
52	TAKAWANE AARTI ASHOK	09	09
53	TATIYA JAY JITENDRA	09	09
54	VISHVAKARMA SONAM	09	08
55	VISHWAD ANUJA ANIL	09	08
56	WAKCHAURE AKASH SUNIL	08	08
57	ZURE PRAVEEN NANASAHEB	09	08
58		-	-
59	Jadhav Aishwarya	08	07
60	Jagdale Supriya	07	07
61	Ponde Supriya	07	07
62	Warkkhdae Vaibhav	06	07
63	Mudal Shivkanya	07	07
64	Korde Soni	06	07
65	Bhandare Rekha	-	-
66	Shelke Payal	07	07
67	Chavan Suprit	08	07

CAI-
CAII-

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CA - PRACTICAL-2018-19

Second year Roll call List 2018-19		CAI	CAII
Roll No	Name of the Student		
1	ADITYA RAMACHANDRAN	08	08
2	ANNADATE SOURABH PRAVIN	07	08
3	BALGHARE SAYALI DNYANESHWAR	08	08
4	BANDAL RUTUJA GANESH	09	08
5	BAVASKAR AKSHAY SUBHASH	08	09
6	BEHERA BHAGYASHREE NARAYAN	09	09
7	BHADALE SHIVANI SUBHASH	08	09
8	Bhansali Karan Sanjay	06	09
9	Bharambe Abhishek	-	-
10	BHOSALE KALPESH NARAYAN	07	07
11	BORADE SNEHAL AJITKUMAR	06	07
12	CHABUKSWAR SONALI SIDHARAM	08	07
13	CHANDE PRASHANT UTTAM	09	07
14	DHAKANE TANUJA SUNILDATTA	09	07
15	DHANNE KIRTI ARJUN	07	07
16	GADIYA DIVYA GULABCHAND	08	07
17	GHATGE AKANKSHA BASAPPA	07	07
18	JADHAV VIVEK SANJAY	06	07
19	JAGETIYA SAKSHI RAJESH	09	07
20	JOSHI DHANSHREE RAJESHWAR	08	07
21	KAMBLE SACHIN NAGNATH KAMBLE	06	07
22	KANADE PRAVIN RAJU	06	07
23	KANDALKAR GEETA MUKUND	07	07
24	KATARIYA ROHIT RAVINDRA	08	07
25	KATKAR SHIVANI DNYANDEV	09	07
26	KHARAT MANOJ ASHOK	08	06
27	KHUDE ABHISHEK	07	06
28	KOTHARI BHAVESH	07	06
29	KUDALE ROHAN SOMNATH	07	06
30	KUMAR DHIRAJ	08	07
31	LANDGE ANUSHKA HANUMANT	08	07
32	LAVEKAR VEDANGA NANDKUMAR	06	07
33	MARATHE PALLAVI RAJESH	06	07
34	MEGHRAJANI NISHA DINESH	08	06
35	MISALE PRAGALBH MADHAVRAO	06	06
36	MUJAWAR NAVID AJIM	06	06
37	NAGUTHNE DANISH KHALIL AHMED	07	06
38	OSWAL SALONI SANJAY	09	09
39	PARDESHI RUSHIKESH SHAM	09	09
40	PATEL PREETI SHANKARLAL	08	09
41	Pathak Bhakti Arun	07	09
42	PATIL NIKITA VINOD	06	07
43	PATIL NILESH SANJAY	08	07
44	PATIL PRATHMESH LAXMIKANT	06	07
45	PATIL PRATIK GANESH	07	07

Sem IV
2018-19

CA I - Open book test (25/02/19)
CA II - Term paper (11) 03/19

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Phytology & Phytochem

Roll No	Exam Seat No	Name of Student	①				②				Total	Avg
			Hurst mark	CA 1	CA 2	Total	Hurst mark	CA 1	CA 2	Total		
35	4370	Misale Pragalbha	03	05	02	10	00	05	08	13	33	
36	4375	Mayur Navid	02	Ab	08	10	00	05	08	15	5	
37	4377	Naguthne D.K	07	06	10	23	11	07	09	27	35	
38	4384	Bhal Saloni S	14	07	06	27	12	06	08	26	4	
39	4387	Paresh Ruskhe	09	07	06	22	14	06	05	25	42	
40	4389	Patel Preeti S.	13	07	10	30	16	07	10	33	48	
41	4390	Patil Bhakti A	11	06	09	26	13	05	07	25	52	
42		Patil Nikita V.	07	05	03	15	08	04	05	17	3	
43		Patil Nilesh S	10	07	06	23	17	07	04	28	5	
44		Patil Prathmesh L	06	Ab	07	13	00	05	05	16	4	
45		Patil Pratik G.	12	06	09	27	10	07	07	24	4	
46	4396	Pawar Neha S	10	05	08	23	11	04	08	23	4	
47		Purohit Disha J	05	07	08	20	10	04	07	21	3	
48	4412	Sable Prayakta	13	07	08	28	08	04	06	18	3	
49	4421	Shelar Saurabh S	10	06	06	22	08	04	07	19	3	
50	4433	Tagade Abhijit K	08	06	05	19	10	04	07	21	3	
51	4368	Tajane Mayura	08	06	06	20	14	07	05	26	5	
52	4441	Takanave A.A	19	09	07	35	16	06	09	31	5	
53	4443	Tahya Jay J	15	09	07	31	15	09	07	31	4	
54	4448	Vishwakarma S.R	11	08	07	26	13	07	06	26	5	
55		Vishwas Anaya S	09	09	05	21	17	06	08	31	4	
56		Wachwe Akash	10	07	10	27	17	07	09	33	4	
57	4460	Zure Praveen H.	14	08	09	31	15	09	09	33	4	
58		-	Ab	-	-	Ab	-	-	-	-	-	
59		-	12	06	07	25	08	04	07	19	-	
60	4322	Jadhav Arshvarya	10	06	05	21	11	04	07	22	-	
61	4327	Jagdale Supriya	13	06	08	27	09	04	07	20	-	
62	4457	Korde Supriya B.	08	05	04	17	08	02	06	16	-	
63		Warkhade Vaibhav	09	05	08	22	08	04	05	17	-	
64		Mudal Shivkanya	09	06	04	19	08	04	05	20	-	
65		Korde Sani V	Ab	-	-	Ab	-	-	-	-	-	
66		Bhandare Rekha J	05	05	09	19	08	03	08	19	-	
67		Shete Payal S	05	05	09	19	08	02	05	18	-	
68		Chavan Supriya S									-	

Shubhangi
S.W. Jadhav

2017-2018

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1. Academic Monitoring Committee

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Dr. D. Y. Patil Pratishthan's

Dr. D. Y. PATIL COLLEGE OF PHARMACY

Dr. D. Y. Patil Educational Complex, Sector - 29, Pradhikaran, Akurdi, Pune 411 044.

Tel. : 020-27656141, Tel. Fax : 020-27656141

E-mail : info@dyppharmaakurdi.ac.in Web : www.dyppharmaakurdi.ac.in

Approved by : All India Council for Technical Education, New Delhi

Pharmacy Council of India, New Delhi. Recognized by : Government of Maharashtra

Affiliated to Savitribai Phule Pune University, Pune

Dr. Sanjay D. Patil
President

Padmashree Dr. D. Y. Patil
Founder

Shri. Satej D. Patil
Vce-President & Chairman

Dr. N. S. Vyawahare
Principal

Ref. No. : DYPCOP/
Date :

Academic Monitoring Committee

Sr. no	Members	Designation
1	Principal	Chairman
2	Academic Incharge	Member Secretary
3	Academic Coordinator	Member
4	HODs	Members
5	Class Teachers	Members
6	CEO/ Exam Incharge	Member

2. University Academic Calendar

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Savitribai Phule Pune University
(Formerly University of Pune)



Circular No. 79 of 2017

**Dates of Commencement and Conclusion of terms for the Academic Year 2017-2018
For Affiliated Colleges Only.**

It is hereby informed that, the dates of commencement and conclusion of the first and second term of University Courses, under various faculties, for the academic year 2017-2018 shall be as under :

Sr. No.	Name of the Courses	2017-18			
		First Term		Second Term	
		Commencement	Conclusion	Commencement	Conclusion
1	Arts & Fine Arts	15/06/2017	18/10/2017	13/11/2017	30/04/2018
	Mental, Moral and Social Sciences				
2	Science	15/06/2017	18/10/2017	13/11/2017	30/04/2018
	Engineering : SE, TE, BE & MCA- II, & III Year	15/06/2017	18/10/2017	18/12/2017	23/04/2018
	Engineering :ME - II Year.	01/07/2017	28/10/2017	15/01/2018	19/05/2018
	B.Architecture II, III, IV & V Year.	05/06/2017	23/09/2017	04/12/2017	24/03/2018
	M. Architecture II Year.	10/07/2017	04/11/2017	26/12/2017	13/04/2018
	B. Pharmacy	19/06/2017	30/11/2017	21/12/2017	04/05/2018
	M. Pharmacy	17/07/2017	09/12/2017	11/01/2018	30/05/2018
3	Commerce	15/06/2017	18/10/2017	13/11/2017	30/04/2018
	Management	01/07/2017	09/12/2017	26/12/2017	05/05/2018
4	Law : UG & PG (II/III/IV/V Year.)	15/06/2017	18/10/2017	13/11/2017	30/04/2018
	Education II Year.	01/07/2017	28/10/2017	23/11/2017	15/05/2018
	Physical Education II Year.				

Teaching will begin on the date of commencement of the terms and immediately after the finalization of admissions; however, term would stand concluded on the dates mentioned above.

NOTE

1. In case, the Principal of the Affiliated Colleges require to give additional holiday in exceptional circumstances, he/she may do so by compensating the same by keeping the College working on Sunday.
2. The Term & holidays for the Post-graduate courses conducted in the Colleges/Institutes will be as per the University Department.
3. Details of Various Activities for Engineering and Architecture Courses for the Academic Year 2017-18 attached Separately.


Deputy Registrar
(P.G.Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 1532
Date: 27/04/2017

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The Members of the Management Council
The Deans of all Faculties
The Registrar, Savitribai Phule Pune University
The Director, Board of Examinations & Evaluation, Savitribai Phule Pune University
The Head of all University Departments
The Principal of all Affiliated Colleges
The Directors of all Recognised Institutes
The Head of the Administrative Sections of the University office

3. College Academic Calendar

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Dr. D. Y. Patil Pratishthan's

Dr. D. Y. Patil College of Pharmacy, Akurdi, Pune – 411044.

Academic Calender of B. Pharm Course (2017-2018)

	June	July	August	Sept.	October	Nov.	Dec.	Jan	Feb	March	April	May
1		Ist Sat.		HOD-Principal Meeting	Sunday		id-E-Milad	GPAT test Series/Assigning of 3rd			Sunday	
2		Sunday		Ist sat	Gandhi Jayanti	Resessional	Ist sat	Sports week	Principal-Faculty		Resessional	
3		Assigning of 1st assignment		Sunday			Sunday		Ist sat	Ist sat		
4						Ist sat			Sunday	Sunday		Term end
5			Ist sat		Sunday			Annual Gathering		Principal-Non		Ist sat
6			Sunday		Meet			Ist sat				Sunday
7			Raksha Bandhan		Ist sat			Sunday			Ist sat	
8		experts from	programme/ Freshers	Principal Faculty Meeting	Sunday						Sunday	
9		Sunday		experts from various							Parents Meet	
10		Subject wise submission of assignment to be co-	Mid term Exam	Sunday			Sunday		Seminar one day	Campus Interviews		
11	Sunday				Sessional exam	experts from			Sunday	Sunday		
12						Sunday						
13			Sunday					GPAT test Series				Sunday
14								Sunday	Mid Term Exam			
15		3rd Sat	Independence Day		Sunday						Sunday	
16		Sunday		3rd Sat.			3rd Sat.					
17			Pateti Holiday	Sunday			Sunday		3rd Sat.	3rd Sat.		
18	Sunday				Diwali Vacations	3rd Sat.			Sunday	Sunday		
19	Term Start		3rd Sat.			Sunday		Principal-Faculty	Shiv Jayanti			3rd Sat.
20			Sunday					3rd Sat.	Assigning of 4th			Sunday
21			2nd assignment		3rd Sat.		Second term start	Sunday		Sessional Exam	3rd Sat.	
22					Sunday						Sunday	
23				experts from various								
24	Principal-	Sunday		Sunday	Tutorial sessions		Sunday		Campus Interview			
25	Sunday		Ganesh Chaturthi	Parents Meet		experts from	Christmaas Holiday		Sunday	Sunday		
26	Ramzan-ID		experts from various			Sunday		Republic day	Parents Meet	Tutorial sessions		
27			Sunday				NSS Camp/ Industrial tour	GPAT test				Sunday
28								Sunday			Subject experts from various	
29		Subject experts			Sunday			Principal faculty			Sunday	
30		Sunday		Dasera		Term end						
31							Sunday					
of	10	24	21	23	12	24	4	24	21	16	23	4
Extra Curricular activities					SPPU Theory Exam					Theory Sessional Exam.		
1st & 3rd Saturday					Holidays					Vacation		
Assignment dates					Resessional					Tutorial session		

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Academic Calender of M.Pharm Course (2017-2018)

	July	August	Sept.	October	Nov.	Dec.	Jan	Feb	March	April	May	June
1	1st Sat.		HOD-Principal Meeting	Sunday		Id -a-Milad				Sunday	Holiday	
2	Sunday		1st Sat.	Gandhi Jayanti		1st Sat.		Pharma days	HOD-Principal Meeting		Preparation Leave	
3	HOD-Principal Meeting	Induction programme / Freshers Party Term Start SEM-I	Sunday			Sunday		1st Sat.	1st Sat.			
4					1st Sat.		Principal - Faculty Meeting	Sunday	Sunday			
5		1st sat	Anant Chaturthi	Sunday		Term End M.Pharm sem-I and III	Annual gathering	Principal-Non Teaching Meeting				
6		Sunday			Parents Meet	Preparation Leave	1st Sat.					
7				1st sat			Sunday		1st Sat.	Sunday		
8				Sunday					Sunday			
9	Sunday											
10			Sunday			Sunday		Campus Interviews	Campus Interviews			
11							Second Term Start	Sunday	Sunday			
12					Sunday						Sunday	
13		Sunday		Principal-Faculty Meeting	Gurunanak Jayanti				Mid term exam sem-II			
14		Independence Day		3rd Sat.			Sunday					
15	3rd Sat			Sunday	Practical Sessional Exam and Graded seminar of Sem-I and Sem-III					Sunday		
16	Sunday	Pateti Holiday	3rd Sat.			3rd Sat.				Graded Seminar Sem-II and IV		
17	Term start Sem-III		Sunday			Sunday		3rd Sat.	3rd Sat.			
18		Principal-Non Teaching Meeting		Diwali vacation				Sunday	Sunday			
19		3rd Sat.								Practical Exam	Sunday	
20		Sunday						3rd Sat.			3rd Sat.	
21								Sunday			Sunday	
22				Sunday						Sunday		
23	Sunday											
24			Sunday	Third Semester topic finalization seminar	Sessional Exam	Christmas/Sunday		Subject experts from various Institutes				
25		Ganesh Chaturthi	Pharmacist Day					Sunday	Sunday	Sessional Exam	Principal-Faculty Meeting	
26	Ramzan id			Mid term exam for F.Y. Students	Sunday		Republic Day				Sunday	
27		Sunday					Subject experts from various Industry					
28							Sunday			3rd Sat.	Sunday	
29	Subject experts from various Industry			Sunday					Principal faculty Meeting	Sunday	Sem-IV thesis Submission	
30	Sunday		Dussehra			Sunday					Second term End	
31												
no of Days		12	22	22	17	16/21	2 sem-III/1 sem-IV	16	22	25	23/20	23/0

activities			SPPU Theory Exam			Theory Exam.	
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1st & 3rd Saturday			Sunday & Other Holidays			Vacation	
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submission dates			Mid term	
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4. Workload distribution

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		Sem-I					
		Class	Subject	Theory	Practical	Total	Total Load
1	Dr.(Mrs) S P Chaudhari	M.Pharm	Advanced Pharmaceutics	4	8	12	14
		F.Y.B.Pharm	Pharmaceutics-I	2	0	2	
2	Mrs P. M.Chaudhari	Final Year	Sterile products	3	9	12	15
		M.Pharm	SPFT	3	0	3	
3	Mr V. R Vaidya	T.Y	Industrial Pharmacy-I	3	9	12	15
		Final Year B.Pharm	Biopharmaceutics	3	0	3	
4	Ms.Piyatama Powar	F.Y.B.Pharm	Pharmaceutics-I	1	9	10	19
		S.Y.B.Pharm	Pharm Micro	3	6	9	
5	Mrs Rajalaxmi S	T.Y.B.Pharm	APET	0	6	6	20
		F.Y.B.Pharm	PIC	3	9	12	
		S.Y.B.Pharm	EVS	2	0	2	
6	Ms Sarika Nikam	S.Y.B.Pharm	PP-I	3	9	12	18
		Final year	Jurisprudence	3	0	3	
		S.Y.B.Pharm	POC-III	0	3	3	
7	Neetu Khatri	F.Y.B.Pharm	MDP	3	9	12	18
		T.Y.B.Pharm	BMDM	3	0	3	
		S.Y.B.Pharm	Pharm Micro	0	3	3	
8	Mr A.V.Kulkarni	Final Year	Pharmacology-IV	3	9	12	14
		S.Y.B.Pharm	Pharmacology-I	2	0	2	
9	Mr D.S.Shirode	T.Y.B.Pharm	Pharmacology-II	3	9	12	19
		F.Y.B.Pharm	HAP-I	1	6	7	
10	Mrs S.P.Mahaparale	M.Pharm	AAT	4	8	12	12
11	Mr.Mukesh T Mohite	Final Year	PA-v	3	9	12	20
		M.Pharm	AAT	0	8	8	
12	Ms.S.C.Daswadkar	S.Y.B.Pharm	Biochem	0	6	6	18
		Final Year	MC-iii	3	9	12	
13	Mrs J.R. Chopade	T.Y.B.Pharm	PA-III	3	9	12	21
		T.Y.B.Pharm	APIT	3	0	3	
14	Ms.T.A. Deokule	F.Y.B.Pharm	POC-I	3	9	12	21
		S.Y.B.Pharm	POC-III	3	6	9	
16	Mr Revan Karodi	Final Year	Natural Drug Technology	3	9	12	18
		T.Y.B.Pharm	APET	3	3	6	
17	Ms. S.W.Jadhav	S.Y.B.Pharm	Pharmacognosy and Phytochem-I	3	9	12	18
		S.Y.B.Pharm	Biochem	3	3	6	
18	Rajesh Telekone	M.Pharm	RM	2	0	2	
19	Smeeta Sadar	F.Y.B.Pharm	HAP-I	2	3	5	6
		S.Y.B.Pharm	Pharmacology-I	1	0	1	

Dr. D.Y. patil Pratishthan's

Dr.D.Y.PatilCollege of Pharmacy,

Workload as per SPPU syllabus to be implemented from 21 st december 2017

Sr. no	Name	Teaching workload actualC4:H39B3C4:H37					
		Sem-I I					
		Class	Subject	Theory	Practical	Total	Total
1	Dr.(Mrs) S P Chaudhari	M.Pharm	F & D	4	8	12	14
		F.Y.B.Pharm	DFD	2	0	2	
2	Dr. (Mrs) P. M.Chaudhari	Final Year	ADDS	3	9	12	16
		M.Pharm	NDDS	4	0	4	
3	Mr V. R Vaidya	T.Y	Industrial Pharmacy-II	3	9	12	15
		M.Pharm	Biopharmaceutics	3	0	3	
4	Ms.Piyatama Powar	F.Y.B.Pharm	DFD	1	9	10	19
		T.Y.B.Pharm	Biotech	3	0	3	
		S.Y.B.Pharm	Patho	0	6	6	
5	Mrs Rajalaxmi S	FINAL YEAR	Cosmetic science	3	9	12	18
		F.Y.B.Pharm	Pharmacognosy & Phytochemistry - I	0	3	3	
		F.Y.B.Pharm	Pharmaceutics-II	3	0	3	
6	Ms Sarika Nikam	S.Y.B.Pharm	PP-II	3	9	12	15
		S.Y.B.Pharm	Pharm Engineering	3	0	3	
7	Mr A.V.Kulkarni	Final Year	Pharmacology-V (Including Biosta	3	9	12	16
		S.Y.B.Pharm	Patho	1	3	4	
8	Dr D.S.Shirode	T.Y.B.Pharm	Pharmacology-III	3	9	12	17
		F.Y.B.Pharm	HAP-II	2	3	5	
9	Dr.(Mrs)S.P.Mahaparal e	M.Pharm	Pharm Validation	2	8	10	12
		M.Pharm	QPA	2	0	2	
10	Mr M.T.Mohite	Final Year	PA-vi	3	9	12	15
		Final Year	Quality Assurance technique	3	0	3	
11	Ms.S.C.Daswadkar	T.Y.B.Pharm	MC-II	3	3	6	18
		Final Year	MC-IV	3	9	12	
12	Mrs J.R. Chopade	T.Y.B.Pharm	PA-IV	3	9	12	18
		S.Y.B.Pharm	PA-II	3	3	6	
13	Ms.T.A. Deokule	S.Y.B.Pharm	POC-IV	3	9	12	15
		T.Y.B.Pharm	Drug design	3	0	3	
14	Mr Revan Karodi	Final Year	Natural Products: Commerce, Industry & Regulations	3	0	3	18
		F.Y.B.Pharm	Pharmacognosy & Phytochemistry - I	0	3	3	
		T.Y.B.Pharm	NPC	3	9	12	
15	Ms. S.W.Jadhav	S.Y.B.Pharm	Pharmacognosy-II	3	9	12	18
		F.Y.B.Pharm	Pharmacognosy & Phytochemistry - I	3	3	6	
16	Smeeta Sadar	F.Y.B.Pharm	HAP-II	1	6	7	12
		S.Y.B.Pharm	Patho	2	3	5	
17	P.Navya	F.Y.B.Pharm	POC-II	3	9	12	18
		T.Y.	MC-II	0	6	6	
18	Supriya Mane	F.Y.B.Pharm	PA-I	3	9	12	18
		S.Y.B.Pharm	PA-II	0	6	6	
19	Mr Umesh Johri	M.Pharm	DRA	4	0	4	4

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5. Academic Time Table

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Dr. D. Y. Patil Pratisthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44

First Half

First Year B. Pharm 2017							
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00- 12.00pm	A	POC-I(PN)	PIC(SM)	HAP (SSS)	MDP(PVP)	Pharmaceutics-I(PVP)	HAP(DSS)
	B	Pharmaceutics-I (PVP)	POC-I(PN)	MDP(RS)	HAP (DSS)	PIC(SM)	POC-I(PN)
	C	PIC(SM)	MDP(PP)	Pharmaceutics-I(PVP)	POC-I(PN)	HAP (SSS)	HAP(DSS)

Break

12.40- 1.40pm	1	Communication Skills	PIC(SM)	MDP(RS)	Pharmaceutics-I (PVP)	POC-I(PN)	POC-I(PN)
1.40-2.40pm	2		MDP(RS)	POC-I(PN)	PIC(SM)	Pharmaceutics-I (SPC)	CA
2.40-3.40pm	3	PIC(SM)	POC-I(PN)	PIC(SM)	HAP-I (SSS)	HAP-I (DSS)	
3.40-4.40pm	4	MDP(RS)	Pharmaceutics-I (PVP)	MDP(RS)	HAP-I (SSS)	Pharmaceutics-I (SPC)	

DSS – Mr Devendra shirode

PVP- Ms. Priyatam Powar

TAD; Mrs Tejashree Deokule-Gaikwad

RS- Mrs. Rajlaxmi S

SM- Mrs Supriya Mane

PN- P. Navya

Dr N S

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Dr. D. Y. Patil Pratisthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44

Second Year B. Pharm 2017							
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00am	1	PP-I (SN)	Phyto chem (SWJ)	BioChem(JRC)	P'Cology-I(AVK)	POC-III(TAD)	EVS(SM)
10.00-11.00am	2	Phyto chem (SWJ)	PP-I (SN)	PP-I (SN)	POC-III(TAD)	Pharm Micro(RS)	EVS(SM)
11.00-12.00pm	3	P'Cology-I(AVK)	Pharm Micro(RS)	BioChem(JRC)	Pharm Micro(RS)	CA/TPO	CA
12.00-1.00pm	4	BioChem(JRC)	Phyto chem (SWJ)	POC-II(TAD)	EVS(SM)	P'Cology-I(SSS)	CA
Break							
1.40-4.40pm	A	POC-III(TAD)	Phyto chem (SWJ)	BioChem(TAD)	PP-I (SN)	Pharm Micro(RS)	
	B	Pharm Micro(RS)	PP-I (SN)	Phytochem (SWJ)	POC-I II(TAD)	BioChem(SM)	
	C	Phyto chem (SWJ)	BioChem(JRC)	PP-I (SN)	Pharm Micro(RS)	POC-III(TAD)	CA

DSS – Mr Devendra shirode
JRC- Ms. Jyotsana Chopade
NPK; Mrs Neetu Khatri-Kaushal
TAD; Mrs Tejashree Deokule-Gaikwad
SWJ: Mrs Shubhangi Jadhav- Pharande
AVK- Mr Ashish Kulkarni
RS- Mrs. Rajlaxmi S
SM- Mrs Supriya Mane

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Dr. D. Y. Patil Pratisthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44

Third Year B.Pharm 2017

Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00- 12.00am	A	P'Cology-II(DSS)	PA-II(JRC)	APET (RSK)	Ind.Pharm(VRV)	Med.Chem-I(PN)	APIT(TAD)
	B	Med.Chem-I(SCD)	Ind.Pharm(VRV)	P'Cology-II(DSS)	PA-II(JRC)	APET (SWJ)	APIT(TAD)
	C	Ind.Pharm(VRV)	P'Cology-II(DSS)	Med.Chem-I(PN)	APET (SWJ)	PA-II(JRC)	CA
Break							
12.40-1.40pm	1	Ind.Pharm (VRV)	P'Cology-II(DSS)	Med.Chem-I(SCD)	PA-II(JRC)	APET (RSK)	CA
1.40-2.40pm	2	BMDM (NPK)	APIT(TAD)	BMDM (NPK)	APET (RSK)	PA-II(JRC)	CA
2.40-3.40pm	3	P'Cology-II(DSS)	Ind.Pharm(VRV)	Med.Chem-I(SCD)	P'Cology-II(DSS)	Med.Chem-I (SCD)	
3.40-4.40pm	4	BMDM (NPK)	APIT(TAD)	Ind.Pharm(VRV)	PA-II(JRC)	APET (RSK)	

VRV- Mr Vaibhav Vaidya

SCD- Ms Shubhangi Daswadkar

DSS – Mr Devendra shirode

RSK- Mr. Revan S Karodi

SWJ: Mrs Shubhangi Jadhav- Pharande

JC- Ms. Jyotsana Chopade

NPK; Mrs Neetu Khatri-Kaushal

TAD- Mrs. Tejashree Deokule-Gaikwad

PN- P. Navya

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Dr. D. Y. Patil Pratisthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44

Final Year B. Pharm 2017							
				First half			
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00am	1	PA-V(MTM)	Med.Chem-III(SCD)	Biopharm(VRV)	Sterile Products (PMC)	Juris(SN)	P'Cology-IV (AVK)
10.00-11.00am	2	Sterile Products (PMC)	Sterile Products (PMC)	PA-V (MTM)	Juris(SN)	Med.Chem-III(SCD)	Juris(SN)
11.00am-12.00pm	3	NPT(RSK)	NPT(RSK)	P'Cology-IV(AVK)	NPT(RSK)	PA-V (MTM)	Biopharm(VRV)
12.00pm-1.00pm	4	Med.Chem-III (SCD)	P'Cology-IV (AVK)	TPO/CA	TPO/CA	Biopharm(VRV)	TPO/ CA
Break							
1.40-4.40pm	A	NDT(RSK)	PA-V(MTM)	P'Cology-IV(AVK)	Med.Chem-III (SCD)	Sterile Products(PMC)	P'Cology-IV (AVK)
	B	Med.Chem-III (SCD)	NDT(RSK)	Sterile Products (PMC)	PA-V(MTM)	P'Cology-IV(AVK)	Biopharm(VRV)
	C	P'Cology-IV(AVK)	Med.Chem-III (SCD)	NDT(RSK)	Sterile Products(PMC)	PA-V(SN)	Juris(SN)

PMC: Dr.P.M.Chaudhari
 MTM- Mr.Mukesh T Mohite
 AVK- Mr Ashish Kulkarni
 VRV- Mr Vaibhav Vaidya
 DSS – Mr Devendra shirode
 RSK- Mr. Revan S Karodi
 SCD- Ms Shubhangi Daswadkar
 SN: Mrs Sarika Nikam-Deshmukh

Dr N S

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Dr. D. Y. Patil Pratisthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44
M. Pharm Timetable 2017

Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Ph. D Course Work
9.00-10.00pm	1	Advance Pharmaceutics(SPC)/AAT(SPM)	RM(NPK)	Advance Pharmaceutics(SPC)/Advanced QAT(SPM)	AAT(SPM)	AAT Practical (MTM)/ Advance QAT(NPK)	SPFT(PMC)	R.M
10.00-11.00am	2		Advance Pharmaceutics(SPC)/Advanced QAT(SPM)	SPFT(PMC)	RM(NPK)		AAT(MTM)	Pharmaceutics
11.00am-12.00pm	3		AAT(SPM)	Advance Pharmaceutics(SPC)/Advanced QAT(SPM)	Advance Pharmaceutics(SPC)/Advanced QAT(SPM)		AAT(MTM)	Biopharmaceutics
Break								
12.40-1.40pm	4		SPFT(PMC)	AAT(MTM)	RM(RT)		SPFT(PMC)	
1.40-2.40pm	5				RM(RT)		AQAT(AR)	
2.40-3.40pm	6				CA		AQAT(AR)	
3.40-4.40pm	7	CA	Journal club activity/ CA	CA	CA			

SPC- Dr. S P. Chaudhari
PMC- Dr. P. M. Chaudhari
SPM- Dr. S. P. Mahaparale
NPK- Mrs. N. P. Kaushal
RT- Mr. Rajesh Telekone
AR- Mr. Advay Rajhans
MTM- Mr. M. T. Mohite

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Dr. D.Y. Patil Pratishthan's
Akurdi, Pune-44
 Dr. D.Y. Patil College Of Pharmacy, Akurdi, Pune - 44

First Year B.Pharm 2017-18(Second Half)							
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-12.00pm	A	PA-I(SM)	HAP-II (SSS)	POC-II(PN)	DFD (PVP)	Pharmacognosy-I (RSK)	DFD (SPC)
	B	Pharmacognosy-I (RB)	POC-II(PN)	PA-I(SM)	HAP-II (SSS)	DFD (PVP)	Pharmaceutics-II(RB)
	C	DFD (PVP)	PA-I(SM)	Pharmacognosy-I (SWJ)	POC-II(PN)	HAP -II (DSS)	Pharmacognosy-I (SWJ)

Break

12.40-1.40pm	1	PA-I(SM)	DFD (PVP)	POC-II(PN)	Pharmaceutics-II(RB)	Pharmacognosy-I (SWJ)	PA-I(SM)
1.40-2.40pm	2	POC-II(PN)	PA-I(SM)	PA-I(SM)	Pharmacognosy-I (SWJ)	Pharmacognosy-I (SWJ)	HAP(DSS)
2.40-3.40pm	3	HAP-II(SSS)	DFD (SPC)	HAP-II (DSS)	Pharmaceutics-II(RB)	Pharmaceutics-II(RB)	CA
3.40-4.40pm	4	POC-II(PN)	POC-II(PN)	CA	DFD (PVP)	HAP-II (DSS)	

DSS – Mr Devendra shirode

PVP- Ms. Priyatam Powar

TAD; Mrs Tejashree Deokule-Gaikwad

RS- Mrs. Rajlaxmi S

SM- Mrs Supriya Mane

PN- P. Navya

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Dr. D. Y. Patil Pratisthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44

Second Year B.Pharm 2017-18 (Second Half)							
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00am	1	PP-II (SN)	Pharmacognosy - II (SWJ)	POC-IV(TAD)	Pharmacognosy -II (SWJ)	Pharm Eng(SN)	Pharm Eng(SN)
10.00-11.00am	2	Pharmacognosy - II (SWJ)	PP-II (SN)	PP-II (SN)	POC-IV(TAD)	POC-IV(TAD)	PP-II(SN)
11.00-12.00pm	3	Patho (AVK)	PA-II(JRC)	Patho (SSS)	Pharm Eng(SN)	Pharm Eng(SN)	CA
12.00-1.00pm	4	PA-II(JRC)	PA-II(JRC)	CA	Patho (SSS)	CA	CA

Break

1.40-4.40pm	A	PP-II (SN)	Pharmacognosy - II (SWJ)	POC-IV(TAD)	Patho (PVP)	PA-II(SM)	CA/TPO
	B	Patho(AVK)	PP-II(SN)	Pharmacognosy - II (SWJ)	PA-II(SM)	POC-IV(TAD)	CA
	C	Pharmacognosy -II (SWJ)	PA-II(JRC)	PP-II (SN)	POC-I V(TAD)	Patho (SSS)	CA

DSS – Mr Devendra shirode
JRC- Ms. Jyotsana Chopade
NPK; Mrs Neetu Khatri-Kaushal
TAD; Mrs Tejashree Deokule-Gaikwad
SWJ: Mrs Shubhangi Jadhav- Pharande
AVK- Mr Ashish Kulkarni
RS- Mrs. Rajlaxmi S
SM- Mrs Supriya Mane

Dr N S
Vyawahar

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Dr. D. Y. Patil Pratisthan's
Dr. D. Y. Patil College of Pharmacy,
Akurdi, Pune-44

Third Year B.Pharm 2017-18 (Second Half)

Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00- 12.00am	A	NPC(RSK)	P'Cology-III (DSS)	PA-IV(JRC)	Ind.Pharm(VRV)	Med.Chem-II (PN)	Drug design(TAD)
	B	Med.Chem- II(PN)	NPC(RSK)	P'Cology-II(DSS)	PA-IV(JRC)	Ind.Pharm(VRV)	Drug design (TAD)
	C	P'Cology- II(DSS)	Ind.Pharm(VRV)	NPC (RSK)	Med.Chem-II (SCD)	PA-IV(JRC)	CA

Break

12.40-1.40pm	1	Drug Design (TAD)	P'Cology-III(DSS)	Med.Chem-I(SCD)	PA-IV (JRC)	Biotech (PVP)	CA
1.40-2.40pm	2	NPC (RSK)	Drug Design (TAD)	Biotech (PVP)	Ind.Pharm(VRV)	Med.Chem-II (SCD)	CA
2.40-3.40pm	3	P'Cology-III (DSS)	NPC (RSK)	Med.Chem-II (SCD)	P'Cology-III (DSS)	Biotech (PVP)	
3.40-4.40pm	4	NPC (RSK)	Ind.Pharm (VRV)	PA-IV(JRC)	Ind.Pharm(VRV)	PA-IV(JRC)	

VRV- Mr Vaibhav Vaidya

SCD- Ms Shubhangi Daswadkar

DSS – Mr Devendra shirode

RSK- Mr. Revan S Karodi

SWJ- Mrs Shubhangi Jadhav- Pharande

JC- Ms. Jyotsana Chopade

NPK; Mrs Neetu Khatri-Kaushal

TAD- Mrs. Tejashree Deokule-Gaikwad

PN- P. Navya

Dr N S

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Dr N S Vyawahare

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Dr .D.Y. Patil Pratisthan's
Dr. D.Y. Patil College of Pharmacy,
Akurdi ,Pune-44

Final Year B.Pharm 2017-18 (Second Half)							
Timings	Lecture/Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-10.00am	1	PA-VI (MTM)	Med.Chem-IV (SCD)	Cosmetic Science (RB)	ADDS(PMC)	QAT (MTM)	P'Cology-V (AVK)
10.00-11.00am	2	Med.Chem-IV (SCD)	QAT(MTM)	PA-VI (MTM)	QAT(MTM)	Med.Chem-IV (SCD)	NP:CIR(RSK)
11.00am-12.00pm	3	ADDS(PMC)	P'Cology-V (AVK)	P'Cology-V (AVK)	NP:CIR (RSK)	Cosmetic Science (RB)	P'Cology-V (AVK)
12.00pm-1.00pm	4	PA-VI (MTM)	Cosmetic Science (RB)	ADDS (PMC)	TPO/CA	NP:CIR (RSK)	NP:CIR(RSK)
Break							
1.40-4.40pm	A	Cosmetic Science (RB)	PA-VI(MTM)	P'Cology-V(AVK)	Med.Chem-IV (SCD)	ADDS (PMC)	TPO/ CA
	B	Med.Chem-IV (SCD)	Cosmetic Science (RB)	ADDS(PMC)	PA-VI(MTM)	P'Cology-V (AVK)	TPO/CA
	C	ADDS (PMC)	Med.Chem-IV (SCD)	Cosmetic Science (RB)	P'Cology-V (AVK)	PA-VI(MTM)	TPO/CA

PMC: Dr. .P.M. Chaudhari
 MTM- Mr .Mukesh T Mohite
 AVK- Mr Ashish Kulkarni
 VRV- Mr Vaibhav Vaidya
 DSS – Mr Devendra shirode
 RSK- Mr. Revan S Karodi
 SCD- Ms Shubhangi Daswadkar
 SN: Mrs Sarika Nikam-Deshmukh
 RB: Mrs Rajlaxmi S

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Timings	Lecture /Batch	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Ph.D Course Work	
9.00-10.00pm	1	Formulation and development (SPC)/Pharm.Validation (SPM)	NDDS(PMC)	Formulation and development (SPC)/ Pharm.Validation (SPM)	DRA (UMJ)	NDDS(PMC)	NDDS(PMC)	R.M	
10.00-11.00am	2		Formulation and development (SPC)/ Pharm.Validation (SPM)	Biopharmaceutics (VRV)	Formulation and development (SPC)/ Pharm.Validation (SPM)	DRA (UMJ)	DRA (UMJ)	Pharmaceutics	
11.00am-12.00pm	3		QPA(SPM)/ NDDS(PMC)	QPA(SPM)	DRA (UMJ)	Formulation and development (SPC)/Pharm.Validation (SPM)	NDDS(PMC)	Biopharmaceutics	
Break									
12.40-1.40pm	4			CA	Biopharmaceutics (VRV)	Journal club activity/ CA		Biopharmaceutics(VRV)	
1.40-2.40pm	5							QPA(AR)	
2.40-3.40pm	6				CA			QPA(AR)	
3.40-4.40pm	7							CA	

SPC- Dr. S.P. Chaudhari
 PMC- Dr. P.M. Chaudhari
 SPM- Dr. S.P. Mahaparale
 NPK- Mrs. N.P. Kaushal
 RT- Mr. Rajesh Telekone
 AR- Mr. Advay Rajhans
 VRV-Mr. Vaibhav Vaidya

6. Course Booklet /Syllabus planning

Syllabus Plan:

Theory

Subject:-**Pharmacology - II**

Subject code:3.5.4

Class: **Third year B. Pharm. (2015 Pattern)**

Semester: V

Marks /Credits allotted:100/03

No of Hrs assigned:45

No of hours planned: 45

Department:Pharmacology

Course description:

Basic pharmacology (classification, mechanism of action, pharmacokinetics, pharmacological actions, adverse effects, contraindications, therapeutic uses, drug interaction, dosage, symptoms and treatment of poisoning) and Clinical Management of diseases and drugs acting on Autonomic nervous system(ANS) and cardiovascular system.

Course objective:

1. Describe basics of pharmacology of ANS and cardiovascular system.
2. Differentiate the Sympathetic and Parasympathetic Nervous system
3. Define and discuss signal transduction mechanisms.
4. Explain Biosynthesis, Storage, Release, Metabolism and pharmacology of acetylcholine and adrenaline
5. Discuss Ganglion Stimulating and Blocking drugs and neuromuscular drugs
6. Explain pharmacology of various diuretics and anti-diuretics
7. Discuss drug action in CHF, hypertension, angina pectoris atherosclerosis and cardiovascular shock.
8. Explain Pharmacology of drugs used in asthma, COPD and Cough.

Continuous assessment Planning:

Term Paper. Seminars

Books referred:

- 1) Goodman and Gillman: The Pharmacological Basis of Therapeutics, McGraw-Hill, Medical Publishing Division, New York
- 2) Tripathi K.D.: Essentials of Medical Pharmacology, Jaypee Brothers, Medical Publishers, New Delhi
- 3) Chaudhari S. K., Quintessence of Medical Pharmacology, Central Publication, Kolkata,
- 4) Katzung B.G.: Basic and Clinical Pharmacology, Lange Medical Publications, California
- 5) Rang H.P. and Dale M.M.: Pharmacology, Churchill Livingstone, Edinburgh.
- 6) Mycek M. J., Harvey, RA and Champe PC Lippincott's Illustrated Reviews: Pharmacology Lippincott Williams & Wilkins. Philadelphia.
- 7) Herfindal E.: Clinical Pharmacy and therapeutics, Williams and Wilkins Publications, New York.
- 8) Tortora, G.J. and Grabowski, S.R., 2005. Principles of Anatomy and Physiology. Harper Collins College Publishers, New York.
- 9) Barar F.S.K., Essentials of Pharmacotherapeutics, S. Chand, New Delhi.

Journals Referred:

- I. NEUROTRANSMITTER REVIEW ALCOHOL HEALTH & RESEARCH WORLD VOL. 21, NO. 2, 1997, pp 107-108.
- II. Christopher B. Fordyce, Jeffrey S. Borer, Scott M., Katharine Cooper-Arnold, Jayne Prats, Robert M. Califf, Cardiovascular Drug Development, JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY, VOL. 65, NO. 15, 2015, 1568.

Other Sources for reference:

- a) www.braininbalancebook.com
- b) www.bioveo.com
- c) www.youtube.com
- d) Greatpacificmedia.com
- e) www.alilamedicalmedia.com
- f) Anatomy @ physiology review of skeletal muscle tissue. Flv or online cross-references (Benjamin cummings testbook)
- g) MARKIV medical communication, CHF. Flv. Avi
- h) An overview of heart and atrial fibrillation., SANOFI Mp4 – VLC

Lecture Plan:

Sr. no	Topic to be covered	Lecture No	Lecture details	Teaching Method/ aids to be used	Books referred	Journal referred	Other sources
1	Autonomic Nervous system	1	To understand details of syllabus its significance and relevance to pharmacy	Chalk & talk	1,2,3,4		
		2	Introduction to Nervous system and role of neurotransmitters	Chalk & talk Animation	1,2	I	a
		3	Signal transmission	Chalk & talk Animation	1,2	I	b, c
2.	Cholinergic system and drugs:	4	Biosynthesis, Storage, Release and Metabolism of Acetylcholine	Chalk & talk Animation	2,3,5		c
		5	Cholinergic receptors	Chalk & talk	2,5		
		6	Pharmacology of <i>ACh</i>	Chalk & talk Animation	2,3,7		
		7	<i>Anticholinesterase</i>	Chalk & talk	2,3		
		8	Organophosphorus Poisoning and its treatment	Chalk & talk,	2,3,7		
		9	Pharmacotherapy of Glaucoma and Myasthenia gravis	Chalk & talk, Animation	2,6,7		e

	Anti-cholinergic drugs	10	Pharmacology of Atropine and other antimuscarinic drugs	Chalk & talk	2		
		11	Antimuscarinic Poisoning and its Treatment & Role play	Chalk & talk	2		
4.	Ganglion Stimulating and Blocking drugs:	12	Pharmacology of Ganglion Stimulator	Chalk & talk	2		
		13	Pharmacology of Ganglion Blocking drugs	Chalk & talk	2		
5	Neuromuscular blocking drugs:	14	centrally acting muscle relaxants	Animation Chalk & talk	2		f
		15	Peripherally acting muscle relaxants	Chalk & talk	2		
6	Adrenergic system and drugs:	16	Biosynthesis,	Chalk & talk ppt	1,2,3 ,5,6		
		17	Storage, Release, Metabolism	Chalk & talk ppt	1,2,5 ,6		
		18	Pharmacology of Catecholamines	Chalk & talk Animation	1,2,3 ,5		
		19	and indirectly acting Sympathomimetics	Chalk & talk	1,2,3 ,5,		
		20	adrenergic receptors and role play on adrenaline	Chalk & talk	1,2,5		
7	Anti-adrenergic drugs	21	Pharmacology of Adrenoceptor blocking drugs non-selective	Chalk & talk	1,2		
		22	Adrenoceptor blocking drugs selective	Chalk & talk	1,2		
		23	Revision	-	-		
8	Diuretics and antidiuretics	24	Study various site nephron	Chalk & talk	2,3		
		25	Classify diuretics and pharmacology of high ceiling diuretics	Chalk & talk	2,3,		
		26	Pharmacological action medium and weak diuretics	Chalk & talk	2,3		
9	Pharmacotherapy of cardiovascular disorders	27	Pathophysiology of CHF and classify its drugs	OHP Animation	2,3, 5	II	g
		28	Treatment of CHF	Chalk & talk	2,3		

Syllabus Completion


Subject: *Pharmacology-II*

Subject code:3.5.4

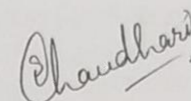
Class: *Third year B.Pharm*

Semester: *V*

unit	Topic covered	No of hrs Target planned	Target achieved in no of hrs	% target achieved
	Introduction to Pharmacology-II Syllabus	1	1	100
1	Autonomic Nervous system	2	4	200
2	Cholinergic system and drugs:	6	7	116
3	Anti-cholinergic drugs	2	3	150
4	Introduction to Ganglion Stimulating and Blocking drugs	2	1	50
5	Skeletal muscle relaxants	2	2	100
6	Adrenergic system and drugs	5	5	100
7	Anti-adrenergic drugs	3	2	66.67
8	Diuretics and antidiuretics	3	3	100
9	Pharmacotherapy of cardiovascular disorders	14	14	100
10	Drug used in Respiratory tract disorders	5	3	60
-	ROLE PLAY, Makeup/tutorial class, REVISION	-	3	-
		45	48	


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Academic In charge

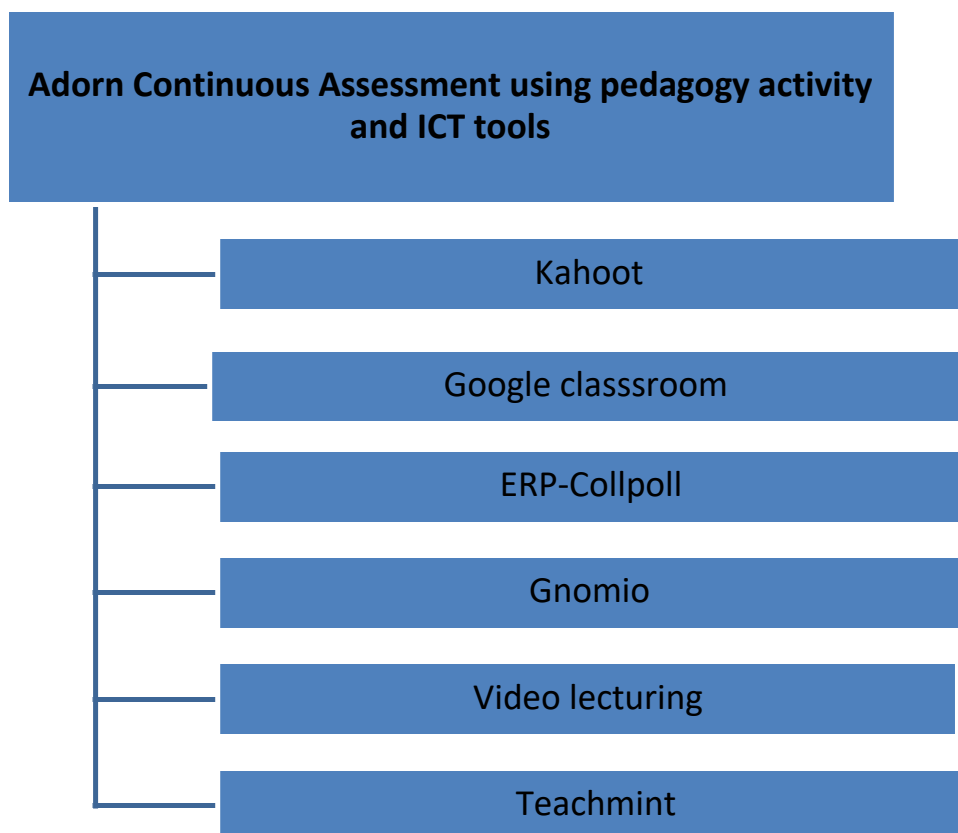
7. Continuous Internal assessment

[Back to index](#)

Continuous Assessment

List of Continuous Assessment as per SPPU course structure & syllabus

- a) Written test and /or midterm test
- b) Term paper
- c) Journal/Lecture/Library notes
- d) Seminar presentation
- e) **Short Quizzes**
- f) Assignments
- g) Extention work
- h) An open book test
- i) Mini research project by individual learner or group of learners



Roll No 24.

Pharmacology-II, 2017-18

MCQ,

Third Year B.Pharm,
10 Marks

Put a tick by best answer with 1-2 line justification

1. ACE inhibitors are contraindicated in a). Hyperkalemic state, b). Pregnancy, c). Both Both ✓
2. One possible mechanism by which β blockers act as antihypertensive is that they stimulates (2)
3. Verapamil has +ve inotropic effect on heart ✓
4. Arterial dilators decrease afterload of the heart. (Reduce/increase) ✓
5. Inhibition of Ca^{++}/Na^+ exchange in the myocardium, should decrease the contractile power of the myocardium (increase/decrease). ✓
6. Commonly, digoxin is used in CHF. (digitoxin/digoxin). ✓
7. Class IA antiarrhythmics inhibit the Ca⁺⁺ entry of fast response curves of phase O. (Ca^{++}/Na^+) ✓
8. Major use of acetazolamide is in the treatment of glaucoma. (CHF/hypertension/glaucoma) ✓
9. Thiazides causes calcium NaCl. ($Na^+ K^+ 2Cl^- / Na^+ Cl^-$) ✓
10. MoA of Spironolactone ✓

Pharmacology-II, 2017-18

MCQ,

Third Year B.Pharm,

Roll No-325

Put a tick by best answer with 1-2 line justification

10 Marks

1. ACE inhibitors are contraindicated in a). Hyperkalemic state, b). Pregnancy, c). Both ✓
2. One possible mechanism by which β blockers act as antihypertensive is that they block (5)
3. Verapamil has +ve inotropic effect on heart (+ve/-ve) ✓
4. Arterial dilators decrease afterload of the heart. (Reduce/increase) ✓
5. Inhibition of Ca^{++}/Na^+ exchange in the myocardium, should increase the contractile power of the myocardium (increase/decrease). ✓
6. Commonly, digoxin is used in CHF. (digitoxin/digoxin). ✓
7. Class IA antiarrhythmics inhibit the Ca⁺⁺ entry of fast response curves of phase O. (Ca^{++}/Na^+) ✓
8. Major use of acetazolamide is in the treatment of glaucoma (CHF/hypertension/glaucoma) ✓
9. Thiazides causes calcium Na⁺, K⁺ etc. ($Na^+ K^+ 2Cl^- / Na^+ Cl^-$) ✓
10. MoA of Spironolactone ✓

Roll no. 326 name - shivkumar khakare

Pharmacology-II, 2017-18

MCQ,

Third Year B.Pharm,
10 Marks

Put a tick by best answer with 1-2 line justification

1. ACE inhibitors are contraindicated in a). Hyperkalemic state, b). Pregnancy, c). Both ✓
2. One possible mechanism by which β blockers act as antihypertensive is that they block (6)
3. Verapamil has -ve inotropic effect on heart (+ve/-ve) ✓
4. Arterial dilators increase afterload of the heart. (Reduce/increase) ✓
5. Inhibition of Ca^{++}/Na^+ exchange in the myocardium, should decrease the contractile power of the myocardium (increase/decrease). ✓
6. Commonly, digoxin is used in CHF. (digitoxin/digoxin). ✓
7. Class IA antiarrhythmics inhibit the Na⁺ entry of fast response curves of phase O. (Ca^{++}/Na^+) ✓
8. Major use of acetazolamide is in the treatment of glaucoma. (CHF/hypertension/glaucoma) ✓
9. Thiazides causes calcium NaCl. ($Na^+ K^+ 2Cl^- / Na^+ Cl^-$) ✓
10. MoA of Spironolactone ✓

		pharmacology - II									
R.N.	Exam Seat No.	Name of student	T			P					
			marks	I	II	Total	marks	I	II	Total	
1	10424	Aadhale Jyoti	13	8	6	27	17	8	8	33	
2	10927	Borapatne Yash	08	6	4	18	13	7	8	28	
3	10952	Bargaje Prakash	13	5	5	23	14	7	7	28	
4	11734	Bhurande shubham	12	7	5	24	14	7	7	30	
5	11547	Biradar Roopali	14	9	7	30	18	9	9	36	
6	11542	Biradar Amogh	08	4	2	14	08	Ab	6	14	
7	11683	Borse Rupesh	16	4	4	24	15	8	8	31	
8	19360	Chaudhary Pragya	18	8	6	32	18	8	9	35	
9	12493	Desai shubhangi	12	8	4	24	16	8	9	33	
10	13249	Gaikwad Bhavani	11	3	4	24	16	8	8	32	
11	13656	Ghadge Kalit	12	6	5	23	12	8	8	28	
12	13662	Ghadge Pranjwal	15	7	5	27	08	6	4	18	
13	19361	Gijoo Pragya	17	8	7	32	18	9	9	36	
14	12593	Gorle Devendra	14	8	4	26	17	9	9	35	
15	14069	Grewal Bhupendra	09	6	6	21	13	8	8	29	
16	14115	Gungaman Dinesh	15	8	8	31	15	8	8	31	
17	10063	Harne Abhilasha	15	7	5	27	16	8	7	31	
18	14287	Hatole vijaya DA	08	4	3	15	09	Ab	4	13	
19	14473	Isayee Vaibhav	12	7	3	22	09	8	7	24	
20	14493	Jadhav Ainkya	11	6	6	23	14	7	8	29	
21	15139	Kadam Avinash	14	4	03	21	11	7	8	26	
22	15278	Kakade Dhanya	15	8	06	29	11	7	9	27	
23	19418	Kalamkar Pratikha	16	9	03	28	15	9	9	33	
24	15460	Kamble Pranjita	10	4	02	16	Ab	5	7	12	
25	15473	Kamble Sagar	14	6	05	25	10	7	8	25	
26	15886	Khalcare Shivkumar	10	6	06	22	12	6	5	23	
27	16025	Khorat Pranjita	08	8	03	19	11	7	7	25	
28	16229	Kokate Pradeep	10	6	01	17	12	8	7	27	
29	16488	Kulkarni Sheeta	15	9	05	29	15	9	9	33	
30	16530	Kumbhar Rohit	11	4	05	20	11	7	9	27	
33											
34											

T. S. Shinde