

## 1.3.1

# **1. Cross cutting issues summary**



DR. VITHALRAO VIKHE PATIL FOUNDATIONS  
**COLLEGE OF PHARMACY,**  
VILAD GHAT, PO. MIDC, AHMEDNAGAR (MS)  
Phone No. (0241) 2778044 / 2777217. Fax No. (0241) 2778044  
E-mail ID : [pdcophanrr@rediffmail.com](mailto:pdcophanrr@rediffmail.com)  
Accredited by NAAC with Grade "B" (CGPA 2.72)  
Permanently Affiliated to Savitribai Phule Pune University  
Approved by AICTE, PCI, New Delhi & Recognized by UGC, New Delhi



\*\*\*\*\*

### 1.3.1- Cross-cutting issues activity conducted

Sr. No.	Cross-cutting issues	Activity conducted (workshop/ guest lecture)	Name of Expert
1)	Gender	i) Women health and hygiene	Dr. Kalyani P. Chaudhary
		ii) Save Girl Child	Mrs. Babytai Gaikwad
		iii) Women health	Dr. Sharayu Bhalerao
		iv) Kali umaltana (Girl Puberty)	Dr. Mhase Rupali
		v) Vayat yetana (Boy Puberty)	Dr. Mhase Vikram
		vi) workshop on Sexual harassment	Adv. Bhagyashree Badve
		vii) Save Girl Child	Dr. Girish Kukreja
		viii) Nirbhay Kanya Abhiyan (Fearless Woman Program)	Dr. Shardha Mahandule
		ix) Nirbhay Kanya Abhiyan (Fearless Woman Program)	Mrs. Anjali Deokar
		x) Nirbhay Kanya Abhiyan (Fearless Woman Program)	Mr. Ganesh Wakchaure
		xi) Woman Entrepreneurship	Mrs. Savita Sakat
		xii) Woman Entrepreneurship in India	Dr. Anil Khandare
2)	Environment and sustainability	ii) Disaster management program	Dr. Sham Kharat
		ii) Fire Fighting Training	Demonstration Conducted
		iii) Environmental Projects	Projects Allotted

*Saerica*  
Academic Coordinator  
College of Pharmacy,  
Ahmednagar



*Principals*  
Principal  
College of Pharmacy,  
Ahmednagar



DR. VITHALRAO VIKHE PATIL FOUNDATIONS  
**COLLEGE OF PHARMACY,**  
 VILAD GHAT, PO. MIDC, AHMEDNAGAR (MS)  
 Phone No. (0241) 2778044 / 2777217. Fax No. (0241) 2778044  
 E-mail ID : pdcopha\_anrr@rediffmail.com  
 Accredited by NAAC with Grade "B" (CGPA 2.72)  
 Permanently Affiliated to Savitribai Phule Pune University  
 Approved by AICTE, PCI, New Delhi & Recognized by UGC, New Delhi



\*\*\*\*\*

**1.3.1- Cross-cutting issues activity conducted**

Sr. No.	Cross-cutting issues	Activity conducted (workshop/ guest lecture)	Name of Expert
3)	Human values	i) Personality development	Mr. Pratapsingh Pardeshi
		ii) Personality development	Mrs. Madhuri S. Andhale
		iii) Communication and soft skills	Dr. R. K. Pardeshi
		iv) Rashtriya Ekamta	Dr. Mhase Rupali
		v) Holistic Personality development	Mr. Ashok Sathaye
		vi) Personality development	Mr. Suman Kumar
		vii) Confidence development	Mr. Dilip Bandale
		viii) Personality development	Mrs. Jayashree Kale
		ix) Personality development	Mrs. Manjushree Bagde
		x) Personality development	Mr. Ganesh Nikam
4)	Health determinants & Right to Health and emerging demographic issues	i) Nutrition	Dr. Dixit R. D.
		ii) Stress management	Dr. Dixit R. D.
		iii) Haemoglobin estimation (girls)	SRL Diagnostic Services
		iv) AIDS awareness	Prof. Prasad Gunjal
		v) Yoga education	Mrs. Sawant Varsha
		vi) Cancer awareness	Dr. Tejashree Junagade
		vii) Organ donation	Dr. Satish Ahire
		viii) Stress management	Dr. Prasad Tagad
		ix) Yoga education	Mr. Rajan kumar
		x) Stress management	Dr. Mahesh Doke
5)	Professional Ethics	i) Intellectual Property Rights	Mr. Datta Maskare
		ii) Law & Professional ethics	Mr. Vijay Pathare
		iii) Professional ethics	Mr. P. N. Katkade
		iv) Recent Trends in Pharma Industry	Mr. Sunil Korde

*Sawant*  
 Academic Coordinator  
 College of Pharmacy,  
 Ahmednagar



*Prasad*  
 Principal  
 College of Pharmacy,  
 Ahmednagar

## 1.3.1

# **2. Guest lecture for cross cutting issues**



# Padmashree Dr. Vithalrao Vikhe

Vadgoan Gupta, Vilad ghat, Post M.I.D.C., Ahmednagar 414 111

# Patil Foundation's College of Pharmacy

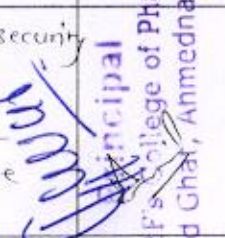
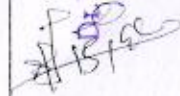


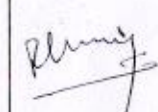
(M.S.) India. Tel No. 0241 - 2778044, 2777217  
Website : www.vikhepharmacynagar.com

Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
1			20/5/2016			

*Principal*  
Dr. V.V.P.'s College of Pharmacy  
Vilad Ghat, Ahmednagar





Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
02)	Prof Anil Khandare IBMRD, Vilad Ghat, Ahmednagar	S.Y. 1 <sup>st</sup> & 2 <sup>nd</sup> Final Yr B-Pharm [160]	03/07/2015 11:15 am to 12:15 p.m	Digital India week programme	cyber security & cyber hygiene	 Principal V.V.P.F.'s College of Pharmacy Vilad Ghat, Ahmednagar
02)	Mr. Ganesh Shinde Chairman Nirmali Granin Vikas Pradhikaran Ahmednagar	B-Pharm & M-Pharm Students [250]	24/08/2015 12:00 to 1:00 PM	Soft Skill & Personality Development	Soft Skill & Personality Development	
03)	Raju Saugale Happy thoughts Foundation course - Malivada, A' Nagar	B Pharm M pharms [249]	28/08/2015 12 to 1 pm	Happy thoughts Foundation Course [ Human Relo	Human Relation Public speaking Memory tech Mind Science	
04)	Prof. Shailesh. S. Deshmukh Pemraj Garda College Ahmednagar	S.Y. B-pharm [70]	10/9/2015 17/9/2015 to 19/9/2015 total = 9 hrs	POC-III	Stereochemistry	
05)	Hon Mr. P.N. Katkade Assistant Commissioner Food & Drug Administration	M-Pharm Final Y.B-Pharm	29/09/2015	World Pharmacist day	Role of Pharmacy graduate.	



# Padmashree Dr. Vithalrao Vikhe

Vadgoan Gupta, Vilad ghat, Post M.I.D.C., Ahmednagar 414 111

# Patil Foundation's College of Pharmacy

(M.S.) India. Tel No. 0241 - 2778044, 2777217  
Website : www.vikhepharmacynagar.com

Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
06	Dr. Vishwas Parabse Asst Professor, P.D.V.V.P.F.'s IBMRD Ahmednagar	M.Pharm & Final Year B.Pharm (141)	01/10/2015 10:30am-12:30	Quantitative Aptitude	Averages, Percentages, Algebra	
07	Prof. Anil Khondare Asst. Prof P.D.V.V.P.F.'s IBMRD. Ahmednagar	M. Pharm Final Year B.Pharm (141)	11/10/2015 2:30-5:00	Interview Technique	- What is int - Types in - Resub. Mer - Technique.	
08	Mr. Kailash Kadara Team leader TCS, Mumbai	M. Pharm Final Year B.Pharm (142)	03/10/2015 10:30 - 1:00 pm	Pharmacovigilance & Job Opportunity	TCS - Intro Interview Modules	
09	Prof. Shailesh. S. Deshmukh Pernraj Gorda college Ahmednagar	F.Y.B.Pharm (59)	12/10/2015 & 13/10/2015 (4 hrs)	POC-I	IUPAC nomenclature E, Z, R, S cis-trans	
10	AMOL KAWADE (MARKETING EXP.) EDWISE OVERSEAS EDUCATION PUNE	F.Y.B. PHARM. Final Y.B. PHARMA. (201)	15/10/2015 - 12:00 - 1:00.	OVERSEAS EDUCATION	SCHOLARSHIPS, UNIVERSITIES, ENTRY EXAMS.	

Principal  
 Dr. V.V.P.F.'s College of Pharmacy  
 Vilad Ghat, Ahmednagar





# Padmashree Dr. Vithalrao Vikhe

Vadgoan Gupta, vadghat, Post M.I.D.C., Ahmednagar 414 111

# Patil Foundation's College of Pharmacy

(M.S.) India. Tel No. 0241 - 2778044, 2777217

Website : www.vikhepharmacynagar.com

Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
<u>11</u>	Shri Pratapsingh Pardeshi H.R.D Consultant Pune	T.Y. B.Pharm Final Yr. B.Pharm & M.Pharm (200)	28/10/2015 11:00 am to 12:00 pm	Personality Development	Motivation	
<u>12</u>	Mr. Gunjal Prasad Niranjan Assistant Professor Dept of Microbiology P.D.V.V.P.'s Medical College & Hospital, Ahmednagar	T.Y. Final Yr B.Pharm & M.Pharm (195)	1/12/2015 12:00 pm To 1:00 pm	World AIDS DAY	HIV & AIDS Awareness & Testing policy	
<u>13</u>	Mr. Machindra Bochara Ph.D. (Tech) Fellow, Institute of Chemical Technology, Mumbai-09.	Final & T.Y. B.Pharm. (130)	01/01/2016 10 - 1 PM 2 - 5 PM	GPAT preparation		
<u>14</u>	Hon. Dr. S.N. Subba Rao (Social Worker) Gandhi Peace Foundation	F.Y.B.Pharm & T.Y.B.Pharm (123)	04-01-2016	Youva - Sevaad	Communal Harmony & National Integration	
<u>15</u>	Sau. Babylai A. Gaikwad (Social Worker) Swayamsiddha Foundation AHMEDNAGAR.	Girls students B.Pharm & M.Pharm. (109)	21/01/2016. 10.45 am To 12:00 pm	Personality Develop -ment programme/ Workshop	"save Girl child"	

Principal  
 Dr. V.V.P.'s College of Pharmacy  
 Vadghat, Ahmednagar







Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
<u>16.</u>	Dr. Kalyani P. Chaudhary M113B5, DGO, FCAS, DNB (OBGY) Pad. Dr. Y.V. Patil Foundation's Memorial Hospital & Medical College. <u>AHMEDNAGAR.</u>	Girls students B. Pharm. & M. Pharm. (109)	21/01/2016 12.15 PM. TO 1.45 P.M.	Personality Development Programme/ Workshop.	"Women Health & Hygiene".	
<u>17.</u>	Mrs. Madhuri S. Andhale Naib Tahsildar, Nagar Tahasil. <u>AHMEDNAGAR.</u>	Girls students B. Pharm. & M. Pharm. (109)	21/01/2016 2.15 PM. TO 3.30 P.M.	Personality Develop- ment Workshop.	"Personality Development"	
<u>18.</u>	Dr. R.D. Dixit Consultant in Fitness & Nutrition Savitribai Phule Pune University Pune	Girls students B. Pharm & M. Pharm. (188)	22/01/2016	Vidyarthini Arogya Prabodhan Programme under Health Education Workshop	Nutrition	
<u>19.</u>	Dr. R.D. Dixit Consultant in Fitness & Nutrition Savitribai Phule Pune University Pune	Girls students B. Pharm & M. Pharm. (188)	22/01/2016	Vidyarthini Arogya Prabodhan Programme under Health Education Workshop	Stress management	
<u>20.</u>	MIS To Kiran Devi SRL Diagnostic Tarkpur Ahmednagar	Girls students B. Pharm & M. Pharm. (90)	22/01/2016	Vidyarthini Arogya Prabodhan Programme under Students Health	<u>Haemoglobin Estimation.</u>	Kiran Devi

Principal  
 Dr. Y.V. Patil  
 Patil Foundation's College of Pharmacy  
 Vadgoan Ghat, Ahmednagar



# Padmashree Dr. Vithalrao Vikhe

Vadgoan Gupta, Vilad ghat, Post M.I.D.C., Ahmednagar 414 111

# Patil Foundation's College of Pharmacy

(M.S.) India. Tel No. 0241 - 2778044, 2777217  
Website : www.vikhepharmacynagar.com

Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
21.	Mr. Baliram Kharad Cognizant, Mumbai	T.Y., Final B.Ph. M.Pharmacy (191)	6/2/2016 11am to 1pm.	'Interview Techniques & P'covigilence' [Career development & Personality development]	• Interview Techniques for P'covigilence	<i>[Signature]</i> Dr. V.V.P.'s College of Pharmacy Vilad Ghat, Ahmednagar 6/2/2016
22.	Mr. Robin Shaikh TCS, Pune.	T.Y. Final. B.Phary M. Pharmacy (191)	6/2/2016 2 pm to 4.30 pm	Career development & Personality development	• Pharmaco- vigilence Techniques & Job opportuni- ties	<i>[Signature]</i> Dr. V.V.P.'s College of Pharmacy Vilad Ghat, Ahmednagar 6/2/2016





**Padmashree Dr. Vithalrao Vikhe**

Vadgoan Gupta, Vilad ghat, Post M.I.D.C., Ahmednagar 414 111

**Patil Foundation's College of Pharmacy**

(M.S.) India. Tel No. 0241 - 2778044, 2777217

Website : [www.vikhepharmacynagar.com](http://www.vikhepharmacynagar.com)

Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
						<i>[Handwritten Signature]</i>

2016-  
2017



*[Handwritten Signature]*

Principal  
Dr. V.V.P.'s College of Pharmacy  
Vilad Ghat, Ahmednagar

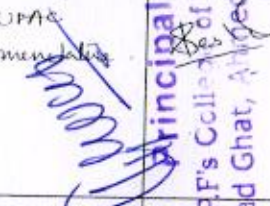


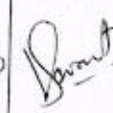


Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
01)	Prof. Rajendra B. Patil JSPM's Rajawshi shree college of Pharmacy & Research, Tathawade, Pune mob. 9096697510/9850175938	Third & Final year B Pharm (118)	02/08/16 10:00am to 1:00 2:00pm to 5:00	How to Prepare for GPAT and NIPER.	GPAT Preparation	
02)	Dr. Kundan <sup>byale</sup> Patil. V. Life Sciences Pune. Ram Indu Park, Baner Road Pune-411046 mobile:- 9890527200.	B-Pharm (final year) Pharm. (Pharmaceutical chemistry). (80)	20.08.2016	Computer Aided Drug Design	Computer Aided Drug Design.	
03)	Mr. Amol Kawade Edwise International Pvt Ltd. Pune	T. Y. B. Pharm, Final. Yr. B. Pharm & M. Pharm (196)	23.08.2016	Overseas Education	Overseas Education Facilities & Examination Guidance	
04)	Prof. Dr. R.K. Padedshi Inst. of Buss mgmt & Rural Dev Viladkunt, Ahmednagar	First year of B. Pharm. (120)	1/10/2016	Communication skills & soft skills	Communication skills & soft skills	
05)	Prof. S.S. Deshmukh. Pamraj Sarda College, Ahmednagar.	Second year B. Pharm (165)	30/09/2016 (2hrs) 1/10/2016 (3hrs)	POC-III (Stereochemistry)	stereochemistry	

Principal  
 Dr. V.V.P.P.'s College of Pharmacy  
 Vilad Chas., Ahmednagar





Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
06	Prof. Deshmukh S.S. Purnraj Sarda College Ahmednagar	First year pharmacy (60)	06/10/2016 & 07/10/2016 (3 hrs)	. POC-I (IUPAC Nomenclature of organic compounds)	IUPAC Nomenclature	 Principal Dr. V.P.F.'s College of Pharmacy Mad Ghat, Ahmednagar
07	Dr. Galkwad Ashok D. New Arts, Comm. & Sci. College, Ahmednagar	B. Pharm & M.Pharm. (300)	08/10/2016	'Vaachan Prerana'	Vaachan Prerana	
08	Dr. Bhambare R.R. (Dr. Rupali Mhase) C. V. P. G. S. Gane Ayurved College Ahmednagar	Girl students B. Pharmacy & M. Pharmacy (69)	31/01/2017 10am to 5 Pm	Rashtriya Ekamata Personality workshop for girl students	Rashtriya Ekamata	
09	Dr. Bhalerao Sharayu N. DVVPF's Medical College, Ahmednagar	Girl students B. Pharmacy & M. Pharmacy (69)	31/01/2017 10am to 5 PM	Women Health Personality workshop for girl students	Women Health	
10	Miss. Varsha Shrikant Sawant (Yoga teacher) 'Shrinishul' Gellmchaz Road Anand Nagar	Girl students B. Pharmacy & M. Pharmacy (69)	31/01/2017 10am to 5 pm	Yoga Education Personality workshop for girl students	Yoga Education	



Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
11	Dr. Tejashree Junagade D.V.P.'s Medical College Ahmednagar	B.Pharm and M.Pharm (318)	04/02/17 11:00 A.M	World Cancer Day.	Cancer Awareness	 Principal D.V.P.'s College of Pharmacy Vilad Ghat, Ahmednagar
12	Prof. Dr. Rupali V. Mhase Gune Ayurved College Ahmednagar.	All Girl Students (150)	21/02/2017 4 to 5:00 pm	कुली उमलता	कुली उमलता	
13	Dr. Vikram Mhase Ayurvedacharya Ayurved Panchsarma & Holistic Health care centre, Ahmednagar.	B. Pharm & M. Pharm (Boys Student) (130)	21/02/2017 4 to 5:00 pm	वरात येतना	वरात येतना	 Principal Vikhe Patil Foundation College of Pharmacy Ahmednagar
14	Dr. Mahesh S. Kale M.Pharm. PhD Director, Academy of NIPER Aspirant, Mumbai	B.Pharm 5.Y & T.Y & Final (186)	01/03/2017 10:30 to 4:30	GPAT, NIPER Guidance session	GPAT, NIPER, Guidance Session	
15	Adv B.M. Jagandike Boalwe Advocate Ahmednagar.	B.Pharm Students M.Pharm Students Teaching & non-teaching staff.	02/03/2017 11:30 to 1:00 P.M.	Sexual Harassment Workshop	Sexual Harassment of women Employees and Students at working place (Prevention and Control)	



# Padmashree Dr. Vithalrao Vikhe

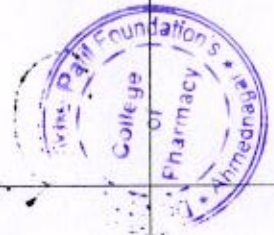
Vadgoan Gupta, Vilad ghat, Post M.I.D.C., Ahmednagar 414 111

# Patil Foundation's College of Pharmacy

(M.S.) India. Tel No. 0241 - 2778044, 2777217

Website : www.vikhepharmacynagar.com

Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
16)	Subhash R. Patil Eduwise International 521, Sahrab Hall, opp Sahangra hosp Near Pune Station 020 241045300	2 <sup>nd</sup> 3 <sup>rd</sup> year, 4 <sup>th</sup> & M. Pharmacy (260)	17/03/2017 3:00 p.m -to 4:00 P.m	Continous Education & Scholarships	Guidance for courses Education (lecture)	
17)	Prof. R. R. Kumbhar Assistant Professor in Psychology, Punraj sarda college, Barkachnagar, Ahmednagar 3752632475	B.Y. Pharm. (60)	18/03/2017 11:00 a.m to 1:00 p.m.	statistical pharm analysis	statistical Treatment & analytical Data	



Principal  
Dr. V.V.P. Patil  
Patil Foundation's College of Pharmacy  
Vilad Ghat, Ahmednagar



# Padmeshree Dr. Vithalrao Vikhe

Vadgoan Gupta, Vilad ghat, Post M.I.D.C., Ahmednagar 414 111

# Patil Foundation's College of Pharmacy

(M.S.) India. Tel No. 0241 - 2778044, 2777217  
Website : www.vikhepharmacynagar.com

Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature

2017-  
2018

*Principal*

Dr. V.V.P.F.'s College of Pharmacy  
Vilad Ghat, Ahmednagar







# Padmashree Dr. Vithalrao Vikhe

Vadgoan Gupta, Vilad ghat, Post M.I.D.C., Ahmednagar 414 111

# Patil Foundation's College of Pharmacy

(M.S.) India. Tel No. 0241 - 2778044, 2777217

Website : www.vikhepharmacynagar.com

Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
1)	Mr. & Mrs. Rajan Kumar Yoga Teacher Yoga Vidya Dham Ahmednagar	Staff Members + All Students (210)	21/6/2017 11:00 am to 12:45 pm	International Yoga DAY	Involvement Yoga to our daily life with Principal Dr. V. Patil Vilad Ghat, Ahmednagar 21/06/17	
2)	Mr. Dilip Khadras Bhandale Sudheep Consultancy, Sangamner	B Pharm & M. Pharm Students (268)	21/07/2017	Confidence is the secret of Success	Confidence Prady 21/07/2017	
3)	श्रीमती मिस/सि श्रीमती - शिवाजी सुनी, अहमदनगर - कोल्हापूर सुनी - कोल्हापूर (2.4)	4th & 5th Final Year Students of M. Pharm (305)	28/07/2017	Youva Prema	Reaching Heights of life + their Contribution for Nation. Patil Patil Foundation's College of Pharmacy Ahmednagar	
4)	Dr. Nimse Satish Balasaheb Assistant Professor Kallam University, Kerala	Second Year B-Pharm Third Year B-Pharm Final Year B-Pharm & M-Pharm (260)	02/08/2017	DNA chips.	Development of DNA chips for cardiac Biomarker Detection. Nimse	
5)	Dr. Satish Ahire Civil Hospital	First, second, third & final year - Pharm. (230)	30/08/2017 11:30 to 1 PM	Eye & Organ Donation	Organ Donation. Ahire 30/08/2017 12:51 P.M.	



Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
6.	Prof. S.S. Deshmukh. Pernraj. Sarda College, A. Nagar.	Second Year B. Pharm. (70)	14/09 to 16/09/2017 2 PM to 5 PM.	Pharm. Organic Chemistry - III	Stereo chemistry	
7.	Prof. Borude R.S. New Arts, Commerce & Science College, A. Nagar.	first Year B. Pharm (60)	18/09/2017 to 04/10/2017 9 AM to 11 AM.	Pharmaceutical organic chemistry.	Pharmaceutical Organic Chemistry	
08	Mr. Muzammil Patel Programme Executive All India Radio. Ahmednagar	First & To Final year. (241)	25/10/17 11:30 To 12:30	How To develop Reading Habit		
09.	Mr. Anand M. Bhware. (ICT) Institute of Chemical Mumbai. Tech.	1. Y ← final year B. Pharm. (126)	02/11/2017 10.00 to 1.00 PM.	G-PAT	G-PAT - Guidance & Preparation.	
10	Mr. Ashok Sathaye Principal speaker.	Second Year Third year & (185)	19/01/2018 8.00 PM to	Personality Development	Holistic Personality	

Dr. V.V. Patil's College of Pharmacy  
 Vilad Ghat, Ahmednagar





# Padmashree Dr. Vithalrao Vikhe

Vadgoan Gupta, Vilad ghat, Post M.I.D.C., Ahmednagar 414 111

# Patil Foundation's College of Pharmacy

(M.S.) India. Tel No. 0241 - 2778044, 2777217

Website : www.vikhepharmacynagar.com

Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
11.	Mr. Sumas Kumar HR, Manager, Glenmark Pharmaceutical.	Third & final Year B-Pharm M. Pharm. (214)	25/01/2018 10.00 AM to 1.00 PM.	Interview Techniques.	Interview Techniques & Personality Development	<i>[Signature]</i>
12.	Mrs. Jayshree Kale Police Sub-Inspector, Ahmednagar.	first to final Year B-Pharm & M. Pharm. (99)	31/01/2018 10.00 to 11.00 AM.	Personality Development	Personality Development	<i>[Signature]</i>
13.	Mrs. Manjushree Bagade Social Worker, Ahmednagar.	B-Pharm M. Pharm. (99)	31/01/2018 11.00 to 12. PM.	Personality Development	Personality Development	<i>[Signature]</i>
14.	Dr. Prasad Tagad. MBBS, MD Psychiatry Asst. Prof. Dr. Vikhe Patil Memorial Hospital, Ahmednagar.	B-Pharm & M. Pharm (99)	31/01/2018 12.00 to 1.00 PM.	Stress Management	Stress Management	<i>[Signature]</i>
15.	Prof. Dr. Anil Khandare Asso. Prof. IBMRD, Vilad Ghat Ahmednagar	B-Pharm & M. Pharm (99)	31/01/2018 02.00 to 03.00 PM.	Entrepreneurship Skills.	Women Entrepreneurship in India.	<i>[Signature]</i>
16	Dr. Kundan Ingale Project Manager N. K. Pharmed M.I.D.C.	T.Y. & Final yr B-Pharm and M. Pharm. (140)	05/05/2018 10.30 to 5.00 PM	V-Life Software Demo	Computer Aided Drug	<i>[Signature]</i>



Principal  
Dr. V.V.P. Patil  
Patil Foundation's College of Pharmacy  
Vilad Ghat, Ahmednagar



# Padmashree Dr. Vithalrao Vikhe

Vadgoan Gupta, Vilad ghat, Post M.I.D.C., Ahmednagar 414 111

# Patil Foundation's College of Pharmacy

(M.S.) India. Tel No. 0241 - 2778044, 2777217  
Website : www.vikhepharmacynagar.com

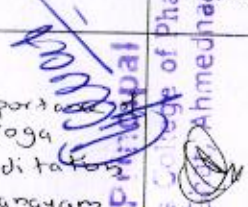



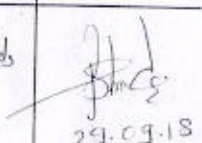
Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature

*Principals*  
Principal  
Dr. V.V.P.'s College of Pharmacy  
Vilad Ghat, Ahmednagar



2018  
2019  
2019



Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
1)	Mr. Rajan Kumar Social worker & Yoga Teacher Yog Vidya Dharm Ahmednagar	Staff Members & Students (230)	21/6/2018 11.00 am to 1.00 P.M	International Yoga Day	Important Yoga meditation Pranayam	
2)	Mr. Amol Kawade Edwise International Pvt. Ltd. Pune	T.Y, Final Year B. Pharm & M. Pharm students. (222)	12/07/2018 10.00 AM to 11.00 AM.	Overseas Education.	Scholarships & Exam Guidance for Overseas Education.	
3)	Mr. Kaustubh Pawar Institute of Chemical Technology, Mumbai.	Third & final Year B. Pharm Students. (120)	07/08/2018 10 AM to 12 PM.	GPAT- Examination.	Guidance on GPAT- Examination.	
4)	Mr. Nitesh Borkar More NIPER Hyderabad M.S. Pharm (Regulatory Toxicology)	Final & final Year B. Pharm Students (123)	25/8/2018 2 to 4 pm	Preparation for NIPER JEE	Preparation for NIPER JEE	
5)	Mr. Sanil Bhanudas Karde Manager, Quality Control	B. Pharm & M. Pharm (255)	29/09/2018 11 AM to	Recent trends in Pharma.	Recent trends in at ...	 29.09.18

Dr. V. Vikhe  
 Patil Foundation's College of Pharmacy  
 Vilad Ghat, Ahmednagar





# Padmashree Dr. Vithalrao Vikhe

Vadgoan Gupta, Vilad ghat, Post M.I.D.C., Ahmednagar 414 111

# Patil Foundation's College of Pharmacy

(M.S.) India. Tel No. 0241 - 2778044, 2777217

Website : www.vikhepharmacynagar.com

Sr No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
6.	<u>Dr. Girish Kulkreja</u> Head: Dept. of microbiology New Arts, Commerce & Sci. Collge A. Nagar	1 <sup>st</sup> yr. to Final yr. B. Pharm (245)	5/10/2018 10-30 am	"Let Vachva Abhiyan" (N.S.S.)	Let Vachva Abhiyan (N.S.S.)	<i>[Signature]</i> Principal Patil Foundation's College of Pharmacy Vilad Ghat, Ahmednagar
7.	<u>Mr. Abhir S.M.</u> District co-ordinator Civil Hospital, A. Nagar	1 <sup>st</sup> yr. to Final yr. B. Pharm. (245)	5/10/2018 11-30 am	Avayav Daan Abhiyan (N.S.S.)	Avayav Daan Abhiyan (N.S.S.)	<i>[Signature]</i> 5-10-2018
8.	<u>Mr. Datta Masare</u> General Manager Wockhardt, Mumbai	B. Pharm & M. Pharm (255)	13/10/18 2:00 PM	IPR	Recent trends in Pharma Industry & IPR	<i>[Signature]</i> 13-10-2018
9.	<u>Hon. Dy. RTO,</u> <u>Mr. Dipak Patil,</u> RTO Office, Ahmednagar	1 <sup>st</sup> yr. to Final yr. B. Pharm (235)	16/10/2018 10-30 am	"Road Safety Campaign" (N.S.S.)	"Road Safety Campaign Program"	<i>[Signature]</i> 16/10/18
10.	<u>Hon. Dr. Sham Khorat.</u> Dept. of Commerce, M. I. D. C. Ahmednagar	1 <sup>st</sup> yr. to Final yr. B. Pharm (235)	16/10/2018 11-30 am	"Disaster Mgmt Training" (N.S.S.)	"Disaster mgmt. Training"	<i>[Signature]</i> 17/10/18



**Padmashree Dr. Vithalrao Vikhe**

Vadgoan Gupta, Vilad ghat, Post M.I.D.C., Ahmednagar 414 111

**Patil Foundation's College of Pharmacy**

(M.S.) India. Tel No. 0241 - 2778044, 2777217

Website : www.vikhepharmacynagar.com

Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
11	Kusalkar Sandip M. Yuvaan, Opp. Sidhi Bang, Delhigate, Anagar	UG & PG (258)	12/01/2019 11 am	National Youth Day Celebrations	Empowering Youth, Empowering Nations	
12	Dr. Shardha Mandhule Social Worker, Ahmednagar.	UG & PG (106)	11/02/2019 11 AM	Nirbhay Kanya Abhiyan	"अफ़ातल आरोध रोधक"	
13	Mrs Dr Ajali Deskar - [Walla Katti] [International Wrestler] M.A. PHD. Ahmednagar	UG & PG (109)	12/02/2019 11 AM	Nirbhay Kanya Abhiyan	अंतराष्ट्रीय प्रायश्चित्त [Self Defense Mechanism]	
14	Mr. Ganesh Wakchaure Motivational speaker, Ahmednagar.	UG & PG. (114)	13/02/2019 11 AM.	Nirbhay Kanya Abhiyan.	"व्यक्तिगत विकास" [Personality Development]	



Principal  
Dr. V.P.P.S. College of Pharmacy  
Vilad Ghat, Ahmednagar



# Padmeshree Dr. Vibhalrao Vikhe

Vadgoan Gupta, Vilad ghat, Post M.I.D.C., Ahmednagar 414 111

# Patil Foundation's College of Pharmacy

(M.S.) India. Tel No. 0241 - 2778044, 2777217

Website : [www.vikhepharmacynagar.com](http://www.vikhepharmacynagar.com)

Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature

2019-2020



Principal  
Dr. V.V.P.F.'s College of Pharmacy  
Vilad Ghat, Ahmednagar





# Padmeshree Dr. Vithalrao Vikhe

Vadgoan Gupta, Vilad ghat, Post M.I.D.C., Ahmednagar 414 111

# Patil Foundation's College of Pharmacy

(M.S.) India. No. 0241 - 2778044, 2777217

Website : www.vikhepharmacynagar.com

Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
01.	Mr. Rajeshwar Ashok Shriram 8/222, 3 <sup>rd</sup> floor, Above manoj Kane Hotel, Dadar, Mumbai	First Year B.Pharm to Final Year B.Pharm	08/08/2019 Thu. 11.30 am	महाराष्ट्र शासन संयोजित 'युवा माहिती पुत' [शासकिय उपक्रम] (N.S.S.)	'युवा माहिती पुत' [शासकिय उपक्रम]	 Rajeshwar Ashok Shriram (शासकिय उपक्रम)
02.	Dr. Mahesh Vishnu Doke Homeopathic Consultant and Clinical Psychologist, Counsellor. Saraspan Homeopathic Clinic Pipeline Road, Ahmednagar.	First Year B. Pharm and Second Year B. Pharm. [135]	9/8/19 11 to 1 pm am	STRESS MANAGEMENT	STRESS MANAGEMENT IN STUDENTS	 Dr. Mahesh Vishnu Doke 9/8/19
03.	Mr. Harish Taware Director Sankalp Education	B.Pharm & M.Pharm students.	21/08/2019 12 to 01 PM	Guidance on Competitive Exam Preparation.	Competitive Exam Preparation.	 Mr. Harish Taware 21/08/2019
04.	Dr. Sanjay Kalamkar. Senior Literary Ahmednagar.	B.Pharm & M. Pharm Students.	23/08/2019 11 to 12 PM.	Youth Interaction.	Youth Interaction on Occasion of Birth Centenary of Late. Shri Annabhan Sathe.	
05.	Mr. Amol Sukhdev Gadge (Alumni Batch 2007) Founder & Director	First Year B.Pharm &	31/08/2019 11 to 01 PM	Career Guidance	Career Guidance & Interaction with Students of	 Mr. Amol Sukhdev Gadge 31/08/2019





# Padmeshree Dr. Vithalrao Vikhe

Vadgoan Gupta, Vilad ghat, Post M.I.D.C., Ahmednagar 414 111

# Patil Foundation's College of Pharmacy

(M.S.) India. Tel No. 0241 - 2778044, 2777217

Website : www.vikhepharmacynagar.com

Dr. V.V. Patil, Principal  
Patil Foundation's College of Pharmacy  
Vilad ghat, Ahmednagar

Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
06.	Mr. Shiram Swarnkar, GPAT All India Rank 01 <sup>st</sup> (2019) Bhopal. Mob.No: 8169445355	B.Pharm & M.Pharm.	16/09/2019 11.00 AM to 01.00 PM	Career Guidance	Career Guidance	 16/09/2019
07.	Prof. Girish Kukreja, HOD, Dept of Microbiology, New Art's College, Ahmednagar M.No. :-	B.Pharm & M.Pharm	18/09/2019 11:45am to 1:00pm	Jal Saksharta & Plastic Mukta Shrat Abhiyan.	Awareness of Requirement of Water & alternative for plastic goods.	 19/9/19
08.	Prof. Rambhau Borude New Arts, Commerce & Science College Ahmednagar	F.Y.B.Pharm	30/01/2020 to 04/02/2020	Pharmaceutical organic chemistry	IUPAC Classification Alkane, Alkene, Aldehyde	 04/02/2020
09.	Mr. Ashwin Arun Abhang GPAT - AIR 98 NIPER - AIR 25 ICTBPF - AIR 20 - Assistant Manager, Cipla R&D Vikhroli Mumbai.	B.Pharm & M.Pharm	29.02.2020	Career Guidance	GPAT, NIPER, Pharmaceutical Industry	 24.02.2020
10.	Mr. Ganesh Balasaheb Nikam Newada Pheta.	B.Pharm & M.Pharm	04/03/2020	Carver Guidance	Personality Development	 04/03/2020

G.M. Neri



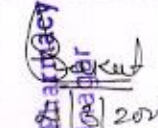
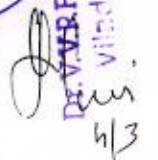


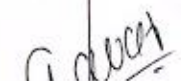
# Padmashree Dr. Vithalrao Vikhe

Vadgoan Gupta, Vilad ghat, Post M.I.D.C., Ahmednagar 414 111

# Patil Foundation's College of Pharmacy

(M.S.) India. Tel. No. 0241 - 2778044, 2777217

Website : www.vikhepharmacynagar.com

Sr. No.	Name of Guest lecturer & Address	Class	Date & Time	Subject	Topic	Signature
11.	सविता दिक्खीप सकट. केडगाव महमदनगर M.No. 9156323975 (Professional Speaker & Social Worker)	B. Pharm. M. Pharm	04/03/2020	व्यवसाय कोणतीच माहिती पुढील भाषणे.	व्यक्तीमत्त्व विकास	 Principal Dr. V.V.R.F.'s College of Pharmacy Vilad Ghat, Ahmednagar 2020
12.	विजय पठारे सावेडी, अहमदनगर M.No. 9049988085 (Ret. At force & Police Officer.)	B Pharm & M. Pharm	04/03/2020	Law and its police procedure for Professional students.	Personality Development Workshop.	 Principal Dr. V.V.R.F.'s College of Pharmacy Vilad Ghat, Ahmednagar 4/3
						
						 

## **1.3.1**

### **3. Environment & sustainability**

ice Nashik \*\*\*\*

No. of plants received for plantation from Forest Department \*

300

Agencies involved in plantation \*

N.S.S., College Staff & Students

Total no. of plantation done on 01st July 2016 \*

300

Percentage & no. of plants alive. \*

83.33% & 250 plants alive.

#### Latest Updates

EBC Amount Sanction - 2016-17

Dt.17/03/2017

(17/03/2017)

[More](#)

#### Useful Links

[Maharashtra State Board of Technical Education, Mumbai](#)

[North Maharashtra University, Jalgaon](#)

[Duna University Duna](#)



Dr. V.V.P.'s College of Pharmacy  
Vidya Gate, Alimnagar, Nashik

Principal



*Principal*  
**Principal**  
Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar





*Anand*

**Principal**  
**Dr. V.P.P.'s College of Pharmacy**  
**Viladi Ghat, Anandnagar**





# SAVITRIBAI PHULE PUNE UNIVERSITY

Sponsored

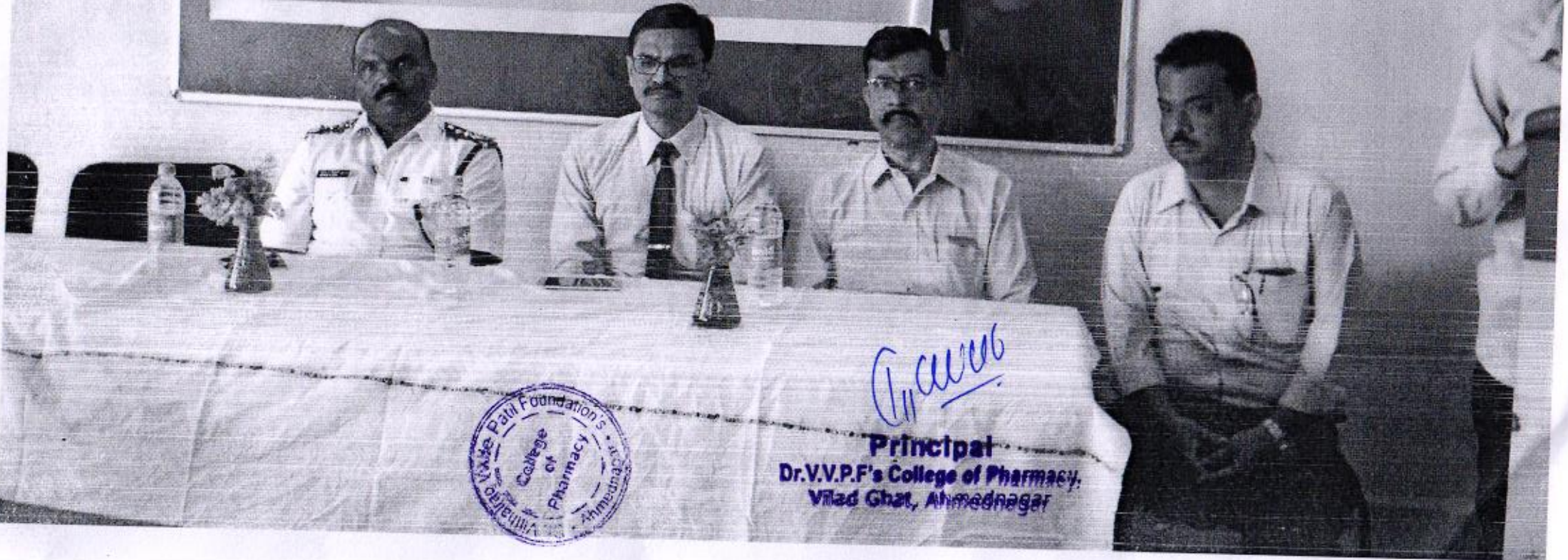
Two Days Workshop on

## DISASTER MANAGEMENT

(आपत्ती व्यवस्थापन कार्यशाळा)

on 20<sup>th</sup> to 21<sup>st</sup> February 2019

**Dr. Vithalrao Vikhe Patil**  
**College of Pharmacy, Ahmednagar**



*Dr. V.V.P.F.*

**Principal**  
**Dr. V.V.P.F.'s College of Pharmacy,**  
**Vilad Ghat, Ahmednagar**



A FIELD WORK PROJECTION ON NATURAL RESOURCES  
AND ITS CONSERVATION AND ITS DEPLETION OF  
RESOURCES:

NATURAL RESOURCES AND ITS DEPLETION

Submitted by

( 01 to 10 )

SECOND YEAR B.PHARM (SEM III)

Field work project submitted to  
Savitribai Phule Pune University

Under Guidance of:

PROF.P.P.HAJARE



DR.VITHALRAO VIKHE PATIL FOUNDATION  
COLLEGE OF PHARAMCY ,VILAD GHAT,  
AHMEDNAGAR-414001



*[Handwritten Signature]*  
Principal  
Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar




### CERTIFICATE

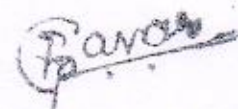
This is to certify that Roll No:01-10 [S.Y.B.Pharm (Sem-iii)] as carried out the required field work project prescribed by the Savitribai Phule Pune University for second year B.Pharm course with the subjected "NATURAL RESOURECES AND ITS TYPES AND CONVERSATION AND ITS DEPLETION" during the academic year 2018-19 and this field work is represented with in prescribed field.


Place: AHMEDNAGAR

DATE:




  
Project guide: Prof. P.P. Hajare

  
Principle: Dr. P.Y. Pawar

  
Academic coordinator : Prof. Tarkase K.N



  
Principal  
Dr. V.V.P.F.'s College of Pharmacy  
Vilad Ghat, Ahmednagar

## DECLARATION

We hereby declare that project Entitled  
"natural resources and conservation and its depletion" has been  
performed in under the guidance and the supervision of  
**Prof.P.P.Hajare** in Practical Fulfilment of Requirement for Award  
Degree in Bachelor of Pharmacy [ second year]

We further declare that we have not submitted this  
assignment previously for the award of any degree.

Place: Ahmednagar

Roll no:- 01-10

Date:




*[Handwritten Signature]*  
Principal  
Dr.V.V.P.F.'s College of Pharmacy  
Vilad Ghat, Ahmednagar

## ACKNOWLEDGEMENT

It gives a great pleasure in presenting my project report titled "NATURAL RESOURCES AND CONSERVATION AND ITS DEPLETION" for S.Y.B.Pharm the presented project work could not have been possible with the help of PROF.P.P.HAJARE Who is always support and guide to us when we are working for project

We take this opportunity to acknowledge all the people who have helped us directly or indirectly in their own way for making this project. We also wish to warmly acknowledge each teacher of my college for their support which enable and promotes us to complete our project efficiently



  
Principal  
Dr.V.V.PF's College of Pharmacy  
Vilad Ghat, Ahmednagar

**A FIELD WORK PROJECT ON**  
**EFFECT OF OIL SPILL ON MARINE LIFE**

**SUBMITTED BY-**

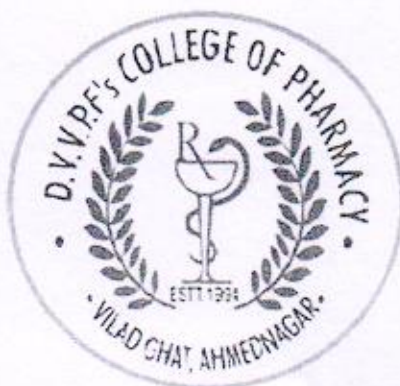
**Roll No.11-20**

**(SECOND YEAR B.PHARM)**

**2018-19**


**Field work Project submitted to,**  
**Savitribai Phule Pune University**

**UNDER GUIDANCE**  
**PROF. P.P. HAJARE**



**DR. VITHALRAO VIKHE PATIL FOUNDATION'S**  
**COLLEGE OF PHARMACY, AHMEDNAGAR.**



  
**Principal**  
Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

CERTIFICATE

This To Certify That Roll. No 11-20 (Second Year B .Pharm Sem -III )  
Have Successfully Completed The Required Project Work Prescribed By The  
"Savitribai Phule Pune University". To The Second Year B .Pharm (Sem- III ). Course In  
The Subject "Marine oil spills and effect of it on aquatic ecosystem" 2018-19.

The Candidates Have Worked A Full Time Employee Of Our  
Organization And Performance Of Candidates Was So Much Excellent And  
Appreciable .

Place : Ahmednagar

Date :



Prof.P.P.HAJARE  
(Project Guide)

Prof.K.N.TARKASE  
(Academic Incharge )

Dr.P.Y.PAWAR  
(Principal)



Principal  
Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

## DECLARATION

We Hereby Declare That This Project Entitled "Marine oil spills and effect of it on aquatic ecosystem" Has Been Prepared By Roll. No 11-20 Under The Guidance Of Prof. P.P.HAJARE in the Fulfillment Of The Requirement For The Award Of The Degree Of Bachelor Of Pharmacy Second Year (Sem-III)

We Further Declare That This Project Have Not Been Submitted To Any Other University Or Institute For The Award Of Any Degree Or Diploma.

The Assistance And Help Received During The Course Of This Investigation Has Been Duly Acknowledged.

Place : Ahmednagar

Roll. No: 11-20

Date:

[S.Y. B.Pharm. III sem]:

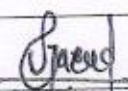
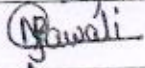
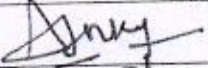
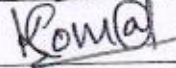
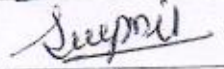
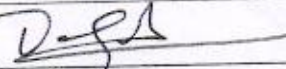
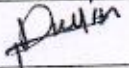
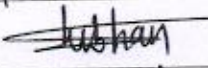
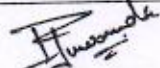
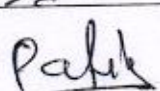


*[Handwritten Signature]*


Principal

Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

## LIST OF THE FIELD WORK PROJECT STUDENTS

ROLL NO	NAME	SIGNATURE
11	GARAD PRAJAKTA	
12	GAWALI NIRMALA	
13	GHODKE AJINKYA	
14	GONDKAR KOMAL	
15	GORE SWAPNIL	
16	GUNDU DEVDATTA	
17	HOLKAR POOJA	
18	JADHAV SHUBHAM	
19	JUWARWALA ISHA	
20	KAKADE KARTIK	



  
Principal  
Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar



A PROJECT ON

"ROLE OF HUMAN IN PROTECTING ENVIRONMENT

SUBMITTED BY

ROLL.NO : 21-30

SECOND YEAR B.PHARMACY (SEM-III)

PROJECT SUBMITTED TO

SAVITRIBAI PHULE PUNE UNIVERSITY

UNDER GUIDANCE OF

PROF. HAJARE. P.P.




DR.VITTHALRAO VIKHE PATIL FOUNDATION

COLLEGE OF PHARMACY

VILAD GHAT , AHMEDNAGAR - 414111



  
Principal  
Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

# CERTIFICATE

THIS IS TO CERTIFY THAT (SECOND YEAR B.PHARMACY SEM-III) HAVE SUCCESSFULLY COMPLETED THE REQUIRED PROJECT WORK PRESCRIBED BY THE "SAVITIBAI PHULE PUNE UNIVERSITY". TO THE SECOND YEAR B. PHARM (SEM-III) COURSE IN THE SUBJECT 2018-2019.

THE CANDIDATE HAVE WORKED AS FULL TIME EMPLOYEE OF OUR ORGANISATION AND PERFORMNCE OF CANDIDATES WAS SO MUCH EXCELLENT AND APPRECIABLE.


PLACE: AHMEDNAGAR

DATE:




  
PROF. P.P. HAJARE

  
PROF. K.N. TARKASE

  
DR. P.V. PAWAR



  
Principal  
Dr. V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

## DECLARATION

WE HEREBY DECLARE THAT THIS PROJECT ENTITLED  
[ ] HAS BEEN PREPARED BY ROLL. NO 21-30  
UNDER THE GUIDANCE OF PROF.P.P.HAJARE IN THE FULLFILLMENT OF THE  
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF BACHELOR OF  
PHARMACY SECOND YEAR (SEM-III).

WE FURTHER DECLARE THAT THIS PROJECT HAVE NOT BEEN  
SUBMITTED TO ANY OTHER UNIVERSITY OR INSTITUTE FOR THE AWARD  
OF ANY DEGREE OR DIPLOMA.

THE ASSISTANCE AND HELP RECEIVED DURING THE COURSE OF THIS  
INVESTIGATION HAS BEEN DULY ACKNOWLEDGED.

PLACE: AHMEDNAGAR

DATE:

ROLL.NO 21-30

( S.Y.B.PHARM SEM-III)

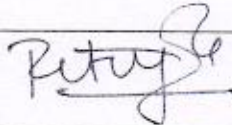
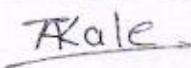
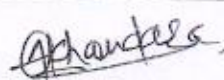
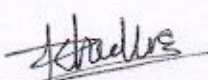
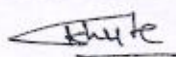
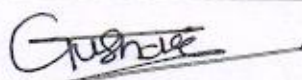
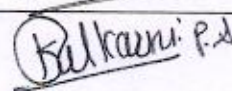
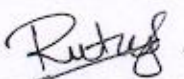
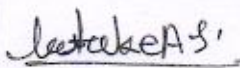
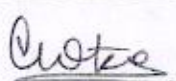


*[Handwritten Signature]*


Principal

Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

## LIST OF THE FIELD WORK PROJECT STUDENTS

ROLL.NO.	NAME	SIGNATURE
21	KANDEKAR RUTUJA BAPU	
22	KALE TEJASVINEE AMBADAS	
23	KHANDARE ATUL DAMODAR	
24	KHEDKAR PRATIKSHA PARASRAM	
25	KHUTE KAJOL SHAMBHU	
26	KSHIRSAGAR TUSHAR HARIBHAU	
27	KULKARNI PRAJAKTA SURESH	
28	LANDGE RUTUJA BABAN	
29	LOTKE ASHUTOSH SUKUMAR	
30	LOTKE VAISHNAVI SANTOSH	



  
Principal  
Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

### 1.3.1

## **4. Cross cutting issues in curriculum**



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR. VITHALRAO VIKHE PATIL FOUNDATIONS

# COLLEGE OF PHARMACY,

VILAD GHAT, PO. MIDC, AHMEDNAGAR (MS)

Phone No. (0241) 2778044 / 2777217. Fax No. (0241) 2778044

E-mail ID : [pdcophanrr@rediffmail.com](mailto:pdcophanrr@rediffmail.com)

Accredited by NAAC with Grade "B" (CGPA 2.72)

Permanently Affiliated to Savitribai Phule Pune University


Approved by AICTE, PCI, New Delhi & Recognized by UGC, New Delhi



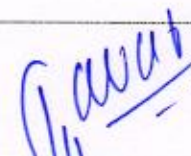
\*\*\*\*\*

## 1.3.1- Cross-cutting issues in curriculum

Sr. No.	Cross-cutting issues	Courses
1	Gender	a) Human anatomy and physiology-I
		b) Human anatomy and physiology-II
2	Environment and sustainability	a) Environmental Science
		b) Pharmaceutical Business management and Disaster management
		c) Hazards and safety management
3	Human values	a) Communication and Soft Skill Development
		b) Computer application in pharmacy
4	Health determinants & Right to Health and emerging demographic issues	a) Pathophysiology and Clinical Biochemistry
		b) Pharmaceutical Biochemistry
		c) Pharmacology, Pharmacological and toxicological screening methods
		d) Advanced Pharmacology and Experimental Pharmacology
5	Professional Ethics	a) Pharmaceutical Jurisprudence
		b) Regulatory Affairs

  
Academic Coordinator  
College of Pharmacy,  
Ahmednagar



  
Principal  
College of Pharmacy,  
Ahmednagar

**4.7.7 T PHARMACEUTICAL JURISPRUDENCE  
(3hrs/week), CREDIT: 03**

**Learning Objectives:**

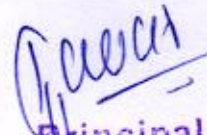
On successful completion of following theory topics, a learner should be able to

**Knowledge:**

- To understand .Basic principles, purpose and dimensions of the laws
- To understand the significance and relevance of Pharmaceutical laws in India
- Important rules and regulations and procedures made to execute the laws
- To discuss the purpose of the Board
- To explain the definitions in the Act;
- To describe the qualifications for membership and the make-up of the Board
- To explain the rule-making authority of the Board;
- To discuss the responsibilities of the Board;
- To discuss inspections by the Board or its representative;
- To learn the various laws governing the manufacturing, sale, research & usage of drugs
- To understand significance of Schedule M and Schedule Y related Manufacturing & clinical trials.
- Identify potential fraud and abuse legal issues of narcotic & psychotropic substance.
- To study quality & prices of essential medicine.
- Learner knowledge about Patents, procedure for patent application and IPR.
- To understand the regulatory system for safety and effectiveness of medicine and quality of product

Sr.No.	Topic	Hrs
<b>SECTION-I</b>		
01	<b>History of Pharmaceutical Legislation in India Code of Pharmaceutical Ethics</b>	02
02	<b>The Drugs and Cosmetics Act 1940 &amp; rules 1945 &amp; amendments:</b> Definitions, Advisory bodies DTAB and DCC Composition and function. Drug Control Laboratories and Government Analysts, Drug inspectors, Licensing Authorities, Controlling Authorities and Customs Collectors. Provisions governing import, manufacture and sale of drugs. Labeling and packaging of drugs. Various offences and corresponding penalties. Provisions applicable to manufacture and sale of Ayurvedic drugs. Broad content of various schedules of the Drugs and Cosmetic Act and Rules.	09
03	<b>Pharmacy Act 1948:</b> Objectives, definition and composition of PCI, State Councils and Joint State Council. Functions like Education Regulations, preparation of registers and qualifications for entry into registers, Approval of Courses and Institutions. Corresponding offences and penalties	03
04	<b>The Drugs Price Control Order with latest amendments:</b> Objectives, definitions, schedules to the order, sales prices of bulk drugs, prices and price list MAPE calculations. Revisions/amendments of pricing.	03




  
**Principal**  
 Dr. V.V.P.F's College of Pharmacy  
 Vilad Ghat, Ahmednagar

05	<b>Narcotic Drugs &amp; Psychotropic substances act1985:</b> Definition. Prohibited and controlled operation. Cultivation of poppy plants, Sale of opium. Import and export of narcotics as amended to date. Offences and corresponding penalties	03
06	<b>The prevention of cruelty to Animals Act, 1960</b>	01
07	<b>Aim, Objectives and Salient features of following legislations</b> Food Safety and Standards Act 2011. Consumer Protection Act1986, Industrial Development & Regulation Act 1951. Drugs and Magic Remedies Act.	02
<b>SECTION-II</b>		
08	<b>Intellectual Property Rights(IPR)</b> Introduction of IPR & Overview of Patents, Design, Trademarks, Copyrights, Geographical Indications etc.	04
09	Criteria for obtaining patent (Novel, Non-obvious Applications). Filing and Processing of Patents. Salient features of Indian Patents Act 1970 with latest amendments. Product & Process Patents, Patent offices in India. Provision of compulsory license, Exclusive Marketing Right, patent infringement and its case study,	08
10	Salient features of US patents. The Hatch Waxman Act with reference to generic Drugs, The Orange book, The contents of ANDA and bioequivalence. Patent Certification( Para-I, Para-II, Para-III and Para-IV)	05
11	An Introduction to Standard Institutions and Regulatory Authorities such as ICH, WHO, USFDA, MHRA, TGA, BIS, ASTM, ISO, CDSCO.	05

#### Recommended books

1. Kuchekar B.S., Forensic pharmacy, 9<sup>th</sup> edition. Nirali Prakashan.
2. Education Regulations, Pharmacy Council of India, New Delhi
3. The Drugs and Cosmetics Act and the rules by IDMA Publications, Mumbai
4. Pharmaceutical regulatory affairs. Subrahmanyam C.V.S, Thimmasetty J. Vallabh Prakashan.
5. What everyone should know about patents. Subbaram. 2<sup>nd</sup> edition. Pharmabook Syndicate.
6. Forensic Pharmacy & Ethics. Mahajan J, Narang B.K. JPB Prakashan.
7. A Textbook of forensic pharmacy. Mithal B.M. Vallabh Prakashan
8. A Textbook of forensic pharmacy. Jain N.K. Vallabh Prakashan.
9. Pharmaceutical Jurisprudence. Girish K, Jani. 4<sup>th</sup> edition. Atul Prakashan.
10. Pharmaceutical Jurisprudence. Agarwal S.B. Tata Publishers.



  
**Principal**  
 Dr. V.V.P.F's College of Pharmacy  
 Vilad Ghat, Ahmednagar



6. Perry, W.L.M., Pharmacological Experiments on Isolated Preparations, E & S, Livingston, London
7. Sheth, U.K., Dadkar, N K. and Kamat, U.G., selected topics in experimental pharmacology, (Kothari Book Depot, Mumbai)
8. Thomson, E.B., Drug Bioscreening, VCH, New York
9. Turner, R.A., Screening Methods in Pharmacology, Academic Press, London
10. Vogel, H.G. and Vogel, W.H.: Drug Discovery and Evaluation: Pharmacological Assays, Springer, New York

### **M-IV-1 Advanced Pharmacognosy** (Theory 3 hrs/week)

1. **Biogenesis of secondary metabolites:** Application of tracer techniques in evaluation of biogenetic pathways of secondary metabolites.
2. Strategies to enhance secondary metabolite production through tissue culture techniques like-precursor feeding, elicitation, genetic manipulation, bioreactor techniques, biotransformation, etc.
3. **Chemotaxonomy of medicinal plants:** Introduction, principle of Chemotaxonomy, Role of secondary metabolites in chemotaxonomy, applications of chemotaxonomy in medical botany.
4. **Natural Product Drug Discovery**
5. **Natural products** used as colour pigments, excipients, biopolymers, photosensitizing agents, flavours, biofuels
6. **Recent advances in Pharmacognosy:**  
With special reference to anticancer, antidiabetic, hepatoprotective, anti-inflammatory, hypo lipidaemic, immunomodulatory drugs.

#### **Reference Books**

1. Trease and Evans, Pharmacognosy, Saunders Company, London.
2. Tyler, Brady, and Robbers, Pharmacognosy, Lea Febiger, USA.
3. Wallis T. E., Text Book of Pharmacognosy, CBS publishers & distribution, Delhi.
4. Kokate, Purohit, Gokhale, Pharmacognosy, Nirali Prakashan, Pune.
5. Rangari V.D., Pharmacognosy & Phytochemistry, Vol I, II, Career Publication, Nashik.
6. Agrawal O.P., Chemistry of Organic Natural Product, Goel Publication House, UP.
7. E. Ramstad, Modern Pharmacognosy, Mc-graw hill Book Company.
8. Pridham J B, Swain T, Biosynthetic pathway in higher plants, Academic Press, New York.



20

*[Signature]*  
Principal

Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

9. Street H E, Tissue culture and plant science, Academic press, London.
10. Rainerat and Bajaj, plant tissue culture.
11. Shah and Quadry Text Book of Pharmacognosy.
12. Chopra, Indigenous drug of India.
13. Wealth of India.
14. Nadkarni, Material Medica.
15. Ayurvedic Pharmacopoeia.
16. Indian Pharmacopoeia.
17. British Pharmacopoeia.
18. Martindale Extra Pharmacopoeia.
19. Wagner, Plant drug analysis.

#### **M-IV-1 Advanced Pharmacognosy** (Practical: 6hrs/week)

**Preparation of monograph (Min.10) of herbal drugs by considering the following parameters.**

1. Pharmacognostic study of crude drugs: morphology, microscopy, quantitative microscopy, chemical tests etc.
2. Extraction, fractionation, proximate chemical analysis.
3. Physical parameters of evaluation: Moisture content, ash values, extractive values etc.

#### **Reference Books**

1. Kokate C.K, Practical Pharmacognosy, Vallabh Prakashan.
2. Khandelwal K.R, Practical Pharmacognosy, Nirali Prakashan, Pune.
3. Iyengar M.A, Pharmacognosy of powdered crude drug.
4. Iyengar M.A, Anatomy of crude drug.
5. Brain & Turner, The practical evaluation of phytopharmaceutics.
6. Harborne J.B, Phytochemical method.
7. Wagner, Plant drug analysis.
8. Stal Egon, Thin layer chromatography.
9. Wallis T.E, Textbook of Pharmacognosy.
10. Ayurvedic Pharmacopoeia of India.
11. Indian Pharmacopoeia.
12. British Pharmacopoeia.
13. Martindale, Extra Pharmacopoeia.

#### **M-V-1 Advanced Quality Assurance Techniques (cGMP & Documentation) (Theory 3 hrs/week)**

**Study of following topic with reference to theoretical basis & related documentation**



21

*[Signature]*  
Principal

Dr.V.V.P.'s College of Pharmacy  
Vilad Ghat, Ahmednagar

**BP 206 T. ENVIRONMENTAL SCIENCES (Theory)**

**30 hours**

**Scope:** Environmental Sciences is the scientific study of the environmental system and the status of its inherent or induced changes on organisms. It includes not only the study of physical and biological characters of the environment but also the social and cultural factors and the impact of man on environment.

**Objectives:** Upon completion of the course the student shall be able to:

1. Create the awareness about environmental problems among learners.
2. Impart basic knowledge about the environment and its allied problems.
3. Develop an attitude of concern for the environment.
4. Motivate learner to participate in environment protection and environment improvement.
5. Acquire skills to help the concerned individuals in identifying and solving environmental problems.
6. Strive to attain harmony with Nature.

**COURSE CONTENT**

**Unit-I**

The Multidisciplinary nature of environmental studies Natural Resources Renewable and non-renewable resources:

Natural resources and associated problems

**10hours**

a) Forest resources; b) Water resources; c) Mineral resources; d) Food resources; e) Energy resources; f) Land resources: Role of an individual in conservation of natural resources

**Unit-II**

Ecosystems

- Concept of an ecosystem.
- Structure and function of an ecosystem.
- Introduction, types, characteristic features, structure and function of the ecosystems: Forest ecosystem; Grassland ecosystem; Desert ecosystem; Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

**10hours**

**Unit- III**

Environmental Pollution: Air pollution; Water pollution; Soil pollution

**10 hours**

**Recommended Books:**

1. Y.K. Sing, Environmental Science, New Age International Pvt, Publishers, Bangalore
2. Agarwal, K.C. 2001 Environmental Biology, Nidi Publ. Ltd. Bikaner.
3. Bharucha Erach, The Biodiversity of India, Mapin Pu blishing Pvt. Ltd., Ahmedabad – 380 013, India,
4. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480p
5. Clark R.S., Marine Pollution, Clarendon Press Oxford
6. Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Publ. House, Mumbai, 1196p
7. De A.K., Environmental Chemistry, Wiley Eastern Ltd.
8. Down of Earth, Centre for Science and Environment



*V. V. Patil*  
**Principal**

Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

**4.7.4 T PHARMACOLOGY- IV**  
**(3hrs/week), CREDIT: 03**

**Learning Objectives:**

On successful completion of following theory topics & laboratory experiments, a learner should be able to

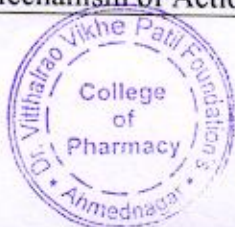
**Knowledge:**

- Classification, mechanism of action, antibacterial spectrum, resistance, therapeutic uses, adverse effects and contraindications of various antibiotics.
- Various endocrine hormones, its types, receptors involved and mechanisms involved.
- Biosynthesis, Mechanism of action, Pharmacology and regulation of Thyroid, antithyroid drugs and Parathyroid hormones.
- Biosynthesis, Secretion, Mechanism of action, Pharmacology of insulin and glucagon and Pharmacotherapy of Diabetes Mellitus.
- Pharmacology of Androgens, Estrogens, Progestin and oral contraceptives.

**Skills**

- Use of isolated tissue preparations for bioassay methods.
- Basic aspects to carryout Critical appraisal of marketed fixed dose combinations (FDC).
- Understanding Prescription auditing and standard treatment protocols.

Sr. No	Name of the Topic and Contents	Hrs
	Pharmacology of drug shall includes : classification, mechanism of action, pharmacological actions, pharmacokinetics, therapeutic uses, adverse effects, drug interactions, contraindications, dosages and treatment of poisoning (if any) etc. Discuss important drugs used in current clinical practices. Pharmacotherapy shall include: Rational approaches and clinical management of diseases/ disorders	
<b>SECTION I</b>		
01	General principles of chemotherapy of infections and mechanism of drug resistance.	01
02	Classification, mechanism of action, antibacterial spectrum, resistance, therapeutic uses, adverse effects and contraindications of: a. Penicillins, cephalosporines and $\beta$ -lactamase Inhibitors b. Sulfonamides and urinary antiseptics c. Amino glycosides and macrolides d. Quinolones and fluroquinolones. e. Tetracycline and chloramphenicol f. Tuberculosis and leprosy including National TB programmes (DOTS) g. Antimalarials, anthelmintics and antiamoebics h. Antiviral (Including anti -HIV drugs) and antifungals i. Antineoplastic drugs	23
<b>Section II</b>		
03	<b>Endocrine Pharmacology</b> Functions, Receptor and mechanisms of Hormone actions, Hypothalamus-Pituitary relationship, Anterior and Posterior Pituitary hormones <b>Drugs acting on Uterus:</b> Pharmacology of uterine stimulants and relaxants	05
04	<b>Adrenocorticosteroids and corticosteroid antagonists</b> Biosynthesis, Mechanism of Action and Pharmacology	04



*(Signature)*  
**Principal**

Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

05	<b>Thyroid and antithyroid drugs</b> Biosynthesis, Mechanism of Action and Pharmacology <b>Parathyroid hormones:</b> Drugs regulating calcium homeostasis, Vitamin D	04
06	<b>Insulin, Oral hypoglycemic agents, Glucagon</b> <b>Insulin:</b> Biosynthesis, secretion, mechanism of action and pharmacology Pharmacotherapy of diabetes mellitus (including diabetic complications) <b>Glucagon:</b> Biosynthesis, secretion, mechanism of action and pharmacology	05
07	<b>Androgens, Estrogens, Progestin and oral contraceptives</b>	03

#### Recommended Books:

1. Goodman and Gillman: Pharmacological Basis of Therapeutics, McGraw-Hill, Medical Publishing Division, New York.
2. Barar FSK: Essentials of Pharmacotherapeutics, S. Chand & Co., New Delhi.
3. Bevan JA and Thompson JH: Essentials of Pharmacology, Harper and Row Publishers, Philadelphia.
4. Bowman WC and Rand MJ: Textbook of Pharmacology, Blackwell Scientific Publications, Oxford.
5. Butterworth S: Modi' s Textbook of Medical Jurisprudence and Toxicology.
6. Craig C.R. and Stitzel RE: Modern Pharmacology, Little Brown and Co., Boston.87
7. DiPiro JT: Encyclopedia of Clinical Pharmacology, Marcel Dekkar, New York.
8. DiPiro JT: Pharmacotherapy: A Pathophysiological Approach. Elsevier Publications, London.
9. Hansten PD: Drug Interactions, Lea &Febiger, Philadelphia.
10. Harisons: Principles of Internal Medicine, McGraw Hill Publications, Singapore.
11. Herfindal E: Clinical Pharmacy and therapeutics, Williams and Wilkins Publications, New York.
12. Katzung BG: Basic and Clinical Pharmacology, Lange Medical Publications, California.
13. Krantz and Carr: Pharmacology Principle of Medical Practice, Williams & Wilkins Co, Baltimore.
14. Laurence D.R. and Bennett P.N.: Clinical Pharmacology, Churchill Livingstone, Edinburgh.
15. Parikh CK: Parikh' s Text Book of Medical Jurisprudence and Toxicology. CBS Publishers and Distributors, Mumbai.
16. Rang HP and Dale MM: Pharmacology, Churchill Livingstone, Edinbergh.
17. Satoskar RS and Bhandarkar SD: Pharmacology &Pharmacotherapeutics, Popular Prakashan, Bombay.
18. Tripathi KD: Essentials of Medical Pharmacology, Jaypee Brothers, Medical Publishers, New Delhi.



*V.V.P.F.*  
Principal  
Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

**4.7.4 P PHARMACOLOGY- IV**  
**(3hrs/week), CREDIT: 02**

Sr. No	Title of the Experiment
01	To find out the concentration of given drugs using three point bioassay method on suitable isolated tissue preparations (Min.02 Expt.)
02	To find out the concentration of given drugs using four point bioassay method on suitable isolated tissue preparations (Min.02 Expt.)
03	<b>Critical appraisal of marketed fixed dose combinations</b> with respect to comments on prescriptions of some proprietary preparations and multiple drug therapy (rational/irrational) mentioning possible indications, dose, route of drug administration, justification of inclusion of each ingredient, adverse reactions, contraindications, precautions and special instruction to patients. (Minimum 04 rational and 02 irrational combinations to be discussed)
04	<b>Prescription auditing and standard treatment protocols:</b> Comment on given prescriptions with reference to case reports mentioning possible indications and contraindications with dose, route of administration and justification of each ingredient. Comments on special instruction, drug interaction and justification of discharge medication (on the basis of available evidences from literature) (Minimum 05 prescriptions to be discussed)

**Recommended Books:**

1. Burn JH: Practical Pharmacology, Blackwell Scientific Co., Oxford.
2. Daniel Wayne W. Biostatistics: A Foundation for Analysis in the Health Sciences , Wiley
3. Series in Probability and Statistics, Wiley Interscience, USA.
4. Ghosh MN: Fundamentals of Experimental Pharmacology, Scientific Book Agency. Bombay.
5. Goyal RK: Practical Experimental Pharmacology. BS Shah Prakashan, Ahmedabad.
6. Jaju BP: Pharmacological Practical Exercise Book, Jaypee Brothers, New Delhi.
7. Kulkarni SK: Hand Book of Experimental Pharmacology, Vallabh Prakashan, New Delhi.
8. Laurence DR and Bacharach AL: Evaluation of Drug Activity: Pharmacometrics, Academic Press, London.
9. Patil CR: X-Cology (Software), Pragati Book Co. Pvt. Ltd., Pune.
10. Perry WLM: Pharmacological Experiments on Isolated Preparations. E&SP Livingstone, London.
11. Ravindran R: X-Pharm (Software), Indian Journal of Pharmacology, JIPMER, Pondicherry.
12. Sheth UK, Dadkar NK and Kamat UG: Selected Topics in Experimental Pharmacology, Kothari Book Depot, Bombay.
13. Turner RA: Screening Methods in Pharmacology



*(Signature)*  
Principal

Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

**3.5.6 T PHARMACEUTICAL BUSINESS MANAGEMENT &  
DISASTER MANAGEMENT  
(3hrs/week), CREDIT: 03**

**Learning Objective:**

On successful completion of following theory topics & laboratory experiments, a learner should be able to

**Knowledge:**

- To learn the Pharmaceutical business and management strategy.
- To gain knowledge of marketing research, product management.
- To learn about human resource and development needs.
- To learn about the disaster management and preparedness ,mitigation

Sr. No	Topic	Hrs.
<b>SECTION-I</b>		
01	<b>Fundamentals of management:</b> Management basic concepts: definition, need for management, function of management. Management thoughts, contribution of Taylor, Fayol, Peter Drucker in modern management. Functions and responsibilities of a manager	02
02	<b>Planning:</b> Nature and purpose of planning, important steps in planning, types of planning, planning process, advantages and limitations.	03
03	<b>Objectives:</b> Types of objectives, importance of objective, management by objectives, advantages and limitations.	02
04	<b>Organizing:</b> Organizational structure, basic principles of organization, departmentalization, delegation, decentralization, staffing, line& staff organization with respect to production and QC/QA department.	02
05	<b>Decision making:</b> Types of decision, Definition and Importance of decision making, Decision making process(explain giving example from pharma industry.	02
06	<b>Controlling:</b> Concepts and purpose of control techniques, budgetary and non-budgetary control, management audit, management information system, break even analysis, network techniques (PERT & CPM), profit including numerical problem	04
07	<b>Material management:</b> Classification of materials, objectives and principles of purchasing, inventory control.	03
08	<b>Drug store and Hospital management:</b> Introduction to drug store, Introduction to Hospital, role of drug store and hospitals related to patient care management.	02
09	<b>Pharmaceutical Marketing:</b> Difference between marketing and selling, channels of distribution, wholesale, retail, departmental.	03
<b>SECTION-II</b>		



*(Signature)*  
Principal  
Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

10	<b>Sales promotions:</b> objective, principles & techniques. Ethics of sales, Advertising- needs & methods, Merchandising, Detailing. Medical representative: Role & Qualities.	04
11	<b>Marketing research:</b> Nature & importance. Sales forecasting methods, analysis, advantages and limitations.	02
12	<b>Product management:</b> Product life cycle(explain with case study), launching a new product, EICS.	03
13	<b>Price:</b> definition, factors affecting, procedure for determination of price, types of price.	03
14	<b>Human Resource Management.</b> <b>a. Motivation:</b> definition, & concept. Theories- Maslow's theory, Herzberg's theory, Vroom's theory, expectancy theory, reinforcement theory, equity or Social comparison theory X & Y. <b>b. Leadership:</b> definition, importance, qualities of leadership, leadership styles, trait theory, managerial grid. <b>c. Communication:</b> importance, functions, communication process, forms of communication, types of communication. <b>d. Interview techniques:</b> - presentation skills- group discussion. <b>e. Performance appraisal:</b> need and techniques, recruitment and training	07
15	<b>Introduction to Disaster Management:</b> Meaning, nature, characteristics Types of disasters: Causes and effects of following type of disaster. Preparedness and Mitigation: Concept & nature, disaster preparedness plan. <b>Disaster preparedness for people and infrastructure, Community based disaster preparedness plan.</b> <b>Disaster Mitigation: meaning and concept, disaster mitigation strategies.</b> <b>The Disaster Management cycle.</b>	03

#### Recommended Books:

1. Peter Drucker; The Practice of management, Harper and Row, New York,1954.
2. Harold Koontz, Cyril O'Donnell& Heinz Weihrich; Management, 7th edition,1980.
3. Tripathi PC. & P.N. Reddy; Principals of Management, Tata McGraw Hill publishing Co/ Ltd, 2nd edition, NewDelhi.
4. Koontz H. &Weihrich H.; Essentials of Management, Tata McGraw Hill publishing Co/ Ltd, 5th edition, New Delhi,1998.
5. Satya Saran Chatterjee; An Introduction to Management, The world Press Pvt. Ltd, 12th Edition, Calcutta, 1998.
6. Vidyasagar G.; Pharmaceutical Industrial Management, Pharma book Syndicate, Hyderabad,2005.
7. Philip Kotler& Gary Armstrong; Principles of Marketing, Pearson Education Pvt. Ltd., 10th Edition, Singapore,2005.
8. Mickey Smith; Principles of Pharmaceutical Marketing, CBS Publisher &Distributors, 3rd Edition, New Delhi,2001.
9. J.C. Gandhi; Marketing A Managerial Introduction, Tata McGraw Hill publishing Co/ Ltd, 8th Edition New Delhi,1995.
10. Mickey Smith; Pharmaceutical Marketing in the 21th Century, Viva Books Pvt. Ltd., New Delhi,2001.



*(Signature)*  
Principal

Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar



11. Horngren, Sundem & Stratton; Introduction to Management Accounting, Prentice Hall of India Pvt. Ltd., 11th Edition, New Delhi, 2000.
12. Cost Accounting & Management Accounting: Everest Publication, New Delhi.
13. Principles and Methods of Pharmacy Management by Harry Smith.
14. Marketing Management by Philip Kotlar.
15. Marketing in New Millennium by Dr. M. J. Xavier, 1998.
16. Principles and Management: Koonz O'Donnel.
17. Bryant Edwards (2005): Natural Hazards, Cambridge University Press, U.K.
18. Roy, P.S. (2000): Space Technology for Disaster management: A Remote Sensing & GIS Perspective, Indian Institute of Remote Sensing (NRSA) Dehradun.
19. Sharma, R.K. & Sharma, G. (2005) (ed) Natural Disaster, APH Publishing Corporation, New Delhi.
20. S.M.ZHA Hospital management, Himalaya Publication House, 2011
21. Mehta R.M., Drug Store and Business Management, Vallabh, prakashan, 2005

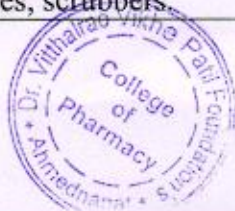


*Gaurav*

**Principal**

Dr. V.V.P.'s College of Pharmacy  
Vilad Ghat, Ahmednagar

HAZARDS AND SAFETY MANAGEMENT (MQA 201T)	60 Hrs
<p><b>Scope</b> This course is designed to convey the knowledge necessary to understand issues related to different kinds of hazard and their management. Basic theoretical and practical discussions integrate the proficiency to handle the emergency situation in the pharmaceutical product development process and provides the principle based approach to solve the complex tribulations.</p> <p><b>Objectives</b> At completion of this course it is expected that students will be able to</p> <ul style="list-style-type: none"> <li>• Understand about environmental problems among learners.</li> <li>• Impart basic knowledge about the environment and its allied problems.</li> <li>• Develop an attitude of concern for the industry environment.</li> <li>• Ensure safety standards in pharmaceutical industry</li> <li>• Provide comprehensive knowledge on the safety management</li> <li>• Empower an ideas to clear mechanism and management in different kinds of hazard management system</li> <li>• Teach the method of Hazard assessment, procedure, methodology for provide safe industrial atmosphere.</li> </ul>	
<p><b>UNIT-I</b></p> <ul style="list-style-type: none"> <li>• Multidisciplinary nature of environmental studies Natural Resources and associated problems, Renewable and non-renewable resources, a) Forest resources; b) Water resources; c) Mineral resources; d) Energy resources; e) Land resources</li> <li>• <b>Ecosystems:</b> Concept of an ecosystem, Structure and function of an ecosystem. Environmental hazards: Hazards based on Air, Water, Soil and Radioisotopes.</li> </ul>	12 Hrs
<p><b>UNIT-II</b></p> <ul style="list-style-type: none"> <li>• Air based hazards Sources, Types of Hazards, Air circulation, Air handling system, HVAC system, air maintenance in industry for sterile area and non sterile area.</li> </ul>	12 Hrs
<p><b>UNIT-III</b></p> <ul style="list-style-type: none"> <li>• <b>Chemical based hazards:</b> Sources of chemical hazards, Hazards of Organic synthesis, sulphonating hazard, Organic solvent hazard. Control measures for chemical hazards. Management of combustible gases, Toxic gases and Oxygen displacing gases management, Regulations for chemical hazard, MSDS, Labelling guidelines, Management of over-Exposure to chemicals and TLV concept, Disposal of hazardous material.</li> </ul>	12 Hrs
<p><b>UNIT-IV</b></p> <ul style="list-style-type: none"> <li>• <b>Fire and Explosion:</b> Introduction, Industrial processes and hazards potential, Mechanical, electrical, thermal and process hazards, mechanical and chemical explosion, multiphase reactions. Safety and hazards regulations</li> <li>• <b>Fire protection system:</b> Fire prevention, types of fire extinguishers and critical Hazard management system, Preventive and protective management from fires and explosion- electricity passivation, ventilation, and sprinkling, proofing, fire walls, bunds, relief systems - relief valves, flares, scrubbers.</li> </ul>	12 Hrs



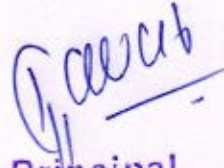
*[Signature]*  
Principal

<p><b>UNIT-V</b></p> <ul style="list-style-type: none"> <li>• <b>Hazard and risk management:</b> Self-protective measures against workplace hazards. Critical training for risk management, Process of hazard management, ICH guidelines on risk assessment and Risk management methods and Tools, Preliminary hazard analysis</li> <li>• Factory act and rules, fundamentals of accident prevention, elements of safety programme and safety management, Physicochemical measurements of effluents, BOD, COD, Determination of some contaminants, Effluent treatment procedure, Role of emergency services.</li> </ul>	<p><b>12 Hrs</b></p>
---	----------------------

**REFERENCES**

1. Y.K. Sing, Environmental Science, New Age International Pvt, Publishers, Bangalore
2. Quantitative Risk Assessment in Chemical Process Industries, American Institute of Chemical Industries, Centre for Chemical Process safety.
3. T.S.S. Dikshith, Hazardous Chemicals: Safety Management and Global Regulations, CRC press
4. M. N. Vyas, Safety and hazard management in chemical industries, Atlantic Publisher
5. Daniel A. Crowl, Joseph F. Louvar, Chemical Process Safety: Fundamentals with Applications, 3rd Edition, Prentice Hall, 2011
6. H. H. Fawcett and W.S. Wood, Safety and Accident Prevention in Chemical Operations, 2nd E/d, John Wiley & Sons, New York 1982.
7. C.S.Rao, Environmental Pollution Control Engineering, New Age international publisher
8. Phillip Carson, Clive Mumford, Butterworth-Heinemann, Hazardous Chemicals Handbook, Second edition, An imprint of Elsevier Science.



  
**Principal**  
 Dr.V.V.P.F's College of Pharmacy  
 Vilad Ghat, Ahmednagar

## REGULATORY AFFAIRS (MPH 104T)

### SCOPE

Course designed to impart advanced knowledge and skills required to learn the concept of generic drug and their development, various regulatory filings in different countries, different phases of clinical trials and submitting regulatory documents: filing process of IND, NDA and ANDA

- To know the approval process of
- To know the chemistry, manufacturing controls and their regulatory importance
- To learn the documentation requirements for
- To learn the importance and

### OBJECTIVES

Upon completion of the course, it is expected that the students will be able to understand

- The Concepts of innovator and generic drugs, drug development process
- The Regulatory guidance's and guidelines for filing and approval process
- Preparation of Dossiers and their submission to regulatory agencies in different countries
- Post approval regulatory requirements for actives and drug products
- Submission of global documents in CTD/ eCTD formats
- Clinical trials requirements for approvals for conducting clinical trials
- Pharmacovigilance and process of monitoring in clinical trials.

### THEORY

60 Hrs

1. a) Documentation in Pharmaceutical industry: Master formula record, DMF (Drug Master File), distribution records. Generic drugs product development Introduction, Hatch-Waxman act and amendments, CFR (CODE OF FEDERAL REGULATION), drug product performance, in-vitro, ANDA regulatory approval process, NDA approval process, BE and drug product assessment, in-vivo, scale up process approval changes, post marketing surveillance, outsourcing BA and BE to CRO. 12 Hrs
- b) Regulatory requirement for product approval: API, biologics, novel, therapies obtaining NDA, ANDA for generic drugs ways and means of US registration for foreign drugs. 12 Hrs
2. CMC, post approval regulatory affairs. Regulation for combination products and medical devices. CTD and ECTD format, industry and FDA liaison. ICH – Guidelines of ICH-Q, S E, M. Regulatory requirements of EU, MHRA, TGA and ROW countries. 12 Hrs
3. Non clinical drug development: Global submission of IND, NDA, ANDA. Investigation of medicinal products dossier, dossier (IMPD) and investigator brochure (IB). 12 Hrs



  
Principal

## REFERENCES

1. Theory and Practice of Industrial Pharmacy By Lachmann and Libermann
2. Pharmaceutical dosage forms: Tablets Vol. 1-3 by Leon Lachmann.
3. Pharmaceutical Dosage forms: Disperse systems, Vol, 1-2; By Leon Lachmann.
4. Pharmaceutical Dosage forms: Parenteral medications Vol. 1-2; By Leon Lachmann.
5. Modern Pharmaceutics; By Gillbert and S. Banker.
6. Remington's Pharmaceutical Sciences.
7. Advances in Pharmaceutical Sciences Vol. 1-5; By H.S. Bean & A.H. Beckett.
8. Physical Pharmacy; By Alfred martin
9. Bentley's Textbook of Pharmaceutics – by Rawlins.
10. Good manufacturing practices for Pharmaceuticals: A plan for total quality control, Second edition; By Sidney H. Willig.
11. Quality Assurance Guide; By Organization of Pharmaceutical producers of India.
12. Drug formulation manual; By D.P.S. Kohli and D.H.Shah. Eastern publishers, New Delhi.
13. How to practice GMPs; By P.P.Sharma. Vandhana Publications, Agra.
14. Pharmaceutical Process Validation; By Fra. R. Berry and Robert A. Nash.
15. Pharmaceutical Preformulations; By J.J. Wells.
16. Applied production and operations management; By Evans, Anderson, Sweeney and Williams.
17. Encyclopaedia of Pharmaceutical technology, Vol I – III.



*Ganesh*

**Principal**

Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

**Scope:** The main purpose of the subject is to understand what drugs do to the living organisms and how their effects can be applied to therapeutics. The subject covers the information about the drugs, mechanism of action, physiological and biochemical effects (Pharmacodynamics) as well as absorption, distribution, metabolism and excretion (pharmacokinetics) along with the adverse effects, clinical uses, interactions, doses, contraindications and route of administration of different classes of drugs.

**Objectives:** Upon completion of the subject, student shall be able to –

1. Understand the pharmacological actions of different categories of drugs.
2. Explain the mechanism of action at organ system/sub cellular/macromolecular levels.
3. Apply the basic pharmacological knowledge in the prevention and treatment of various diseases.
4. Observe the effects of drugs on animal by simulated experiments.
5. Appreciate correlation of pharmacology with other bio medical sciences.

**Unit-I** **General Pharmacology:** **Hrs**

**Introduction to Pharmacology**

Definition, Historical landmarks and scope of pharmacology, Nature and source of drugs, Essential drugs concept and Routes of drug administration.

**Pharmacokinetics**

Membrane transport, Absorption, Distribution, Metabolism and Excretion of drugs. Enzyme induction, Enzyme inhibition, Introduction tokinetics of elimination.

**Unit-II** **General Pharmacology** **Hrs**

**Pharmacodynamics:**

Principles and mechanisms of drug action.

Receptortheories and classification of receptors, regulation of receptors. Drugreceptors interactions, Signal transduction mechanisms, G-protein-coupledreceptors, Ion channel receptors, Transmembrane enzyme linked receptors,JAK-STAT binding receptors and receptors that regulate transcriptionfactors,Spare receptors.

Dose response relationship, Therapeutic index,Agonists, Antagonists (competitive and non-competitive),Combined effects of drugs.

Factors modifying drug action.

**Adverse drug reactions:**

Addiction, Tolerance, Dependence, Tachyphylaxis, Idiosyncrasy, Allergy (explain with suitable examples).

**Drug interactions:**

Pharmacokinetic and pharmacodynamic drug interactions.



*[Handwritten Signature]*  
Principal

	<b>Drug discovery and clinical evaluation of new drugs:</b> Introduction to drug discovery, Preclinical evaluation and Clinical trials Introduction to Pharmacovigilance	
<b>Unit III</b>	<b>Pharmacology of drugs acting on Peripheral Nervous System</b> Introduction to Autonomic Nervous System, Parasympathomimetics, Parasympatholytics, Sympathomimetics and Sympatholytics. Neuromuscular blocking agents and skeletal muscle relaxants (peripheral). Local anaesthetic agents. Drugs used in myasthenia gravis and glaucoma	<b>08 Hrs</b>
<b>Unit-IV</b>	<b>Pharmacology of drugs acting on central nervous system</b> Neurohumoral transmission in the C.N.S.- Special emphasis to be given on importance of various neurotransmitters like with GABA, Glutamate, Glycine, Serotonin, Dopamine. General anaesthetics and pre-anaesthetics Sedatives, Hypnotics and Centrally acting muscle relaxants Anti-epileptics Alcohol and Disulfiram	<b>09 Hrs</b>
<b>Unit-V</b>	<b>Pharmacology of drugs acting on Central Nervous System</b> Psychopharmacological agents: Antipsychotics, Antidepressants, Anti- anxiety agents, anti-manics and Hallucinogens Drugs used in Parkinson's disease and Alzheimer's disease CNS stimulants and Nootropics Opioid analgesics and antagonists (including addiction, abuse, tolerance and dependence)	<b>08 Hrs</b>

#### REFERENCES:

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



*(Signature)*  
Principal

10. Barar, F.S.K., Essentials of Pharmacotherapeutics; S. Chand and Company, New Delhi.
11. A textbook of Pathophysiology, Bodhankar, SL and Vyawahare, NS, NiraliPrakashan, Pune.
12. Das, M. M. and Dutta S. K. : R. Ghosh,s Modern Concepts on pharmacology and Therapeutics, ( HILTON and Co. Calcutta )
13. Satoskar , R.S. and Bhandarkar S.D. Pharmacology and Pharmacotherapeutics (PopularPrakashan, Bombay).
14. Craig, C.R. and Stitzel, B.E.; Modern Pharmacology, Little Brown and Co, Boston.
15. JamesCrossland. Lewis,s Pharmacology Basis of Therapeutics, Pergamon Press, New York.
16. Harrison's Principle and Practice of Medicine, 18th Edition, Churchill, Livingston, .London.
17. Roger and Walker. Clinical Pharmacy and Therapeutics, Churchill, Livingston, London.
18. Dipiro Joseph L. A pathphysiological Approach, Elsevier.
19. Davidson's Principle of Internal Medicine, McGraw-Hill companies.
20. Guyton AC. Textbook of medical Physiology. W. B. Sanders CO., Philadelphia, USA.
21. Chatterjee, C.C., Human Physiology. Medical Allied Agency, Kolkata.
22. Ganong, W.F., Review of Medical Physiology. Prentice-Hall International, London.



*Gawab*  
Principal

Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar



**BP 408 P.PHARMACOLOGY-I (Practical)****4 Hours/week**

1. Introduction to experimental pharmacology.
2. Commonly used instruments in experimental pharmacology.
3. Study of common laboratory animals.
4. Maintenance of laboratory animals as per CPCSEA guidelines.
5. Common laboratory techniques. Blood withdrawal, serum and plasma separation, anesthetics and euthanasia used for animal studies.
6. Study of different routes of drugs administration in mice/rats.
7. Study of effect of hepatic microsomal enzyme inducers on the phenobarbitone sleeping time in mice.
8. Effect of drugs on ciliary motility of frog oesophagus
9. Effect of drugs on rabbit eye.
10. Effects of skeletal muscle relaxants using rota-rod apparatus.
11. Effect of drugs on locomotor activity using actophotometer.
12. Anticonvulsant effect of drugs by MES and PTZ method.
13. Study of stereotype and anti-catatonic activity of drugs on rats/mice.
14. Study of anxiolytic activity of drugs using rats/mice.
15. Study of local anesthetics by different methods

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

**REFERENCES:**

1. Ghosh MN. Fundamentals of Experimental Pharmacology. Hilton & Company, Kolkata.
2. Kulkarni SK. Handbook of experimental pharmacology. Vallabh Prakashan.
3. Burn JH. Practical Pharmacology Blackwell Scientific, Oxford London.
4. Jaju BP. Pharmacology: A Practice Exercise Book, Jaypee Brothers, New Delhi.
5. Sheth UK, Dadkar NK and Kamat UG. selected topics in experimental pharmacology, (Kothari Book Depot, Mumbai)
6. Perry W.L.M. Pharmacological Experiments on Isolated Preparation, E&S Livingstone, London.
7. Goyal R. K., Practicals in Pharmacology, B. S. Shah Prakashan, Ahmedabad.



*[Signature]*  
**Principal**

57 Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

**BP205 T. COMPUTER APPLICATIONS IN PHARMACY (Theory)**

**30 Hrs**

**Scope:** This subject deals with the introduction Database, Database Management system, computer application in clinical studies and use of databases.

**Objectives:** Upon completion of the course the student shall be able to

1. know the various types of application of computers in pharmacy
2. know the various types of databases
3. know the various applications of databases in pharmacy

**COURSE CONTENT**

**UNIT – I**

**Number system:** Binary number system, Decimal number system, Octal number system, Hexadecimal number systems, conversion decimal to binary, binary to decimal, octal to binary etc, binary addition, binary subtraction – One's complement ,Two's complement method, binary multiplication, binary division

**06 hours**

**Concept of Information Systems and Software :** Information gathering, requirement and feasibility analysis, data flow diagrams, process specifications, input/output design, process life cycle, planning and managing the project

**UNIT –II**

**Web technologies:**Introduction to HTML, XML,CSS and Programming languages, introduction to web servers and Server Products Introduction to databases, MYSQL, MS ACCESS, Pharmacy Drug database

**06 hours**

**UNIT – III**

**Application of computers in Pharmacy –** Drug information storage and retrieval, Pharmacokinetics, Mathematical model in Drug design, Hospital and Clinical Pharmacy, Electronic Prescribing and discharge (EP) systems, barcode medicine identification and automated dispensing of drugs, mobile technology and adherence monitoring Diagnostic System, Lab-diagnostic System, Patient Monitoring System, Pharma Information System

**06 hours**

**UNIT – IV**

**Bioinformatics:** Introduction, Objective of Bioinformatics, Bioinformatics Databases, Concept of Bioinformatics, Impact of Bioinformatics in Vaccine Discovery.

**06 hours**

**UNIT-V**

**Computers as data analysis in Preclinical development:**

Chromatographic data analysis(CDS), Laboratory Information management System (LIMS) and Text Information Management System(TIMs)

**06 hours**



69

*[Handwritten Signature]*  
**Principal**

Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

## BP210P. COMPUTER APPLICATIONS IN PHARMACY (Practical)

1. Design a questionnaire using a word processing package to gather information about a particular disease.
2. Create a HTML web page to show personal information.
- 3 Retrieve the information of a drug and its adverse effects using online tools
- 4 Creating mailing labels Using Label Wizard , generating label in MS WORD
- 5 Create a database in MS Access to store the patient information with the required fields Using access
6. Design a form in MS Access to view, add, delete and modify the patient record in the database
7. Generating report and printing the report from patient database
8. Creating invoice table using – MS Access
9. Drug information storage and retrieval using MS Access
10. Creating and working with queries in MS Access
11. Exporting Tables, Queries, Forms and Reports to web pages
12. Exporting Tables, Queries, Forms and Reports to XML pages

### Recommended books :

1. Computer Application in Pharmacy – William E.Fassett –Lea and Febiger, 600 South Washington Square, USA, (215) 922-1330.
2. Computer Application in Pharmaceutical Research and Development –Sean Ekins – Wiley-Interscience, A John Willey and Sons, INC., Publication, USA
3. Bioinformatics (Concept, Skills and Applications) – S.C.Rastogi-CBS Publishers and Distributors, 4596/1- A, 11 Darya Gani, New Delhi – 110 002(INDIA)
4. Microsoft office Access - 2003, Application Development Using VBA, SQL Server, DAP and Infopath – Cary N.Prague – Wiley Dreamtech India (P) Ltd., 4435/7, Ansari Road, Daryagani, New Delhi – 110002



*(Signature)*  
Principal

Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

**Scope:** Pathophysiology is the study of causes of diseases and reactions of the body to such disease producing causes. This course is designed to impart a thorough knowledge of the relevant aspects of pathology of various conditions with reference to its pharmacological applications, and understanding of basic pathophysiological mechanisms. Hence it will not only help to study the syllabus of pathology, but also to get baseline knowledge required to practice medicine safely, confidently, rationally and effectively. Pharmacotherapy of drugs is particularly not to be considered as a part of this subject from examination point of view as the subject deals with pathophysiological aspects of the diseases.

**Objectives:** Upon completion of the subject, student shall be able to –

1. Describe the etiology and pathogenesis of the selected disease states;
2. Name the signs and symptoms of the diseases

<b>Unit-I</b>	<b>Basic principles of Cell injury and Adaptation</b> Introduction & definitions Causes of cellular injury, Pathogenesis (Cell membrane damage, Mitochondrial damage, Ribosome damage, Nuclear damage), Morphology of cell injury – Adaptive changes (Atrophy, Hypertrophy, Hyperplasia, Metaplasia, Dysplasia), Cell swelling, Intracellular accumulation, Calcification, Enzyme leakage and cell death, acidosis and alkalosis, Electrolyte imbalance <b>Basic mechanism involved in the process of inflammation and repair</b> Introduction, Clinical signs of inflammation, Different types of Inflammation, Mechanism of Inflammation – Alteration in vascular permeability and blood flow, migration of WBC's, Mediators of inflammation, Basic principles of wound healing in the skin	<b>10 Hrs</b>
<b>Unit -II.</b>	<b>Cardiovascular System:</b> Hypertension, Congestive heart failure, Ischemic heart diseases (angina, myocardial infarction, atherosclerosis and arteriosclerosis) <b>Respiratory system:</b> Asthma, Chronic obstructive airways diseases <b>Renal system:</b> Acute and chronic renal failure	<b>10 Hrs</b>
<b>Unit-III</b>	<b>Haematological Diseases:</b> Iron deficiency anaemia, Megaloblastic anaemia (Vit B12 and folic acid), Sickle cell anemia, Thalassemia, Hereditary acquired anemia, Hemophilia <b>Endocrine system:</b> Diabetes, Thyroid diseases (Hypothyroidism, hyperthyroidism, Goitre) Disorders of sex hormones (Amenorrhoea, polycystic ovarian syndrome, hypogonadism) <b>Nervous system:</b>	<b>12 Hrs</b>



Epilepsy, Parkinson's disease, Stroke, Psychiatric disorders: Depression, Schizophrenia and Alzheimer's disease

**Gastrointestinal system:**

Peptic Ulcer, Inflammatory Bowel Diseases, Jaundice, Hepatitis (A,B,C,D,E,F), Alcoholic liver disease

**Unit-IV Diseases of bones and joints** **06 Hrs**  
Rheumatoid Arthritis, Osteoporosis, Gout

**Unit-V Infectious diseases** **07 Hrs**  
**Cancer:** Classification, etiology and pathogenesis of cancer

Tuberculosis, Leprosy, Malaria, Dengue, Meningitis, Typhoid, Urinary tract infections

**Sexually transmitted diseases**

AIDS, Syphilis, Gonorrhoea

**REFERENCES:**

1. Vinay Kumar, Abul K. Abas, Jon C. Aster; Robbins & Cotran Pathologic Basis of Disease; South Asia edition; India; Elsevier; 2014.
2. Harsh Mohan; Text book of Pathology; 6<sup>th</sup> edition; India; Jaypee Publications; 2010.
3. Laurence B, Bruce C, Bjorn K. ; Goodman Gilman's The Pharmacological Basis of Therapeutics; 12<sup>th</sup> edition; New York; McGraw-Hill; 2011.
4. Best, Charles Herbert 1899-1978; Taylor, Norman Burke 1885-1972; West, John B (John Burnard); Best and Taylor's Physiological basis of medical practice; 12<sup>th</sup> ed; united states.
5. William and Wilkins, Baltimore; 1991 [1990 printing].
6. Nicki R. Colledge, Brian R. Walker, Stuart H. Ralston; Davidson's Principles and Practice of Medicine; 21<sup>st</sup> edition; London; ELBS/Churchill Livingstone; 2010.
7. Guyton A, John .E Hall; Textbook of Medical Physiology; 12<sup>th</sup> edition; WB Saunders Company; 2010.
8. Joseph DiPiro, Robert L. Talbert, Gary Yee, Barbara Wells, L. Michael Posey; Pharmacotherapy: A Pathophysiological Approach; 9<sup>th</sup> edition; London; McGraw-Hill Medical; 2014.
9. V. Kumar, R. S. Cotran and S. L. Robbins; Basic Pathology; 6<sup>th</sup> edition; Philadelphia; WB Saunders Company; 1997.
10. Roger Walker, Clive Edwards; Clinical Pharmacy and Therapeutics; 3<sup>rd</sup> edition; London; Churchill Livingstone publication; 2003.



*G. V. V. P. F.*  
**Principal**

67 Dr. V.V.P.F.'s College of Pharmacy  
Vilad Ghat, Ahmednagar

### Recommended Journals

1. The Journal of Pathology. ISSN: 1096-9896(Online)
2. The American Journal of Pathology. ISSN:0002-9440
3. Pathology. 1465-3931 (Online)
4. International Journal of Physiology, Pathophysiology and Pharmacology. ISSN: 1944-8171 (Online)
5. Indian Journal of Pathology and Microbiology.ISSN-0377-4929.



*Gawab*

**Principal**

Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

**Scope**

Biochemistry deals with complete understanding of the molecular levels of the chemical process associated with living cells. The scope of the subject is to provide biochemical facts and the principles to understand metabolism of nutrient molecules in physiological and pathological conditions. It also emphasizes on genetic organization of mammalian genome, hetero and autocatalytic functions of DNA.

**Objectives**

Upon completion of course the students shall able to

- Understand the catalytic role of enzymes and importance of enzyme in biochemical process.
- Understand the metabolism of nutrient molecules in physiological and pathological conditions.
- Understand the genetic organization of mammalian genome and functions of DNA in the synthesis of RNAs and proteins.

**COURSE CONTENT****UNIT -I****a) Biomolecules**

Introduction, classification, chemical nature and biological role of carbohydrates, lipids, nucleic acids, amino acids and proteins.

**b) Carbohydrate metabolism**

- i. Glycolysis – Pathway, energetics and significance.
- ii. Citric acid cycle- Pathway, energetics and significance.
- iii. HMP shunt and its significance; Glucose-6-Phosphate ehydrogenase (G6PD) deficiency.
- iv. Glycogen metabolism Pathways and glycogen storage diseases (GSD).
- v. Gluconeogenesis- Pathway and its significance.
- vi. Hormonal regulation of blood glucose level and Diabetes mellitus.

**10 hours****UNIT-II****a) Biological oxidation**

- i. Electron transport chain (ETC) and its mechanism.
- ii. Oxidative phosphorylation & its mechanism and substrate level. Phosphorylation Inhibitor
- iii. ETC and oxidative phosphorylation / uncouplers.

**08 hours****b) Bioenergetics**

- i. Concept of free energy, endergonic and exergonic reaction, relationship between free energy, enthalpy and entropy.
- ii. Energy rich compounds; classification; biological significances of ATP and cyclic AMP.

**UNIT-III****a) Lipid metabolism****10 hours**

*[Signature]*  
Principal

Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

- i.  $\beta$ -Oxidation of saturated fatty acid (Palmitic acid).
  - ii. Formation and utilization of ketone bodies; ketoacidosis.
  - iii. *De novo* synthesis of fatty acids (Palmitic acid).
- Biological significance of cholesterol and conversion of cholesterol into bile acids, steroid hormone and vitamin D.  
Disorders of lipid metabolism: hypercholesterolemia, atherosclerosis, fatty liver and obesity.

**b) Amino acid metabolism**

- i. General reactions of amino acid metabolism: Transamination, deamination & decarboxylation, urea cycle and its disorders.
- ii. Catabolism of phenylalanine and tyrosine and their metabolic disorders (Phenylketonuria, alkaptonuria, tyrosinemia)
- iii. Synthesis and significance of biological substances; 5-HT, melatonin, dopamine, noradrenaline, adrenaline
- iv. Catabolism of heme; hyperbilirubinemia

**UNIT-IV**

**Nucleic acid metabolism and genetic information transfer**

- i. Biosynthesis of purine and pyrimidine nucleotides.
- ii. Catabolism of purine nucleotides and hyperuricemia and gout disease.
- iii. Organization of mammalian genome.
- iv. Structure of DNA and RNA and their functions.
- v. DNA replication (semi conservative model)
- vi. Transcription or RNA synthesis.
- vii. Genetic code, Translation or Protein synthesis and inhibitors.

**10 hours**

**UNIT-V**

**Enzymes**

- i. Introduction, properties, nomenclature and IUB classification of enzymes.
- ii. Enzyme kinetics (Michaelis plot, Line Weaver Burke plot).
- iii. Enzyme inhibitors with examples.
- iv. Regulation of enzymes: enzyme induction and repression, allosteric enzyme-regulation.
- v. Therapeutic and diagnostic applications of enzymes and isoenzymes.
- vi. Coenzymes—Structure and biochemical functions; Co-factors.

**07 hours**



*(Signature)*  
Principal  
Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar



### BP 209 P. BIOCHEMISTRY (Practical)

4 Hours / week

- |  |         |
|--|---------|
| 1. Qualitative analysis of carbohydrates (Glucose, Fructose, Lactose, Maltose, Sucrose and Starch) | 3 turns |
| 2. Identification tests for amino acids (any one aromatic and one aliphatic)                       | 1 turn  |
| 3. Identification tests for proteins (albumin and casein)  | 1 turn  |
| 4. Qualitative analysis of urine for abnormal constituents ( at least four abnormal constituents)  | 2 turns |
| 5. Determination of blood creatinine   | 1 turn  |
| 6. Determination of blood sugar by Folin-Wu method/Glucose-oxidase method                          | 1 turn  |
| 7. Determination of serum total cholesterol.   | 1 turn  |
| 8. Preparation of buffer solution and measurement of pH (any two).                                 | 1 turn  |
| 9. Quantitative analysis of reducing sugars (DNSA method) and Proteins (Biuret method).            | 1 turn  |
| 10. Determination of salivary amylase activity.  | 1 turn  |
| 11. Study the effect of temperature on salivary amylase activity.                                  | 1 turn  |
| 12. Study the effect of substrate concentration on salivary amylase activity.                      | 1 turn  |

#### Recommended Books

1. David Nelson and Cox M. M., Lehninger's Principles of Biochemistry, 4/Ed., Palgrave Macmillan.
2. Robert K. Murry, Daryl K., Granner and Victor W. Rodwell, Harper's Biochemistry, 27/Ed, McGraw Hill.
3. Lubert Stryer, W.H., Freeman & Company, Biochemistry, New York
4. U. Satyanarayana & U. Chakrapani, Biochemistry, 3/Ed., Books & Allied (P) Ltd.
5. Rao, A. V. S. S. Rama Rao, Textbook of Biochemistry, first edition, UBS Publishers' Distributors Pvt. Ltd.
6. Deb, A. C. Viva & Practical Biochemistry, 3/Ed., New Central Book Agency (P) Ltd.
7. Conn Eric. E. and Stumpf, Paul K. et al., Outlines of Biochemistry, Wiley student edition.
8. Gupta R. C. and Bhargavan, S. Practical Biochemistry, 5/Ed, CBS publishers and distributors.
9. David T. Plummer, Introduction of Practical Biochemistry. 3/Ed, Tata McGraw-Hill Education Pvt. Ltd.
10. Rajagopal and Ramakrishna, Practical Biochemistry for Medical students, Orient BlackSwan (1983)
11. Harold Varley, Varley's Practical Clinical Biochemistry, 6/Ed., CBS Publishers, New Delhi.
12. David T. Plummer, Introduction to Practical Biochemistry, III (ed.), McGraw-Hill Publishing Co., New York, 1987.
13. Alan H. Gowenlock, Varley's Practical Clinical Biochemistry, VI (ed.), Butterworth-Heinemann Ltd., UK & CBS Publication, New Delhi, 2002.



*V.V.P.F.*  
Principal

Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

**Scope:** This course will prepare the young pharmacy student to interact effectively with doctors, nurses, dentists, physiotherapists and other health workers. At the end of this course the student will get the soft skills set to work cohesively with the team as a team player and will add value to the pharmaceutical business.

**Objectives:**

**Upon completion of the course the student shall be able to**

1. Understand the behavioral needs for a Pharmacist to function effectively in the areas of pharmaceutical operation
2. Communicate effectively (Verbal and Non Verbal)
3. Effectively manage the team as a team player
4. Develop interview skills
5. Develop Leadership qualities and essentials

**COURSE CONTENT**

**UNIT – I**

• **Communication Skills:** Introduction, Definition, The Importance of Communication,

The Communication Process – Source, Message, Encoding, Channel, Decoding, Receiver, Feedback, Context

• **Barriers to communication:** Physiological Barriers, Physical Barriers, Cultural Barriers, Language Barriers, Gender Barriers, Interpersonal Barriers, Psychological Barriers, Emotional barriers

**07 Hours**

• **Perspectives in Communication:** Introduction, Visual Perception, Language, Other factors affecting our perspective - Past Experiences, Prejudices, Feelings, Environment

**UNIT – II**

• **Elements of Communication:** Introduction, Face to Face Communication - Tone of Voice, Body Language (Non-verbal communication), Verbal Communication, Physical Communication

**07 Hours**

• **Communication Styles:** Introduction, The Communication Styles Matrix with example for each - Direct Communication Style, Spirited Communication Style, Systematic e) Communication Style, Considerate Communication Style

**UNIT – III**

• **Basic Listening Skills:** Introduction, Self-Awareness, Active Listening, Becoming an Active Listener, Listening in Difficult Situations

**07 Hours**

• **Effective Written Communication:** Introduction, When and When Not to Use



*[Signature]*  
**Principal**  
Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

Written

Communication - Complexity of the Topic, Amount of Discussion' Required,  
Shades of  
Meaning, Formal Communication

• **Writing Effectively:** Subject Lines, Put the Main Point First, Know Your  
Audience,

d) Organization of the Message

**UNIT – IV**

• **Interview Skills:** Purpose of an interview, Do's and Dont's of an interview

• **Giving Presentations:** Dealing with Fears, Planning your Presentation,  
Structuring Your

**05 Hours**

iv. Presentation, Delivering Your Presentation, Techniques of Delivery

**UNIT – V**

• **Group Discussion:** Introduction, Communication skills in group discussion,  
Do's and

**04 Hours**

e) Dont's of group discussion.



*V.V.P.*  
**Principal**  
Dr. V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

**BP111P.COMMUNICATION SKILLS (Practical)**  
**2 Hours / week**

The following learning modules are to be conducted using wordsworth® English language lab software

**Basic communication covering the following topics**

Meeting People  
Asking Questions  
Making Friends  
What did you do?  
Do's and Dont's

**Pronunciations covering the following topics**

Pronunciation (Consonant Sounds)  
Pronunciation and Nouns  
Pronunciation (Vowel Sounds)

**Advanced Learning**

Listening Comprehension / Direct and Indirect Speech  
Figures of Speech  
Effective Communication  
Writing Skills  
Effective Writing  
Interview Handling Skills  
E-Mail etiquette  
Presentation Skills



*Gawar*  
**Principal**  
Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

**Recommended Books: (Latest Edition)**

1. Basic communication skills for Technology, Andreja. J. Ruther Ford, 2<sup>nd</sup> Edition, Pearson Education, 2011
2. Communication skills, Sanjay Kumar, Pushpalata, 1<sup>st</sup> Edition, Oxford Press, 2011
3. Organizational Behaviour, Stephen .P. Robbins, 1<sup>st</sup> Edition, Pearson, 2013
4. Brilliant- Communication skills, Gill Hasson, 1<sup>st</sup> Edition, Pearson Life, 2011
5. The Ace of Soft Skills: Attitude, Communication and Etiquette for success, Gopala Swamy Ramesh, 5<sup>th</sup> Edition, Pearson, 2013
6. Developing your influencing skills, Deborah Dalley, Lois Burton, Margaret, Green hall, 1<sup>st</sup> Edition Universe of Learning LTD, 2010
7. Communication skills for professionals, Konar nira, 2<sup>nd</sup> Edition, New arrivals –PHI, 2011
8. Personality development and soft skills, Barun K Mitra, 1<sup>st</sup> Edition, Oxford Press, 2011
9. Soft skill for everyone, Butter Field, 1<sup>st</sup> Edition, Cengage Learning india pvt.ltd, 2011
10. Soft skills and professional communication, Francis Peters SJ, 1<sup>st</sup> Edition, Mc Graw Hill Education, 2011
11. Effective communication, John Adair, 4<sup>th</sup> Edition, Pan Mac Millan, 2009
12. Bringing out the best in people, Aubrey Daniels, 2<sup>nd</sup> Edition, Mc Graw Hill, 1999



A handwritten signature in blue ink, appearing to read "A. V. Patil".

**Principal**

Dr. V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

# Semester-I

**Scope:** This subject is designed to impart fundamental knowledge on the structure and functions of the various systems of the human body. It also helps in understanding both homeostatic mechanisms. The subject provides the basic knowledge required to understand the various disciplines of pharmacy.

**Objectives:** Upon completion of this course the student should be able to

1. Explain the gross morphology, structure and functions of various organs of the human body.
2. Describe the various homeostatic mechanisms and their imbalances.
3. Identify the various tissues and organs of different systems of human body.
4. Perform the various experiments related to special senses and nervous system.
5. Appreciate coordinated working pattern of different organs of each system

**Course Content:****Unit-I****10 hours****a) Introduction to human body**

3 hours

Definition and scope of anatomy and physiology, levels of structural organization and body systems, basic life processes, homeostasis, basic anatomical terminology.

**b) Cellular level of organization**

3 hours

Structure and functions of cell, transport across cell membrane, cell division, cell junctions. General principles of cell communication, intracellular signalling pathway activation by extracellular signal

molecule, Forms of intracellular signalling: a) Contact-dependent b) Paracrine c) Synaptic d) Endocrine

**c) Tissue level of organization**

4 hours

Classification of tissues, structure, location and functions of epithelial,



*[Signature]*  
**Principal**

muscular and nervous and connective tissues.

<b>Unit -II</b>	<b>10 hours</b>
<b>a) Integumentary system</b> Structure and functions of skin	4 hours
<b>b) Skeletal system</b> Divisions of skeletal system, types of bone, salient features and functions of bones of axial and appendicular skeletal system Organization of skeletal muscle, physiology of muscle contraction, neuromuscular junction.	4 hours
<b>c) Joints</b> Structural and functional classification, types of joints movements and its articulation	2 hours
<b>Unit-III</b>	<b>10 hours</b>
<b>a) Body fluids and blood</b> Body fluids, composition and functions of blood, blood cells, hemopoiesis, formation of hemoglobin, anaemia, mechanisms of coagulation, blood grouping, Rh factors, transfusion, its significance and disorders of blood, Reticulo endothelial system.	7 hours
<b>b) Lymphatic system</b> Lymphatic organs and tissues, lymphatic vessels, lymph circulation and functions of lymphatic system.	3hours
<b>Unit-IV</b>	<b>08 hours</b>
<b>a) Peripheral nervous system:</b> Classification of peripheral nervous system: Structure and functions of sympathetic and parasympathetic nervous system. Origin and functions of spinal and cranial nerves.	3 Hours
<b>b) Special senses</b> Structure and functions of eye, ear, nose, tongue, and their disorders.	5 Hours
<b>Unit-V</b>	<b>07 hours</b>
<b>Cardiovascular system</b> Heart – anatomy of heart, blood circulation, blood vessels, structure and functions of artery, vein and capillaries, elements of conduction system of heart and heart beat, its regulation by autonomic nervous system, cardiac output, cardiac cycle. Regulation of blood pressure, pulse, electrocardiogram and disorders of heart.	



*[Signature]*  
**Principal**



### Recommended Books:

1. Chatterjee, C.C., Human Physiology. Medical Allied Agency, Kolkata.
2. Ganong, W.F., Review of Medical Physiology. Prentice-Hall International, London.
3. Guyton, A.C., Textbook of Medical Physiology. W. B. Saunders Co., Philadelphia, USA.
4. Tortora, G.J. and Grabowski, S.R., 2005. Principals of Anatomy and Physiology. Harper Collins College Publishers, New York.
5. Vander, A.J., Sherman, J.H. and Luciano, D.S., Human Physiology. McGraw-Hill Publishing Co., USA.
6. Waugh, A. and Grant, A., Ross and Wilson's Anatomy and Physiology in Health and Illness. Churchill-Livingstone, London.
7. West, J.B., Best and Taylor's Physiological Basis of Medical Practice. Williams and Wilkins, Baltimore, USA.
8. Warwick, R. and Williams, P., Gray's Anatomy. Longman, London.
9. Chaudhari S K. Concise Medical Physiology. New Central Book Agency (P) Ltd., Calcutta.
10. Godkar P.B and Godkar D.P., Textbook of Medical Laboratory Technology. Bhalani Publishing House, Mumbai.
11. Joshi V.D. Practical Physiology. Vora Medical Publications, Mumbai.
12. DiFiore-Mariano S.H., Atlas of Human Histology. Lea and Febiger, Philadelphia.
13. Garg K., Bahel I. and Kaul M., A Textbook of Histology. CBS Publishers and Distributors, New Delhi.
14. Goyal, R.K., Patel, N.M. and Shah, S.A., Practical Anatomy, Physiology and Biochemistry. B. S. Shah Prakashan, Ahmedabad.
15. Ranade, V.G., Joshi, P.N. and Pradhan, S., Textbook of Practical Physiology. Pune Vidyarthi Griha Prakashan, Pune.
16. Singh, I., BD., Chaurasia's Human Anatomy. CBS Publisher and Distributors, New Delhi.
17. Singh, I., Textbook of Human Histology. Jaypee brothers Medical Publishers, New Delhi.
18. Mukherjee, K.L., Medical Laboratory Technology. Tata McGraw Hill Publishing Company Ltd. New Delhi.
19. Beck, W.S., Human Design: Molecular, Cellular and Systemic Physiology. Harcourt Brace Jovanovich Inc. New York.
20. Essentials of Medical Physiology by K. Sembulingam and P. Sembulingam. Jaypee Brothers medical publishers, New Delhi.
21. Anatomy and Physiology in Health and Illness by Kathleen J.W. Wilson, Churchill Livingstone, New York
22. Physiological basis of Medical Practice-Best and Tailor. Williams & Wilkins Co, Riverview, MI USA
23. Textbook of Human Histology by Inderbir Singh, Jaypee brother's medical publishers, New Delhi.
24. Textbook of Practical Physiology by C.L. Ghai, Jaypee brother's medical publishers, New Delhi.



*V.V.P.F.*  
Principal

Dr. V.V.P.F.'s College of Pharmacy  
Vilad Ghat, Ahmednagar

## BP107P. HUMAN ANATOMY AND PHYSIOLOGY (Practical)

4 Hours/week

Practical physiology is complimentary to the theoretical discussions in physiology. Practicals allow the verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings. This is helpful for developing an insight on the subject.

1. Study of compound microscope.
2. Microscopic study of epithelial and connective tissue
3. Microscopic study of muscular and nervous tissue
4. Identification of axial bones
5. Identification of appendicular bones
6. Introduction to haemocytometer.
7. Enumeration of white blood cell (WBC) count
8. Enumeration of total red blood corpuscles (RBC) count
9. Determination of bleeding time
10. Determination of clotting time
11. Estimation of haemoglobin content
12. Determination of blood group.
13. Determination of erythrocyte sedimentation rate (ESR).
14. Determination of heart rate and pulse rate.
15. Recording of blood pressure.
16. Visit to Blood bank.

### Recommended Books:

1. Godkar P.B and Godkar D.P., Textbook of Medical Laboratory Technology. Bhalani Publishing House, Mumbai.
2. Joshi V.D. Practical Physiology. Vora Medical Publications, Mumbai.
3. DiFiore-Mariano S.H., Atlas of Human Histology. Lea and Febiger, Philadelphia.



*[Signature]*  
Principal  
Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

4. Mukherjee, K.L., Medical Laboratory Technology. Tata McGraw Hill Publishing Company Ltd. New Delhi.
5. Beck, W.S., Human Desigh: Molecular, Cellular and Systemic Physiology. Harcourt Brace Jovanovich Inc. New York.
6. Chatterjee, C.C., Human Physiology. Medical Allied Agency, Kolkata.
7. Ganong, W.F., Review of Medical Physiology. Prentice-Hall International, London.
8. Guyton, A.C., Textbook of Medical Physiology. W. B. Saunders Co., Philadelphia, USA.
9. Tortora, G.J. and Grabowski, S.R., 2005.
10. Principals of Anatomy and Physiology. Harper Collins College Publishers, New York.
11. Vander, A.J., Sherman, J.H. and Luciano, D.S., Human Physiology. McGraw-Hill Publishing Co., USA.
12. Garg K., Bahel I. and Kaul M., A Textbook of Histology. CBS Publishers and Distributors, New Delhi.
13. Practical workbook of Human Physiology by K. Srinageswari and Rajeev Sharma, Jaypee Brother's medical publishers, New Delhi.



A handwritten signature in blue ink, appearing to read "Gawar".

**Principal**

Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

BP 201T. HUMAN ANATOMY AND PHYSIOLOGY-II (Theory) **45 Hours**

**Scope:** This subject is designed to impart fundamental knowledge on the structure and functions of the various systems of the human body. It also helps in understanding both homeostatic mechanisms. The subject provides the basic knowledge required to understand the various disciplines of pharmacy.

**Objectives:** Upon completion of this course the student should be able to:

1. Explain the gross morphology, structure and functions of various organs of the human body.
2. Describe the various homeostatic mechanisms and their imbalances.
3. Identify the various tissues and organs of different systems of human body.
4. Perform the hematological tests like blood cell counts, haemoglobin estimation, bleeding/clotting time etc. and also record blood pressure, heart rate, pulse and respiratory volume.
5. Appreciate coordinated working pattern of different organs of each system
6. Appreciate the interlinked mechanisms in the maintenance of normal functioning (homeostasis) of human body.

**Course Content:**

**Unit-I Nervous system 10 hours**

Organization of nervous system, neuron, neuroglia, classification and properties of nerve fiber, electrophysiology, action potential, nerve impulse, receptors, synapse, neurotransmitters.

Central nervous system: Meninges, ventricles of brain and cerebrospinal fluid. structure and functions of brain (cerebrum, brain stem, cerebellum), spinal cord (gross structure, functions of afferent and efferent nerve tracts, reflex activity)

**Unit -II Digestive system 08hours**

Anatomy of GI Tract with special reference to anatomy and functions of stomach, ( Acid production in the stomach, regulation of acid production through parasympathetic nervous system, pepsin role in protein digestion) small intestine and large intestine, anatomy and functions of salivary glands, pancreas and liver, movements of GIT, digestion and absorption of nutrients and disorders of GIT.

**Energetics:** Formation and role of ATP, Creatinine Phosphate and BMR.

**Unit-III 10 hours**

**Respiratory system 6 hours**

Anatomy of respiratory system with special reference to anatomy of lungs, mechanism of respiration, regulation of respiration Lung Volumes



and capacities transport of respiratory gases, artificial respiration, and resuscitation methods.

**Urinary system**

**4 hours**

Anatomy of urinary tract with special reference to anatomy of kidney and nephrons, functions of kidney and urinary tract, physiology of urine formation, micturition reflex and role of kidneys in acid base balance, role of RAS in kidney and disorders of kidney.

**Unit-IV**

**08 hours**

**Endocrine system**

Classification of hormones, mechanism of hormone action, structure and functions of pituitary gland, thyroid gland, parathyroid gland, adrenal gland, pancreas, pineal gland, thymus and their disorders.

**Unit-V**

**09 hours**

**Reproductive system**

**07 Hours**

Anatomy of male and female reproductive system, Functions of male and female reproductive system, sex hormones, physiology of menstruation, fertilization, spermatogenesis, oogenesis, pregnancy and parturition

**Introduction to genetics**

**02 hours**

Chromosomes, genes and DNA, protein synthesis, genetic pattern of inheritance

**Recommended Books**

1. Essentials of Medical Physiology by K. Sembulingam and P. Sembulingam. Jaypee brothers medical publishers, New Delhi.
2. Anatomy and Physiology in Health and Illness by Kathleen J.W. Wilson, Churchill Livingstone, New York
3. Physiological basis of Medical Practice-Best and Tailor. Williams & Wilkins Co, Riverview,MI USA
4. Text book of Medical Physiology- Arthur C, Guyton and John.E. Hall. Miamisburg, OH, U.S.A.
5. Principles of Anatomy and Physiology by Tortora Grabowski. Palmetto, GA, U.S.A.
6. Textbook of Human Histology by Inderbir Singh, Jaypee brothers medical publishers, New Delhi.
7. Textbook of Practical Physiology by C.L. Ghai, Jaypee brothers medical publishers, New Delhi.
8. Practical workbook of Human Physiology by K. Srinageswari and Rajeev Sharma, Jaypee brother's medical publishers, New Delhi.



*[Handwritten Signature]*  
**Principal**

**Dr.V.V.P.F's College of Pharmacy**  
Vilad Ghat, Ahmednagar

9. Physiological basis of Medical Practice-Best and Tailor. Williams & Wilkins Co, Riverview, MI USA
10. Text book of Medical Physiology- Arthur C, Guyton and John. E. Hall. Miamisburg, OH, U.S.A.
11. Human Physiology (vol 1 and 2) by Dr. C.C. Chatterrje ,Academic Publishers Kolkata

### **BP 207 P. HUMAN ANATOMY AND PHYSIOLOGY (Practical)**

**4 Hours/week**

Practical physiology is complimentary to the theoretical discussions in physiology. Practicals allow the verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings. This is helpful for developing an insight on the subject.

1. To study the integumentary and special senses using specimen, models, etc.,
2. To determine the Platelet count.
3. To perform the differential leukocyte count (DLC).
4. To determine the Arneht index.
5. Determination of osmotic fragility of RBCs.
6. To study the nervous system using specimen, models, etc.,
7. To study the endocrine system using specimen, models, etc
8. To demonstrate the general neurological examination
9. To demonstrate the function of olfactory nerve
10. To examine the different types of taste.
11. To demonstrate the visual acuity
12. To demonstrate the reflex activity
13. Recording of body temperature
14. To demonstrate positive and negative feedback mechanism.
15. Determination of tidal volume and vital capacity.
16. Study of Digestive, respiratory, cardiovascular systems, urinary and reproductive systems with the help of models, charts and specimens.
17. Recording of basal mass index.
18. Study of familyplanning devices and pregnancy diagnosis test.




*[Signature]*  
**Principal**  
Dr. V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar

19. Demonstration of total blood count by cell analyzer.
20. Permanent slides of vital organs and gonads.
21. Visit to Hospital/ Pathology Laboratory.

**Recommended Books:**

1. Godkar P.B and Godkar D.P., Textbook of Medical Laboratory Technology. Bhalani Publishing House, Mumbai.
2. Joshi V.D. Practical Physiology. Vora Medical Publications, Mumbai.
3. DiFiore-Mariano S.H., Atlas of Human Histology. Lea and Febiger, Philadelphia.
4. Mukherjee, K.L., Medical Laboratory Technology. Tata McGraw Hill Publishing Company Ltd. New Delhi.
5. Beck, W.S., Human Desigh: Molecular, Cellular and Systemic Physiology. Harcourt Brace Jovanovich Inc. New York.
6. Chatterjee, C.C., Human Physiology. Medical Allied Agency, Kolkata.
7. Ganong, W.F., Review of Medical Physiology. Prentice-Hall International, London.
8. Guyton, A.C., Textbook of Medical Physiology. W. B. Saunders Co., Philadelphia, USA.
9. Tortora, G.J. and Grabowski, S.R., 2005.
10. Principals of Anatomy and Physiology. Harper Collins College Publishers, New York.
11. Vander, A.J., Sherman, J.H. and Luciano, D.S., Human Physiology. McGraw-Hill Publishing Co., USA.
12. Garg K., Bahel I. and Kaul M., A Textbook of Histology. CBS Publishers and Distributors, New Delhi.
13. Practical workbook of Human Physiology by K. Srinageswari and Rajeev Sharma, Jaypee Brother's medical publishers, New Delhi.



  
**Principal**  
Dr.V.V.P.F's College of Pharmacy  
Vilad Ghat, Ahmednagar