



GRY INSTITUTE OF PHARMACY

BORAWAN, KHARGONE

(Approved by AICTE & PCI; Affiliated to RGPV; Recognized by Govt. of M.P.)

Visit us at: <http://www.gryip.com>, E-mail: principalgry@gmail.com, Contact: +91 8889605044

1.1.1: The Institution ensures effective curriculum delivery through a well planned and documented process:

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ACADEMIC CALENDAR YEAR 2021-2022

FOR DEGREE PROGRAMMES: B. Pharma

Odd Semester Schedule

S.No	Events	Odd Semester Schedule
1.	Duration of Semester	July-December 2021
2.	Commencement of Academic Session for III, V, VII sem B.Pharm	02 August 2021
3.	Independent Day celebration	15 August 2021
4.	Teacher's day celebration	05 September 2021
5.	NSS activity	21-25 September 2021
6.	Pharmacist day Celebration	25 September 2021
7.	Gandhi Jayanti Celebration	01 October 2021
8.	Commencement of Academic Session for I B.Pharm	04 October 2021
9.	Induction program for Ist Year	04-08 October 2021
10.	First sessional exam for III, V, VII sem	11-23 October 2021
11.	Dussehra Holiday	14-20 October 2021
12.	National Unity Day celebration	30 October 2021
13.	Diwali Vacation	02-07 November 2021
14.	Seminar on AIDS/HIV	12 November 2021
15.	Health (T.B.) Awareness Program	13 November 2021
16.	Second sessional exam for V, VII sem	25 November-01 December 2021
17.	Internal practical exam for V, VII sem	25 November-01 December 2021
18.	Control and prevention on AIDS program	01 December 2021
19.	Second sessional and internal practical III sem	21-30 December 2021
20.	Pharmacy Week-2021 Celebration	25-27 November 2021
21.	University theory exam for VII sem	31 December 2021-15 January 2022
22.	First sessional exam for I sem	03-08 January 2022
23.	University theory exam for V sem	04-24 January 2022
24.	University practical exam for V & VII sem	25-31 January 2022
25.	II Sessional Exam for I sem	07-11 February 2022
26.	End Semester Examination (i) Practical Examination (ii) Theory	22 – 26 February 2022 28 Feb. – 11 Mar. 2022
27.	Add on certificate program/Semester Break / Internship	Semester Break



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ACADEMIC CALENDAR YEAR 2020-2021

FOR DEGREE PROGRAMMES: B. Pharma


Even Semester Schedule

S.No.	Events	Even Semester Schedule
1.	Duration of Semester	January -June 2021
2.	Commencement of Academic for for all B. pharm students	15 March 202
3.	Republic day celebration	26 January 2021
4.	Industrial Tour for VI sem Students	Due to covid19 cancelled the event
5.	First Sessional exam for VI, VIII sem	22-31 March 2021
6.	Annual function Srijan-2020	Due to covid19 cancelled the event
7.	First Sessional exam for II, IV sem	26-30 April 2021
8.	Internal Practical exam for IV sem	20-23 May 2021
9.	Second Sessional exam for IV sem	24-28 May 2021
10.	International Women's Day	08 May 2020
11.	World Malaria Day	25 May 2020
12.	World Environment Day	05 June 2021
13.	International YOGA Day	21 June 2021
14.	Online External practical exam for VII, VIII sem	01-03 July 2021
15.	Second sessional exam and Internal practical exam for II sem	06-12 July 2021
16.	External practical exam for II sem	03-07 August 2021
17.	University theory exam for VIII sem	26-30 June 2021
18.	External practical exam for VIII sem	01-07 July 2021
19.	University theory exam for IV, VI sem	03-15 July 2021
20.	External practical exam for IV, VI sem	16-22 July 2021
21.	University theory exam for II sem	22-30 July 2021
22.	External practical exam for II sem	03-07 August 2021
23.	Add on certificate program	Semester break

Due to Covid-19, Regular classes conducted online mode through Zoom app as per time table




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25/05/2021



RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA
(University of Technology of Madhya Pradesh)
ACADEMIC CALENDAR FOR THE YEAR 2021-2022
FOR DEGREE PROGRAMMES B. Tech./B.Pharm/B.Arch. & FOR POST GRADUATE
PROGRAMMES ME/M.Tech./M.Pharma/MCA (Except 1st year)

S.No.	Particular	Odd Semester Schedule	Even Semester Schedule
01.	Duration of Semester	July-December 2021	January-June 2022
02.	Commencement of Academic	02 nd August 2021	10 th January 2022
03.	I Sessional Exam/Mid/Sem.	08 - 13 October 2021	11 - 16 February 2022
04.	II Sessional Exam/Mid/Sem.	08 - 13 November 2021	23 - 28 March 2022
05.	Dussehra Holiday	14 - 20 October 2021	----
06.	Submission of Examination Form		
	i. Without late fee ii. With Late Fee	10 - 19 November 2021 20 - 23 November 2021	11 - 19 April 2022 20 - 23 April 2022
07.	Diwali Vacation	02 - 07 November 2021	----
08.	Last date of Teaching	30 th November 2021	30 th April 2022
09.	Submission of internal marks to University	24 November - 01 December 2021	25 April - 02 May 2022
10.	End Semester Examination		
	(i) Practical Examination (ii) Theory	02 - 08 December 2021 09 - 31 December 2021	03 - 10 May 2022 11 - 31 May 2022
11.	End Semester Break/ Internship	-----	01 - 30 June 2022
12.	Winter*/Summer Vacation for teachers	25 - 31 December 2021	01 - 30 June 2022
13.	Declaration of result of final Semester	15 th January 2022	20 th June 2022
14.	Declaration of result of remaining Semesters	31 st January 2022	10 th July 2022

Note:

- During Mid Semester Examination, classes in the remaining periods will be conducted as per schedule.
- Depending upon monthly progress of syllabus extra classes would be organized by department during official holidays.
- III sessional examination is optional. Students intending to appear in the III Sessional exam will contact their respective HODs for the examination.
- * Winter vacation applicable for students only.



(Signature)
Controller (Exam)
Rajiv Gandhi Proudyogiki
Vishwavidyalaya, Bhopal

(Signature)
Principal,
GRY Institute Of Pharmacy
BORAWAN (KHARGONE) 451 222

Class Teacher: Mr. Nitin Deshmukh

Time Table B. Pharmacy I Semester

w.e.f. 01/10/2021

Time → Day ↓	09:30-10:30	10:30-11:30	11:30-12:30	12:30- 01:00	01:00-01:45	01:45-02:30	02:30-03:15
Mon.	BP-105T [RP]	BP-101T [VS]	BP-106RMT [RS]/BP-106RBT [RHS]	L U N C H	BP-108P Batch-A [ND]-[DK] BP-109P Batch-B [PP]-[AD] / BP-110P Batch-C [RHS]-[JP]		
Tues	BP-103T [HY]	BP-104T [RHS]	BP-101T [VS]		BP-109P Batch-A [PP]-[AD]/ BP-107P Batch-B [VS]-[AP]/ BP-108P Batch-C [ND]-[DK]		
Wed	BP-104T [RHS]	BP-102T [ND]	BP-106RMT [RS]/BP-106RBT [RHS]		BP-110P Batch-A [RHS]-[JP] / BP-108P Batch-B [ND]-[DK] / BP-107P Batch-C [VS]-[AP]		
Thu	BP-102T [ND]	BP-103T [HY]	BP-105T [RP]		BP-107 P Batch-A [VS]-[AP] / BP-110P Batch-B [RHS]-[JP] / BP-109P Batch-C [PP]-[AD]		
Fri	BP-104T [RHS] (T)	BP-102T [ND] (T)	BP-101T [VS] (T)		BP-103T [HY] (T)	BP-112RBP [RHS] Practical	
Sat	BP-103T [HY]	BP-104T [RHS]	BP-101T [VS]		BP-102T [ND]	BP-106RMT [RS]/BP-106RBT [RHS]	BP-111P [RP]

BP-101T/BP107P = Human Anatomy Physiology-I BP-102T /BP-108P = Pharmaceutical Analysis-I
 BP-103T/ BP-109P = Pharmaceutics-I BP-104T / BP-110P = Pharmaceutical Inorganic Chemistry
 BP-105T/BP-111P = Communication skills BP-106RBT/BP-106RMT = Remedial Biology/ Mathematics
 BP-112RBP = Remedial Biology Practical

VS = Mr. Vijay Salvekar ND = Mr. Nitin Deshmukh RS = Mr. Ramiz Dheikh RP= Ms. Reshma Padmakumar
 HY=Mr. Hemant Yadav RHS= Ms.= Rajni Shah DK= Ms. Deepa Kushwah PP= Mr. Pankaj Patel
 AD=Ms. Archana Dangi AP= Mr. Ashish Patidar JP = Mr. Jitendra Punasiya

Class Teacher: Mr. Aman Kansare

Time Table B. Pharmacy III Semester

w.e.f. 16/08/2021

Time → Day ↓	09:30-10:30	10:30-11:30	11:30-12:30	12:30- 01:00	01:00-01:45	01:45-02:30	02:30-03:15
Mon.	BP-308P Batch-A[AK]-[RY]/ BP-307P Batch-B[RPY]-[HY]/ BP-305P Batch-C[NM]-[PP]			L U N C H	BP-304T [RPY]	BP-303T [AK]	Eng Class [RP]
Tues	BP-306P Batch-A [KP]-[JB]/ BP-308P Batch-B[AK]-[RY]/ BP-307P Batch-C [RPY]-[HY]				BP-304T [RPY]	Eng Class [RP]	BP-301T [NM]
Wed	BP-305P Batch-A [NM]-[PP]/ Batch-B[Library]/ BP-308P Batch-C[AK]-[RY]				Eng Class [RP]	BP-303T [AK]	BP-302T [KP]
Thu	BP-304T [RPY] (T)	BP-302T [KP] (T)	BP-303T [AK] (T)		BP-301T [NM] (T)	Library	Sports
Fri	BP-302T [KP]	BP-301T [NM]	BP-303T [AK]		Batch-A[Library]/ BP-305 Batch-B[NM]-[PP]/ BP-306P Batch-C [KP]-[JB]		
Sat	BP-304T [RPY]	BP-301T [NM]	BP-302T [KP]		BP-307P Batch-A [RPY]-[HY]/ BP-306P Batch-B [KP]-[JB]/ Batch-C [Library]		

BP-301T = Pharmaceutical Organic Chemistry II – Theory
 BP-303T = Pharmaceutical Microbiology –Theory
 BP-305P = Pharmaceutical Organic Chemistry
 BP-307P = Pharmaceutical Microbiology-Practical

BP-302T = Physical Pharmaceutics I-Theory
 BP-304T = Pharmaceutical Engineering-Theory
 BP-306P = Physical Pharmaceutics I- Practical
 BP-308P = Pharmaceutical Engineering-Practical

RPY = Dr. Rakesh Punasiya
 AK= Mr. Aman Kansare
 JB= Mr. Jitendra Birla

NM = Mr. Nilesh Mandloi
 RP= Ms. Reshma Padmakumar
 HY= Mr. Hemant Yadav

PP = Mr. Pankaj Patel
 KP=Mr. Koushal Patel
 RY=Mr. Ravindra Yadav

Academic In-charge
 Dr. Rakesh Punasiya



Principal
 Dr. Sujit Pillai

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Class Teacher: Dr. Rakesh Punasiya

Time Table M. Pharmacy I Semester Branch: Pharmaceutics

w.e.f. 01/10/2021

Time → Day ↓	09:30-10:30	10:30-11:30	11:30-12:30	12:30-01:00	01:00-01:45	01:45-02:30	02:30-03:15
Mon.	MPH-103T [KP]	Library	MPH-104T [JB]	L	MPH-105P Practical [BP]		
Tues	Library	Library	Library	U	MPH-105P Practical [KP]		
Wed	MPH-101T [BP]	Library	MPH-104T [JB]	N	MPH-105P Practical [BP]		
Thu	MPH-102T [RPY]	Library	MPH-104T [JB]	C	MPH-105P Practical [KP]		
Fri	MPH-102T [RPY]	MPH-101T [BP]	MPH-103T [KP]	H	MPH-105P Practical [AP]		
Sat	MPH-103T [KP]	MPH-101T [BP]	MPH-102T [RPY]		MPH-105P Practical [AP]		

MPH 101T=MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

MPH 102T=DRUG DELIVERY SYSTEMS

MPH 103T=MODERN PHARMACEUTICS

MPH 104T=REGULATORY AFFAIRS

MPH 105P=PHARMACEUTICS PRACTICALS - I

KP=Mr. Koushal Patel

RPY=Dr. Rakesh Puansiya

BP=Mr. Bhoopendra patidar

JB= Mr. Jitendra Birla

AP=Mr. Ashish Patidar

Class Teacher: Dr. Rakesh Punasiya

Time Table M. Pharmacy I Semester Branch: Pharmaceutical Chemistry w.e.f. 01/10/2021

Time → Day ↓	09:30-10:30	10:30-11:30	11:30-12:30	12:30-01:00	01:00-01:45	01:45-02:30	02:30-03:15
Mon.	MPC-102T [ND]	MPC-101T [SP]	Library	L	MPC-105P Practical [SP]		
Tues	MPC-102T [ND]	MPC-103T [NM]	Library	U	MPC-105P Practical [RHS]		
Wed	MPC-101T [SP]	MPC-103T [MP]	Library	N	MPC-105P Practical [SP]		
Thu	MPC-104T [AK]	MPC-103T [NM]	Library	C	MPC-105P Practical [ND]		
Fri	MPC-104T [AK]	MPC-102T [RHS]	Library	H	MPC-105P Practical [RHS]		
Sat	MPC-104T [NSB]	MPC-101T [SP]	Library		MPC-105P Practical [NM]		

MPC 101T=MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

MPC 102T=ADVANCED ORGANIC CHEMISTRY - I

MPC 103T=ADVANCED MEDICINAL CHEMISTRY

MPC 104T=CHEMISTRY OF NATURAL PRODUCTS

MPC 105P=PHARMACEUTICAL CHEMISTRY PRACTICAL - I

ND=Mr. Nitin Deshmukh

SP=Dr. Sujit Pillai

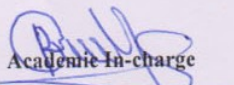
NM=Mr. Nilesh Mandloi

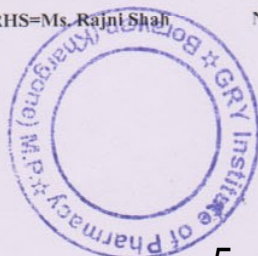
MP=Ms. Mohini Patidar

AK=Mr. Aman Kansare

RHS=Ms. Rajni Shah

NSB=Mr. Narendra Singh Badore


Academic In-charge
Dr. Rakesh Punasiya




Principal

Dr. Sujit Pillai
Principal
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Tables-X: Schemes for internal assessments and end semester examinations semester wise

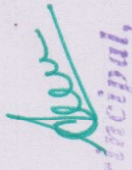
Semester I

Course code	Name of the course	Internal Assessment			End Semester Exams		Total Marks
		Continuous Mode	Sessional Marks	Duration	Marks	Duration	
BP101T	Human Anatomy and Physiology I – Theory	10	15	1 Hr	75	3 Hrs	100
BP102T	Pharmaceutical Analysis I – Theory	10	15	1 Hr	75	3 Hrs	100
BP103T	Pharmaceutics I – Theory	10	15	1 Hr	75	3 Hrs	100
BP104T	Pharmaceutical Inorganic Chemistry – Theory	10	15	1 Hr	75	3 Hrs	100
BP105T	Communication skills – Theory*	5	10	1 Hr	35	1.5 Hrs	50
BP106RBT BP106RMT	Remedial Biology/ Mathematics – Theory*	5	10	1 Hr	35	1.5 Hrs	50
BP107P	Human Anatomy and Physiology – Practical	5	10	4 Hrs	35	4 Hrs	50
BP108P	Pharmaceutical Analysis I – Practical	5	10	4 Hrs	35	4 Hrs	50
BP109P	Pharmaceutics I – Practical	5	10	4 Hrs	35	4 Hrs	50
BP110P	Pharmaceutical Inorganic Chemistry – Practical	5	10	4 Hrs	35	4 Hrs	50
BP111P	Communication skills – Practical*	5	5	2 Hrs	15	2 Hrs	25
BP112RBP	Remedial Biology – Practical*	5	5	2 Hrs	15	2 Hrs	25
	Total	70/75[§]/80[#]	115/125[§]/130[#]	23/24[§]/26[#] Hrs	490/525[§]/ 540[#]	31.5/33[§]/ 35[#] Hrs	675/725[§]/ 750[#]

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

[§]Applicable ONLY for the students studied Physics / Chemistry / Botany / Zoology at HSC and appearing for Remedial Mathematics (RM)course.

* Non University Examination (NUE)


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BP101T. HUMAN ANATOMY AND PHYSIOLOGY-I (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 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

- **Introduction to human body**
Definition and scope of anatomy and physiology, levels of structural organization and body systems, basic life processes, homeostasis, basic anatomical terminology.
- **Cellular level of organization**
Structure and functions of cell, transport across cell membrane, cell division, cell junctions. General principles of cell communication, intracellular signaling pathway activation by extracellular signal molecule, Forms of intracellular signaling: a) Contact-dependent b) Paracrine c) Synaptic d) Endocrine
- **Tissue level of organization**
Classification of tissues, structure, location and functions of epithelial, muscular and nervous and connective tissues.

Unit II

10 hours

- **Integumentary system**
Structure and functions of skin
- **Skeletal system**
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

- **Joints**

Structural and functional classification, types of joints movements and its articulation

Unit III

10 hours

- **Body fluids and blood**

- Body fluids, composition and functions of blood, hemopoiesis, formation of hemoglobin, anemia, mechanisms of coagulation, blood grouping, Rh factors, transfusion, its significance and disorders of blood, Reticulo endothelial system.

- **Lymphatic system**

Lymphatic organs and tissues, lymphatic vessels, lymph circulation and functions of lymphatic system

Unit IV

08 hours

Peripheral nervous system:

Classification of peripheral nervous system: Structure and functions of sympathetic and parasympathetic nervous system.

Origin and functions of spinal and cranial nerves.

- **Special senses**

Structure and functions of eye, ear, nose and tongue and their disorders.

Unit V

07 hours

- **Cardiovascular system**

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.

BP102T. PHARMACEUTICAL ANALYSIS (Theory)

45 Hours

Scope: This course deals with the fundamentals of analytical chemistry and principles of electrochemical analysis of drugs

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

- understand the principles of volumetric and electro chemical analysis
- carryout various volumetric and electrochemical titrations
- develop analytical skills

Course Content:

UNIT-I

10 Hours

- (a) **Pharmaceutical analysis-** Definition and scope
- i) Different techniques of analysis
 - ii) Methods of expressing concentration
 - iii) Primary and secondary standards.
 - iv) Preparation and standardization of various molar and normal solutions- Oxalic acid, sodium hydroxide, hydrochloric acid, sodium thiosulphate, sulphuric acid, potassium permanganate and ceric ammonium sulphate
- (b) **Errors:** Sources of errors, types of errors, methods of minimizing errors, accuracy, precision and significant figures
- (c) **Pharmacopoeia,** Sources of impurities in medicinal agents, limit tests.

UNIT-II

10 Hours

- **Acid base titration:** Theories of acid base indicators, classification of acid base titrations and theory involved in titrations of strong, weak, and very weak acids and bases, neutralization curves
- **Non aqueous titration:** Solvents, acidimetry and alkalimetry titration and estimation of Sodium benzoate and Ephedrine HCl

UNIT-III

10 Hours

- **Precipitation titrations:** Mohr's method, Volhard's, Modified Volhard's, Fajans method, estimation of sodium chloride.
- **Complexometric titration:** Classification, metal ion indicators, masking and demasking reagents, estimation of Magnesium sulphate, and calcium gluconate.
- **Gravimetry:** Principle and steps involved in gravimetric analysis. Purity of the precipitate: co-precipitation and post precipitation, Estimation of barium sulphate.
- Basic Principles, methods and application of diazotisation titration.

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 hemocytometry.
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 hemoglobin 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.

Recommended Books (Latest Editions)

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.

Attendance Register

For Session 2020 - 2021

JNCET'S

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"Vidhya Vihar, BORAWAN (Khargone) M.P. - 451 228, Ph. (07285) 277847, 48



Name of Teacher: MR. NILESH MANDLOI

Subject Name: PHARMACEUTICAL ORGANIC CHEM. - II

Subject Code: BP-301T, BP-305P

Sem. III

Subject Name Organic Chem - II (Theory) Subject Code RP-3017
 Sem III Session July - December 2020 - 2021

Sr No	Date/Lecture No	Name of Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
41		Kanwal Chilla	P	A	P	A	A	P	P	P	P	P	P	P	P	P	P	P	P	P
42		Krunal Mahajan	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P
43		Krishna Yadav	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P
44		Megank Janchhai	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
45		Megank Kumar Panchhai	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
46		Megankumar Chouhan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
47		Mohit Solanki	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
48		Nikunj Mandali	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
49		Nising Prayagel	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
50		Nitesh Patel	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
51		Palavi Patel	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
52		Pankaj Patel	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
53		Parth Kishore	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
54		Patel Smit Jaydity	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
55		Patil Dnyanesh Deydny	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
56		Patil Nishar Atjun	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
57		Paoo Ja Barty	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
58		Pradeep Singh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
59		Pradeep Kumar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
60		Pratik Tomar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
61		Rahul Rawal	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
62		Raj Kumar Dhamande	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
63		Ramkavay Vishwakarma	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
64		Ravi Malviya	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
65		Rishav Patel	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
66		Rishav Patel	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
67		Rishav Sen	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
68		Ritik Ghosh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
69		Rohit Bhaskar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
70		Rohit Tripathi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
71		Rupesh Patidar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
72		Sachin Ghader	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
73		Sandeep Sharma	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
74		Sarash Khun	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
75		Saxay Pawar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

Topic Covered
 Pharmacy
 Institute of Pharmacy
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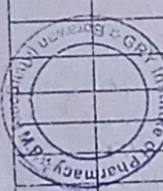


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Subject Name Organic Chem - III (Theory) Subject Code RP-3017
 Sem III Session July - December 2020 - 2021

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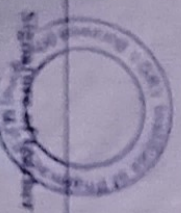
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Subject Name Organic Chemistry - II (Practical) Batch - 9 201 - 201

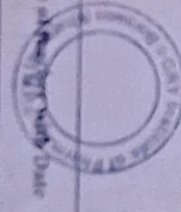
Sr No	Date/Practical No	Name of Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total Marks	Percentage
1		Hariin Paur	P	F	F	F	P	P	P	F	F	F	F	F	F	F	100	100%
2		Hardika Rathod	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
3		Iskita Thakur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
4		Ishwar Khanna	P	F	F	F	F	F	F	F	F	F	F	F	F	F	100	100%
5		Jay Kumar Mathur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
6		Jyoti Sen	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
7		Jyoti Paul	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
8		Jyoti Paul	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
9		Kamal Chitr	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
10		Krishna Mahajan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
11		Krishna Yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
12		Mayank Panthar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
13		Mayank Kumar Fawcett	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
14		Meenakshi Choudhary	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
15		Mohit Salunkhi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
16		Nikunj Mandri	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
17		Nisha Prasad	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
18		Nisha Paul	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
19		Pallavi Paul	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
20		Pankaj Patel	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
21		Parth Kulkarni	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
22		Padel Saurabh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
23		Padel Saurabh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
24		Padel Saurabh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
25		Paige Ranga	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
26		Pradeep Singh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
27		Pratik Kulkarni	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
28		Pratik Kulkarni	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
29		Rahul Raut	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
30		Rajkumar Dhanote	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
31		Rajkumar Dhanote	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
32		Ravi Malviya	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
33		Ravi Malviya	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%



Signature of Teacher with Date

Subject Name Organic Chemistry - II (Practical) Batch - 9 201 - 201

Sr No	Date/Practical No	Name of Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total Marks	Percentage
1		Hariin Paur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
2		Hardika Rathod	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
3		Iskita Thakur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
4		Ishwar Khanna	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
5		Jay Kumar Mathur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
6		Jyoti Sen	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
7		Jyoti Paul	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
8		Jyoti Paul	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
9		Kamal Chitr	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
10		Krishna Mahajan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
11		Krishna Yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
12		Mayank Panthar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
13		Mayank Kumar Fawcett	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
14		Meenakshi Choudhary	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
15		Mohit Salunkhi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
16		Nikunj Mandri	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
17		Nisha Prasad	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
18		Nisha Paul	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
19		Pallavi Paul	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
20		Pankaj Patel	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
21		Parth Kulkarni	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
22		Padel Saurabh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
23		Padel Saurabh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
24		Padel Saurabh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
25		Paige Ranga	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
26		Pradeep Singh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
27		Pratik Kulkarni	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
28		Pratik Kulkarni	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
29		Rahul Raut	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
30		Rajkumar Dhanote	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
31		Rajkumar Dhanote	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
32		Ravi Malviya	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%
33		Ravi Malviya	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	100%



Signature of Teacher with Date

Sl. No.	Date/Practical No.	Name of Student	Days														Total	Remarks
			1	2	3	4	5	6	7	8	9	10	11	12	13	14		
1		Rishraj Patel	P	P	P	P	P	P	P	P	P	P	P	P	P	P	08	64
2		Ritesh Sen Patel	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
3		Ritesh Rishi Sen	P	P	P	P	P	P	P	P	P	P	P	P	P	P		
4		Rishi Bhosle	P	P	P	P	P	P	P	P	P	P	P	P	P	P	02	16
5		Rohit Bhakar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
6		Rohit Thole	P	P	P	P	P	P	P	P	P	P	P	P	P	P	02	16
7		Rupesh Patidar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	03	24
8		Sachin yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	08	64
9		Sandeep Verma	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40
10		Sarash Khan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40
11		Savay Pawar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
12		Savay Patidar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40
13		Savay Mandloi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40
14		Shakil Rathod	P	P	P	P	P	P	P	P	P	P	P	P	P	P	09	72
15		Shalin Karmad	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
16		Shivraj yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	03	24
17		Shivraj Mandloi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	08	64
18		Shivaji Sahy	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
19		Shivprakash yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	09	72
20		Shrut Mandloi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	08	64
21		Shubham Rathor	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40
22		Sourabh yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40
23		Sunil Pragnat	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
24		Sunil yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
25		Vaishnavi Mahajan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	03	24
26		Vandana yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40
27		Vandana Tongare	P	P	P	P	P	P	P	P	P	P	P	P	P	P	08	64
28		Vandana Malakar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40
29		Vijay Tachar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	03	24
30		Vinayak Patel	P	P	P	P	P	P	P	P	P	P	P	P	P	P	03	24
31		Yashraj Wastak	P	P	P	P	P	P	P	P	P	P	P	P	P	P	03	24
32		Yashraj Kharj	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40
33		Yogendra Mandloi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40

Signature of teacher with Date

Sl. No.	Date/Practical No.	Name of Student	Days														Total	Remarks
			1	2	3	4	5	6	7	8	9	10	11	12	13	14		
1		Rishraj Patel	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
2		Ritesh Sen Patel	P	P	P	P	P	P	P	P	P	P	P	P	P	P	11	88
3		Ritesh Rishi Sen	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
4		Rishi Bhosle	P	P	P	P	P	P	P	P	P	P	P	P	P	P	00	00
5		Rohit Bhakar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40
6		Rohit Thole	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
7		Rupesh Patidar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
8		Sachin yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
9		Sandeep Verma	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40
10		Sarash Khan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40
11		Savay Pawar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
12		Savay Patidar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	11	88
13		Savay Mandloi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
14		Shakil Rathod	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
15		Shalin Karmad	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40
16		Shivraj yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	11	88
17		Shivraj Mandloi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	12	96
18		Shivaji Sahy	P	P	P	P	P	P	P	P	P	P	P	P	P	P	11	88
19		Shivprakash yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	12	96
20		Shrut Mandloi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	11	88
21		Shubham Rathor	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
22		Sourabh yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
23		Sunil Pragnat	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
24		Sunil yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
25		Vaishnavi Mahajan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
26		Vandana yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40
27		Vandana Tongare	P	P	P	P	P	P	P	P	P	P	P	P	P	P	11	88
28		Vandana Malakar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	11	88
29		Vijay Tachar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
30		Vinayak Patel	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	80
31		Yashraj Wastak	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40
32		Yashraj Kharj	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40
33		Yogendra Mandloi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	05	40

Signature of teacher with Date

Attendance Register

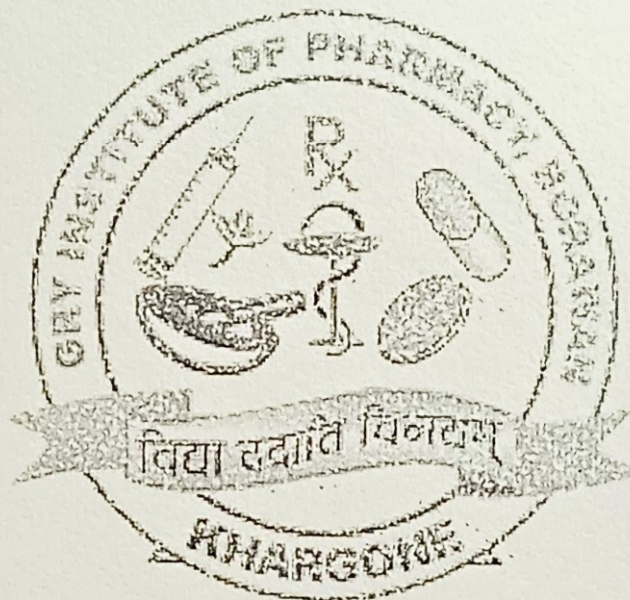
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M.Pharma

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"Vidhya Vihar, BORAWAN (Kharagone) M.P. - 451 228, Ph. (07285) 277847, 48



Name of Teacher: Mr. Nitin Deshmukh

Subject Name: Drug regulatory affairs

Subject Code: MPY-108

Sem 1st

Attendance Register

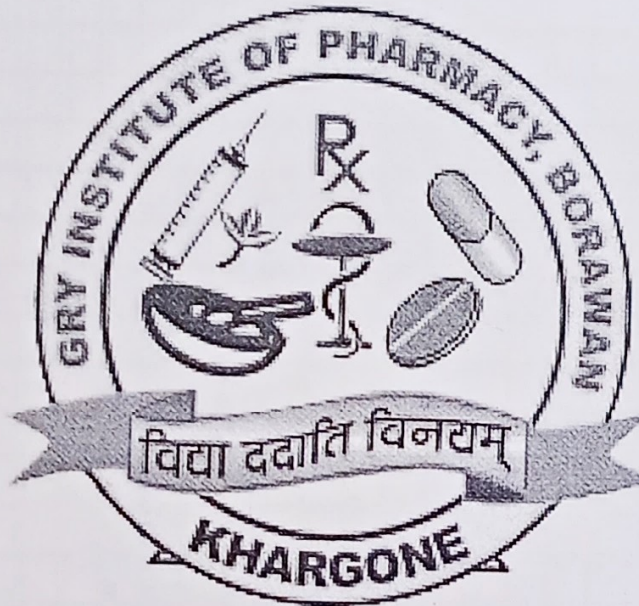
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Name of Teacher: Mr. Nitin Deshmukh

Subject Name: Drug regulatory affairs

Subject Code: mpy-101

Sem 1st

Sr No.	Date/Lecture No. Name of Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Ankita Patidar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
2	Ardana Prapatti	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
3	Mihali Patidar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
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1	Ankita Patidar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
2	Ardana Prapatti	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
3	Mihali Patidar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
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Signature

Topic Covered

Signature

Topic Covered

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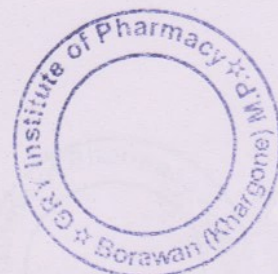
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Internal practical Attendance Sheet

Subject: Instrumental Methods of Analysis (BP701P)

S.N	Enrollment No.	Name	Student signature
1	0816PY171022	Chetan Verma	
2	0816PY171038	Lalu Verma	
3	0816PY171042	Manish Brahmane	
4	0816PY171050	Piyush Yadav	
5	0816PY171062	Rajaram	
6	0816PY171075	Shahrukh Sheikh	
7	0816PY181001	Aadarsh Jaiswal	
8	0816PY181003	Aarti Ghatte	
9	0816PY181004	Aaryan Medha	
10	0816PY181005	Abhishek Rewal	
11	0816PY181006	Abhishek Tiwari	
12	0816PY181007	Adityaraj Solanki	
13	0816PY181008	Ajay Sunil Verma	
14	0816PY181010	Amaan Khan	
15	0816PY181011	Amit Yadav	
16	0816PY181012	Anamika Savle	
17	0816PY181013	Anjali Patel	
18	0816PY181014	Ankit Rathor	
19	0816PY181015	Anuj Punasiya	
20	0816PY181017	Ashutosh Shukla	
21	0816PY181018	Avdhesh Mourya	
22	0816PY181019	Bhavesh Sonis	
23	0816PY181020	Chandan Kalam	
24	0816PY181021	Chetan Kag	
25	0816PY181022	Chetan Choudhari	
26	0816PY181023	Chetan Marathe	
27	0816PY181024	Deepak Prajapat	
28	0816PY181027	Deepak Mourya	
29	0816PY181028	Deepanshu Rathod ,	
30	0816PY181029	Devendra Ahire	
31	0816PY181030	Farhan Shaikh	



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Internal practical Attendance Sheet

VII-Semester

Subject: Instrumental Methods of Analysis (BP 701 P)

S.No	Enrollment No.	Name	Student signature
32	0816PY181031	Gourav Kushwah	Gourav
33	0816PY181033	Goutam Malviya	Goutam
34	0816PY181035	Harshit Yadav	Harshit
35	0816PY181036	Himanshi Singh	Himanshi
36	0816PY181039	Jain pritesh Naveen	Jain
37	0816PY181040	Jitendra Pawar	Jitendra
38	0816PY181041	Karnika Rathod	Karnika
39	0816PY181042	Keshav Gupta	Keshav
40	0816PY181043	Ketan Mali	Ketan
41	0816PY181044	Kuldeep Muchala	Kuldeep
42	0816PY181045	Mahi Vani	Mahi
43	0816PY181047	Manish Rawat	Manish
44	0816PY181048	Matin Sheikh	Matin
45	0816PY181049	Mayank Joshi	Mayank
46	0816PY181051	Miskat Khan	Miskat
47	0816PY181053	Mohit Gupta	Mohit
48	0816PY181054	Monika kanade	Monika
49	0816PY181055	Nandani Vani	Nandani
50	0816PY181056	Neha Yadav	Neha
51	0816PY181058	Nitika Khatariya	Nitika
52	0816PY181059	Nivrutti Mahajan	Nivrutti
53	0816PY181061	Palak Mahajan	Palak
54	0816PY181062	Pankaj patil	Pankaj
55	0816PY181063	Pawan Yadav	Pawan
56	0816PY181064	Piyush Mahawar	Piyush
57	0816PY181065	Prakash Rathore	Prakash
58	0816PY181067	Rajkumar Yadav	Rajkumar
59	0816PY181068	Ram Yadav	Ram
60	0816PY181069	Reena Yadav	Reena



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MAIN ANSWER BOOK

To Be filed by the Candidate

Total Page No - 08

Semester	Paper Code	Subject Code
7th		BP-705 (P)
Subject Name		No of Supplimentary Answer Book used
Instrumental method of Analysis		

Sr no. 451
Enrollment Number

081614181001

Roll Number in Figure

081614181001

MARKS AWARDED

Q.No	PART "A"	PART "B"	PART "C"	PART "D"	TOTAL
1	08				
2	04				
3					
4					
5					
6					
7					
8					
TOTAL	12				12
OUT OF	15				15

Roll Number in words zero eight...one...dix...py...one
eight...one...zero...three

Date of Exam 26/11/2021

For Examiner Use Only

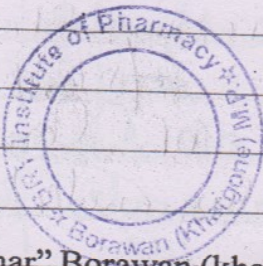
T. S. K. S. S. S.
26/11/21

Signature of invigilator with Date

GRAND TOTAL OF MARKS IN WORDS

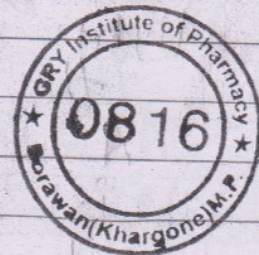
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Seal /Signature of examination
Superintendent



"Vidhya Vihar" Borawan (khargone) M.P 451228 (07285) 277846 - 47 FAX : (07285) 277848
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Email : principalgry@gmail.com

Object → To perform limit test of chloride by using Nepheloturbidimeter

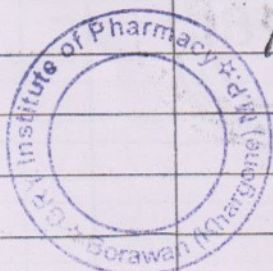
Requirement →

Distilled water → measuring cylinder
glass rod, pipette, Nessler cylinder,
Beaker.

Chemical - Sodium chloride, silver nitrate, Nitric acid.

Principle - Nephelometry or turbidimetry are the instrumental techniques of analysis based upon the scattered and transmitted light by non-transparent particles suspended in a solution when a light is allowed to pass through the solution.

A part of solution is absorbed is reflected or refracted while the remaining is transmitted the basis of turbidimetric analysis is measurement of transmitted light is a function of concentration light is a suspended particles



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The limit test for chloride can be performed with the help of

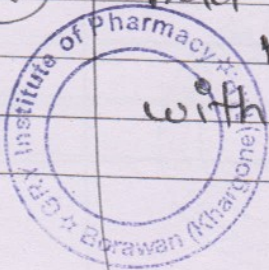
Nepheloturbidimetry of Chloride can be determined as AgCl by Turbidimetry. The NTU of sample solution should be within NTU of standard to pass the test for chloride.

Procedure :-

- ① Preparation of Standard Solution:-
- ① Take 10 ml of chloride standard solution (25 ppm chloride) into a Nessler cylinder.
- ② Add 10 ml of dilute HNO_3 and make up to the volume to some with distilled water (50 ml).
- ③ Add 1 ml of 0.1 N silver nitrate solution and stir immediately to produce turbidity.
- ④ Allow it to stand for 5 min protect from light.

(ii) Preparation of sample opalescent -

- ① Pipette out 10 ml of sample solution into another Nessler cylinder.
- ② Add 10 ml of dilute nitric acid and make up the volume to some with distilled water.



③ Add 1 ml of 0.1 N silver Nitrate solⁿ and stir it to stand for 5 min protects from light.

④ Allow it to stand for 5 min protects from light.

Measurement of Nepheloturbidimetry (NTU)

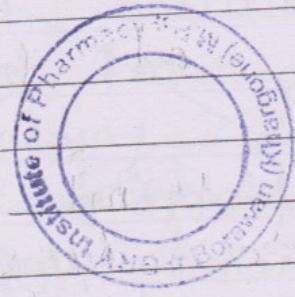
① switch on the instrument.

② allow it to stabilize for 10 min.

③ place dist. water & adjust standard. 0.1% solution & adjust the reading of 7.

④ place the water & adjust standard. the water & adjust the reading of 70%.

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Observation table

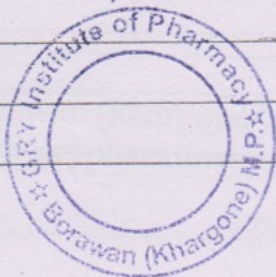
S.NO	preparation	NTU	meter total (NTU) (meter)
①	stand sol.	100	45
②	sample sol.	100	230

⑧ Result → the limit test of Chloride is performed by using Merfano tribidometry way passed.

Quiz →

① Beers law → $(A = abc)$
A = Absorbance
a = ~~absorbance~~ absorptivity.

② fingerprint region - below 1500 cm^{-1}



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③ hyperchromic shift \rightarrow

Ans ϵ max increases.

④ principle of column chromatography:-

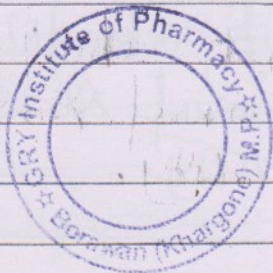
Ans Chromatography is based on partition coefficients.

⑤ R_F value: - $R_F = \frac{\text{Dist. level by solut}}{\text{Dist. level by solvent}}$

$$\frac{04}{55}$$

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HPLC and UV Spectroscopy AOCP-104

Name of Student:

Enrollment No.:

Year/Semester:

Q.1 Column length in HPLC is?

- a) 15-30 cm
- b) 20-25 cm
- c) 35-45 cm
- d) 5-30 cm

Q.2. Syringe pumps used in High pressure liquid chromatography are most suitable for which of the following columns?

- a) Capillary columns
- b) Guard columns
- c) Short-fast columns
- d) Small bore column

Q.3. Which is most popular injector?

- a) Septum Injector
- b) Rheodyne Injector
- c) Stop Flow
- d) none of this

Q.4. Which detector are not used in HPLC?

- a) Refractive Index Detector
- b) Fluorimetric Detector
- c) Amperometric Detector
- d) Mass Detector

Q.5. Column diameter in HPLC is

- a) 5-9 mm
- b) 1-3 mm
- c) 2-50mm
- d) 10-50mm



Q.6. Tungsten lamp filament has required how much temperature?

- a) 2000k
- b) 3000k
- c) 4000k
- d) 5000k

Q.7. How much range wavelength is transmit by silicate glass?

- a) 100 nm to 200 nm
- b) 200nm to 300 nm
- c) 300 nm to 350 nm
- d) 10nm to 40 nm

Q.8. What is role of slit in uv-visible spectroscopy?

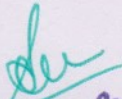
- a) Monochromatic radiation to polychromatic radiation.
- b) Polychromatic radiation to monochromatic radiation.
- c) A and B
- d) None of this

Q.9. Which radiation source has electrode in its construction?

- a) Tungsten lamp
- b) Hydrogen discharge lamp
- c) Xenon Discharge Lamp
- d) Mercury lamp

Q.10. Which device is used to isolate the radiation of the desired wavelength from wavelength of the continuous spectra?

- a) Monochromator
- b) Radiation source
- c) Recorder
- d) None of this


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HPLC and UV Spectroscopy AOCB-104

Name of Student: Aayush Chippa
Enrollment No.: 0816PY151001
Year/Semester: 7th.

08
10
T 3rd

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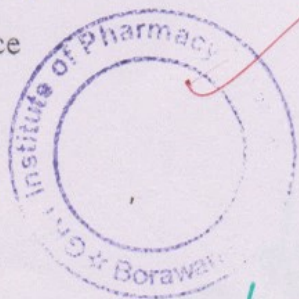
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B. Pharma / M. Pharma

Subject: pharmaceutical Analysis

Subject Code: - BP 108P

Semester: 1st Year 1st Session : 2018 -2019

Name: Keerthi Kathod

Roll No: 0816 PY181041

Vidhya Vihar , Borawan Khargone - 451228 (M.P)

Phone :07285-277847 /Fax : 07285-277848

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CERTIFICATE

This is to certify that Mr./Ms. Karnika Rathod

Emrollment No. 0816PY181041 Studying in 1st semester 1st year

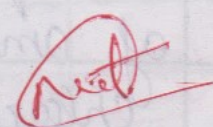
of this institute has satisfactorily completed the Practical Work in the subject of

Pharmaceutical analysis and given complete account of

his/her work in this Note-Book.

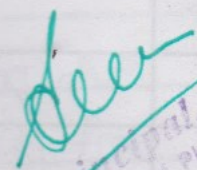


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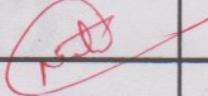
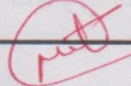
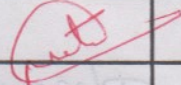
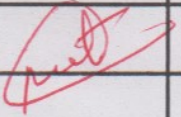
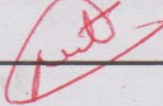
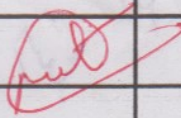

Subject Incharge

Mr. N. Deshmukh

Date: 14/11/18

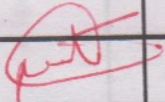
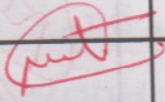
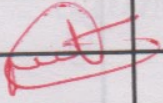
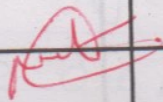
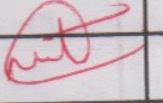
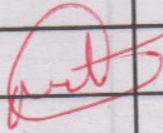

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	1	To prepare and standardize 0.1 N NaOH	25/07/18	1-2		A
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	3	To prepare and standardize 0.1 H ₂ SO ₄	01/08/18	5-6		A
	4	To perform the assay of ferrous sulphate	29/08/18	7-8		B
	5	To perform the assay of ammonium chloride	20/09/18	9-11		C
	6	To prepare and standardize 0.1 N Na ₂ S ₂ O ₃	26/08/18	12-14		A

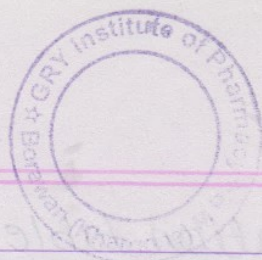


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Sr. No.	Exp. No.	Object	Date	Page No.	Signature of Teacher	Remarks
	7	To perform the assay of the metronidazole by non-aqueous titration.	31/10/18	15-17		B
	8	To perform the conductometry titration of strong acid and strong base.	22/10/18	18-20		D
	9	To perform the assay of hydrogen Peroxide.	31/10/18	21-23		A
	10	To perform the limit test for chloride	31/10/18	24-26		B
	11	To perform the limit test for sulphate.	14/11/18	27-29		C
	12	To perform the limit test for iron	14/11/18	20-32		A



Experiment → 1



01

Object → To prepare and standardize 0.1 N NaOH (sodium hydroxide)

Reference → ^{Balsare} ~~Balsare~~ Dhake D.P. A.S. ^{Pharmaceutical} ~~Pharmaceutical~~ chemistry, 2nd edition Vakil, Vadi, Nashik, Carriac publication 2004 p. 43, 44

Requirements →

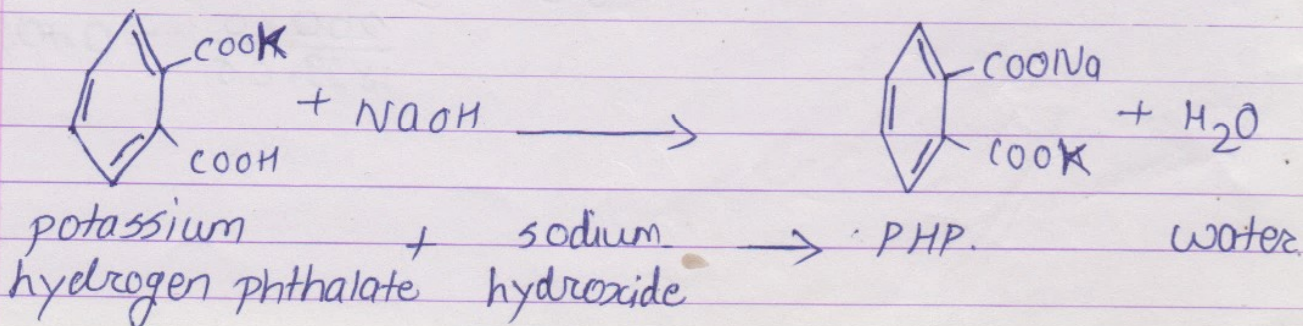
Glass wares / Apparatus → pipette, Beaker, conical flask measuring cylinder, Buret etc.

chemicals → potassium hydrogen phthalate, phenolphthaline, sodium hydroxide

Principle → Standardization of the 0.1 N NaOH solⁿ (the titrant) is based on the titration with potassium hydrogen phthalate (KHP, $K_2H_4O_4H$) using phenolphthaline

As the indicator, KHP is a weak acid and reacts with base in the following way:-

Reaction →





Experiment ->

observation table ->

S.No	Volume in conical flask	Burette reading	
		Initial	Final
1	30 ml	0.0	9 ml
2	30 ml	0.0	7.9
3	30 ml	0.0	9.6

$$\frac{9 + 9.6}{2} = \frac{18.6}{2}$$

calculation ->

wt of Potassium phthalate = 0.2 wgm

volume of NaOH consumed = ~~10 ml~~ 9.3 ml

$$N \text{ of NaOH} = \frac{wt \times 1000}{\text{eq. wt of } K}$$

$$\text{Normality} = \frac{wt \times 1000}{\text{eq. wt of } K \times \text{volume}}$$

$$\frac{0.2 \times 1000}{204.2 \times 10} = \frac{0.2 \times 1000}{204.2 \times 9.3} = 0.091N$$

$$\frac{200.0}{1899.06} = 0.105N$$

INDEX

Sr. No.	Exp. No.	Object	Date	Page No.	Signature of Teacher	Remarks
①	01	To Perform qualitative analysis of Carbohydrates.	18/03/21	01-04	Top	A
②	02	To Perform Identification test of protein.	25-3-21	05-08	Top	A
③	03	Quantitative estimation of urea for abnormal constituents.	21-5-21	09-12	Top	A+
④	04	To study the enzymatic hydrolysis of starch.	28-5-21	13-14	Top	A
⑤	05	To study the effect of temperature on Salivary amylase activity.	15-16 4-6-21	15-16	Top	A+
⑥	06	To study the preparation of acetic acid - Sodium acetate buffer of PH 4.6.	17-18 10-6-21	17-18	Top	A

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Experiment \Rightarrow 1

01

~~Obj~~ Object \Rightarrow To perform qualitative analysis of Carbo-
hydrates.

Reference \Rightarrow ① Pillai k.k, Gadey J.S., "Biochemistry and
Clinical pathology (Theory and practical)",
CBS publisher and distributor, 1st edition 1994,
Page number 15-24

② Agarawal Kiran "Test book of Biochemistry" Coel
publisher Meerut, 13th edition, page number \Rightarrow 647.

Requirement \Rightarrow

Glassware \Rightarrow Test tube, Test tube holder,
pipette, glass rod, beaker,
Test tube Stand, ~~meas~~ measuring Cylinder.

Chemical \Rightarrow 1% starch solution,
1% starch solution,
molisch reagent, Iodine solution, Benedict's
reagent, Barfoed's reagent, fehling solution
A and B.

Theory \Rightarrow Carbohydrates may be defined as poly-
hydroxy - aldehyde or ketones or
Compound which produce them on hydrolysis.
They are collectively called as saccharides.
There are divided into \Rightarrow three
Carbohydrates.

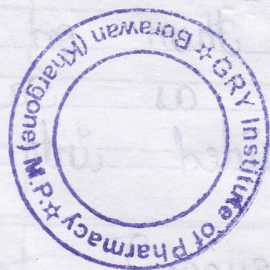
- ① Monosaccharides (Simple sugar)
- ② Disaccharides (Coligo - few)
- ③ Polysaccharides (poly - many)




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observation table \Rightarrow 1% Glucose solution

Sr No.	Test	Observation	Result
①	Molisch's test	Red-violet Colour	positive
②	Iodine test	no Colour	negative
③	Barfoed's test	no Colour	negative
④	Benedict's test	Green Colour	positive
⑤	Fehling's test	brownish Colour	positive




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Work $\frac{9}{10}$ good

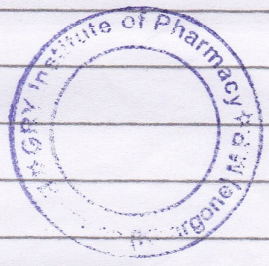
Q.1

Define Microencapsulation with advantages and disadvantages. Explain Microencapsulation in details.

Q.2

Write Short Notes on following

1. Buccal DDS.
2. Ocular insert.
3. Osmotic pump.



Prepared by :-

Deepak Tejaprat
(0816PY181024)

Submitted To :-

Mrs. Nidhi Nandey
(M. Pharm.)

[Signature]
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GRY. Institute of Pharmacy
BORAWAN (Chargone) 451228

① Microencapsulation →

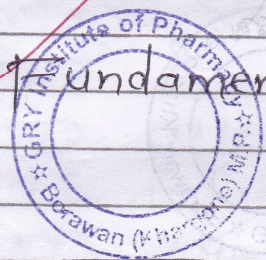
Microencapsulation is a process by which very tiny droplets or particles of liquid or solid material are surrounded or coated with a continuous film of polymeric materials. particles having diameter between 3-800µm are known as microparticles.

Generally consists of two components →

a) Core, internal phase or fill.

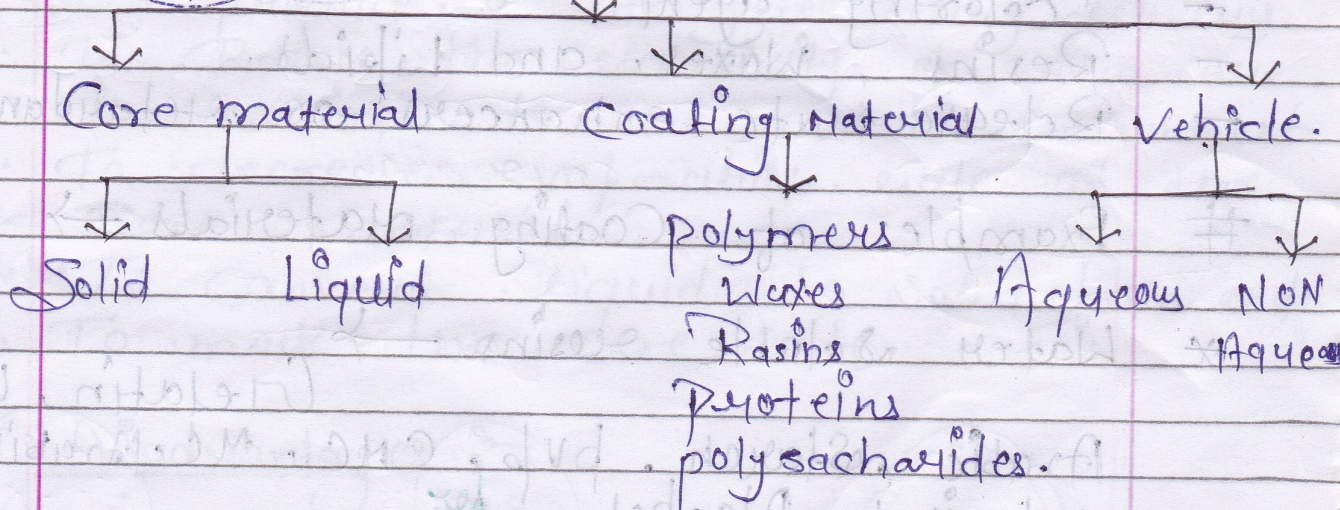
b) Shell, coat or membrane.

Fundamental Consideration →



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Microencapsulation



Core materials → The material to be coated. It may be.

Liquid or solid or gas. Liquid core may be dissolved or dispersed materials

* Composition of core material →

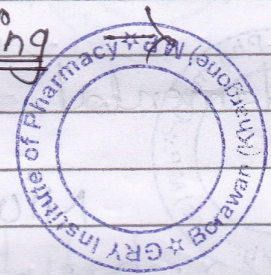
- Drug or active constituent
- Additive like diluents
- stabilizers

Coating material →

Inert substance which coats on core with desired thickness.

* Composition of coating

- Inert polymer
- plasticizer
- coloring agent
- Resins, waxes, and lipids.
- Release rate enhancers or retardants.



Examples of Coating materials →

* Water soluble resins →

Arabic, Starch, pvp, CNC, MC, Arabiobogab, polyvinyl Alcohol. *see*

Crelatin, GYM

* Water insoluble resins →
EC, polyethylene
poly-methacrylate, ~~polymer~~, polyamide (Nylon)
cellulose nitrate, Silicones.

* Waxes and lipids →
paraffin, Carnauba
Beeswax, stearic acid, stearyl alcohol
Glyceryl-stearates.

* Enteric resins →
Shellac, cellulose acetate
phthalate, zein

Advantages →

1. To increase of bioavailability
2. To alter the drug release
3. To improve the patients compliance.
4. To produce a targeted drug delivery
5. To Reduce the reactivity of the core in relation to the outside environment
6. To decrease evaporation rate of the core material.
7. To convert liquid to solid form and
8. To mask the core taste.

Disadvantages :-

1. Costly
2. polymer may produce toxic effect

3. Difficult to achieve continuous and uniform film.

4. Shelf life of hygroscopic drugs is reduced.

classifications:-

Microcapsules can be classified on three type as follow as

1. Mono nuclear :-

Contain the shell around the core.

2. poly nuclear :-

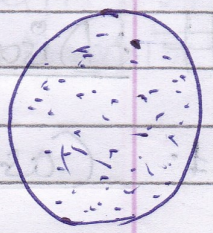
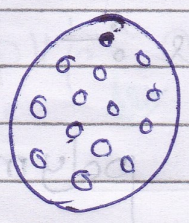
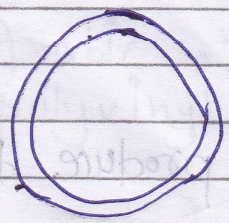
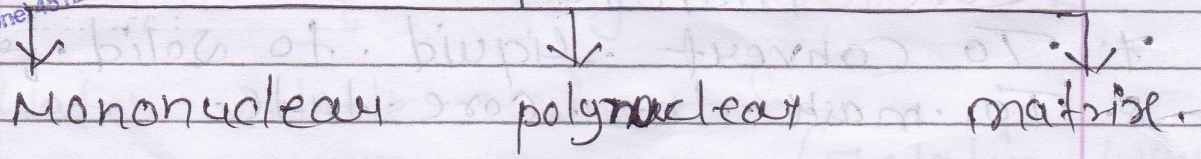
Having many cores enclosed with in shell.

3. Matrix type :-

Distributed homogeneously into the shell material.

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Microcapsulation



Adityaraj Solanki

Plent
07/10

Topic :-

Page :-

②

Date :-

E-Mail :- coloursnotebook@gmail.com

Que NO 1 → Define microcapsulⁿ with Advantage and disadvantage, explain microcapsulⁿ Techniques In details?

→ microcapsulⁿ → microcapsulⁿ is a process by which solids, liquid or even gases can be enclosed in microscopic particles by formⁿ of thin coating of wall material polymer around the substance. microcapsulⁿ provides the means of conventional liquid to solid of offering colloidal and surface properties of providing environmental protectⁿ of controlling the release characteristic or availability of coated materials.

One of the advantage of microcapsulⁿ is that the administered dose of a drug is subdivided into administered dose of a drug is subdivided into small unit that are spread over a large area of the gastrointestinal tract which may enhance absorptⁿ by local drug concentrⁿ.

example → An example of a drug commercially available in a microcapsulⁿ is extended.



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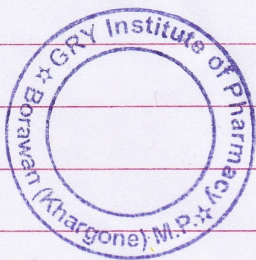
Release dosage form is potassium chloride

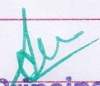
Advantage of micro-encapsulⁿ.

- (1) To provide environmental protection
- (2) To improve taste and odour.
- (3) To provide sustained release effect.
- (4) To convert liquids into solid.
- (5) To alter colloidal & surface properties

Disadvantage of microencapsulⁿ.

- (1) Incomplete or discontinuous coating
- (2) Inadequate stability or shelf time
- (3) unstable release characteristics.




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Technique of microcapsulⁿ

Physical or physicochemical

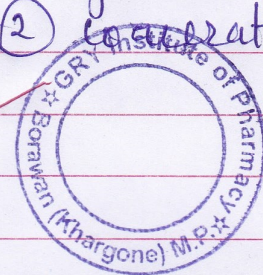
physico-chemical

chemicals

- (1) Air suspension
- (2) Centrifugal extrusion
- (3) pan coating
- (4) spray drying
- (5) co-current
- (6) counter current

- (1) Isotropic gelation
- (2) Anisotropic gelation

- (1) solvent evaporⁿ
- (2) polymerⁿ
- (201) Interfacial polymer matrix polymer
- (202) matrix polymer



(A) physical or physicochemical →

- (1) Air suspension → microcapsulⁿ by air suspension technique is generally ascribed to the invention of profen rate. E. converted during his tenure at the university of weston.

Basically the wetter process consist of disperse of solid particulate core material in supporting air stream and the spray.



Coating of the air suspended particles within the coating chamber, particles are suspended on an upward moving air stream, the design of the chamber and its operating parameter effect a recirculating flow of particles through the coating zone portion of the chamber solⁿ, a spray applied to the moving particles.

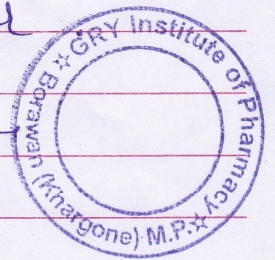
Fine solid core material are suspended by a vertical current of air

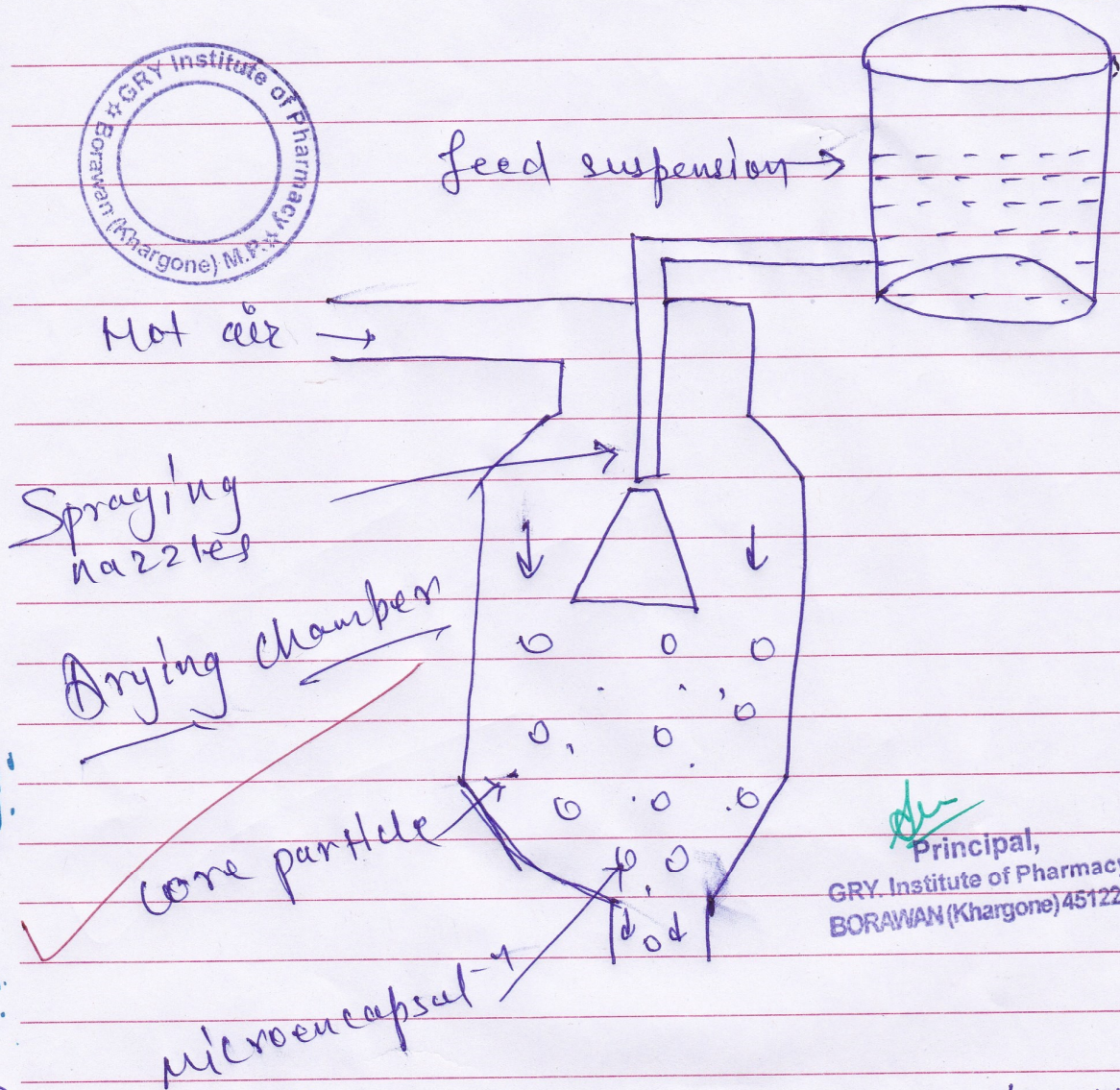
↓
 evaporatⁿ of the solvent

↓
 The evaporat^{ng} material is desolved onto the core material.

↓
 Achieved the desired film thickness.

↓
 The encapsulated product is desired by passing the stream air





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- (2) Coacervation phase separation → The general outline of the process consists of three steps carried out under continuous agitation. (1) formation of three immiscible chemical phases.
- (2) Deposition of the coating
- (3) Regime of the coating





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Vidya Vihar, BORAWAN (Khargone) MP – 451 228

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Visit us at: <http://www.grypharmainst.org>; E-mail: principalgry@gmail.com

Certificate

This is to certify that, Mr./Ms./Mrs Sachin Jayal

..... Enrollment No... 0816py15mp18 Studying

in M.pharma Semester II-sem Year of

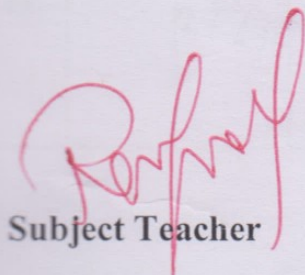
this institute has satisfactorily completed the practical work in the subject of Lab

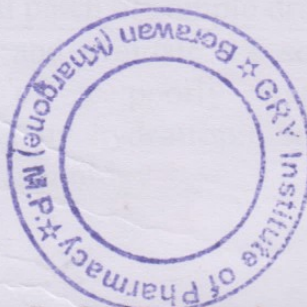
Work (MPY-205PCS) for the academic year 2016 as prescribed in the

curriculum.

Place: Borawan

Date: 16-7-18


Subject Teacher



Seal of Institution

Principal

S. Srinivasulu

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3.		4-4-16	Formulation and Evaluation of Diclofenac Sodium Sustained Release matrix Tablets using natural and synthetic polymer.	15-21	Rafal	
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11.		13-6-16	To prepare and evaluate Transdermal patch of sample drug	63-69	Rafal	
12.		27-6-16	To prepare and evaluate the solid dispersion of a poorly water-soluble drug by hydrotropic solid dispersion technology	70-76	Rafal	



B+

Experiment no. -1

Date 7-3-16

Object: Prepare and Evaluate chitosan microspheres of Diclofenac Sodium by Ionic gelation emulsion method using TPP.

Reference:

1. Devarapalli. Chaitanya ,Gutta. Subbarao et al "Preparation and invitro evaluation of Diclofenac Sodium microspheres", International Journal of inventions in Pharmaceutical Sciences 1(1)2013;1-5.
2. Christina.e, "Preparation of microspheres of Diclofenac Sodium by Ionotropic gelation technique", International Journal of Pharmacy and Pharmaceutical Sciences, Vol 5, Issue 1, 2013, 228-231.

Requirements: Drug, chitosan, acetic acid, distill water, light liquid paraffin, Span80, n-Hexane, Tripropolphosphate, pet. Ether.

Theory:

Microspheres can be defined as solid, approximately spherical particles ranging from 1to1000 μ m, containing dispersed drug in either solution (or) microcrystalline form. Microspheres are sometimes referred to as microparticles. Microspheres can be manufactured from various natural and synthetic materials. Microspheres are characteristically free-flowing powders consisting of proteins/synthetic polymers that are biodegradable in nature. Microspheres have been of particular interest from the pharmaceutical point of view providing the possibility to achieve sustained and controlled drug release.

In ionic gelation method ionic interaction between positively charged amino groups of chitosan and negatively charged counterions of TPP leads to formation of biocompatible cross-linked chitosan microspheres.

Diclofenac Sodium is a Non-Steroidal Anti-inflammatory Drug used in the treatment of arthritis. It has a short half life of about 1 to 2 hours and requires multiple dosing. Generally 100 to 200 mg of drug in divided doses is prescribed to be administered twice or thrice a day



Table : Data for calibration curve

S.NO	Concentration (µg/ml)	Absorbance
1	0	0
2	2	0.149
3	4	0.286
4	6	0.45
5	8	0.605
6	10	0.751

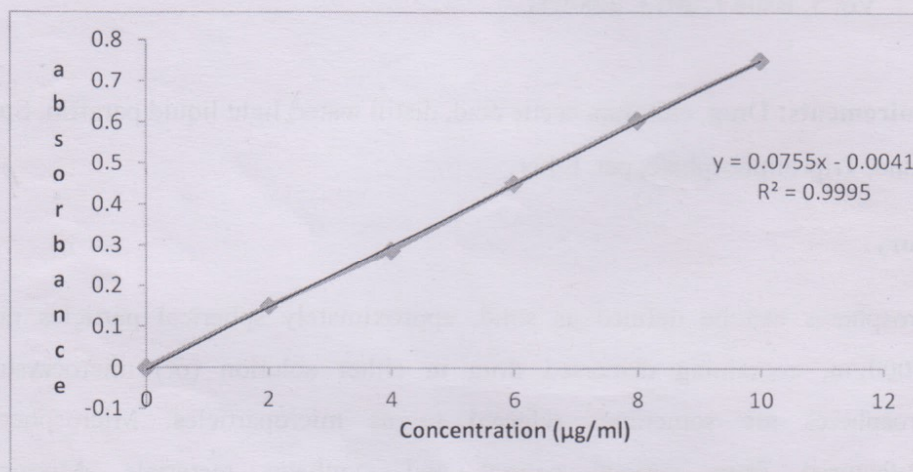


Fig: Standard plot for Diclofenac Sodium

Formulation table

S. No	Formulation Code	Drug (mg.)	Chitosan (mg.)	Drug:Polymer Ratio	Light Liquid Paraffin (ml.)	Span 80	TPP saturated solution (ml)
1.	M1	100	200	1:2	100	1%	5
2.	M2	100	300	1:3	100	1%	5
3.	M3	100	400	1:4	100	1%	5



for chronic pain associated with arthritis and this leads to fluctuation in drug blood levels and causes dose related side effects. To overcome the limitations of conventional therapy, sustained/ controlled release dosage forms are designed which are able to maintain steady state drug plasma levels for extended periods of time as a result of which the variations of the drug levels in the blood and drug related side effects are minimized

Calibration Curve of Diclofenac:

100mg of Diclofenac Sodium was accurately weighed and dissolved in 100ml of 6.8 pH buffer to obtain a concentration of 1000µg/ml. From the above 10ml was withdrawn and diluted to 100ml to obtain a concentration of 100µg/ml. From this stock solution aliquots of 0.2ml, 0.4ml, 0.6ml, 0.8ml and 1ml were diluted in 10ml volumetric flask with phosphate buffer to give concentrations in range of 2µg/ml to 10µg/ml respectively, absorbance was measured at 276 nm.

Procedure: Cross linked chitosan microspheres were prepared using ionic-gelation emulsion method. First phase: Chitosan solution (4% w/v) was prepared in 5% aqueous acetic acid solution. To this solution add required amount of drug and stirred on magnetic stirrer for at least 10 min. until uniformly dispersed (First phase). Take liquid paraffin in 250 ml beaker with addition of span 80 (1%w/v) and Stir it for 10 min. (Second phase). Now first phase is added to second phase drop by drop with help of injection with continuous stirring. This dispersion was stirred for half hour then saturated aqueous solution of TPP (1 ml to 3 ml), a cross-linking agent was added with continuous stirring. The stirring was continued for 2-3 h, than add 5 ml hexane .After 5 min prepared microspheres filtered and wash with distilled water followed by Petroleum ether and were then dried in vacuum desiccators for 24 hrs.

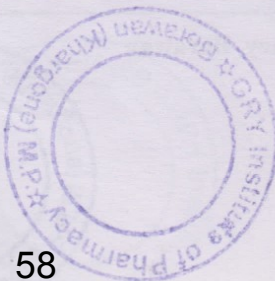
Evaluation of microspheres

Particle size analysis

Determination of average particle size of losartan potassium microspheres was carried out by optical microscopy, fitted with an ocular micrometer and a stage micrometer. The particle diameter of 100 microspheres was measured randomly by an optical microscope..

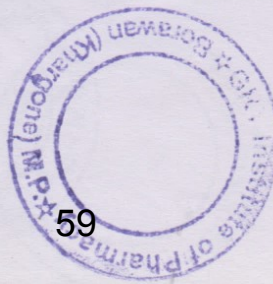
Size of individual particle(µm)= Number of division on eye piece × Calibration factor

Average Particle Size (µm)= Sum of Size of Individual Particles/100



Observation Table: Data for particle size, drug content, % yield, % Encapsulation efficiency

Formulation code	Ratios (Drug+Polymer)	ParticleSize(μm) (avg.)	Drug Content (mg)	% yield	%Encapsulati on efficiency
M1	1:1	223	84.1	88.26	82.45
M2	1:2	236	87.52	91.34	85.02
M3	1:3	245	90.4	94.70	88.64



Drug content:

The various batches of the microspheres were subjected for drug content analysis. Accurately weighed microsphere samples were mechanically powdered. The 100mg equivalent of 1:1, 1:2 and 1:3 ratios of microspheres were dissolved in 100ml of Phosphate buffer of pH 6.8 and then filter them. The UV absorbance of the filtrate was measured using a UV-VIS spectrometer at 276nm. By getting the test O.D we have to determine the amount of drug present in the microspheres using the formula;

Amount of drug present = Test O.D/standard O.D X dilution factor X standard concentration
(Where standard O.D=0.449, Standard concentration=10µg/ml, Dilution factor=1ml).

Percentage yield (% yield): The dried microspheres were weighed and percentage yield of the prepared microspheres was calculated by using the following formula;

Percentage yield = {The weight of microspheres / The weight of polymer +drug} *100

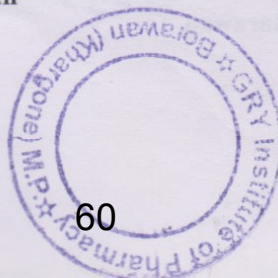
Encapsulation efficiency:

Microspheres (50 mg) were crushed in a glass mortar and pestle, and the powdered microspheres were suspended in 50 ml phosphate buffer (pH 7.2). The resulting mixture was shaken by the magnetic stirrer for 24 h. The solution was filtered, and the filtrate was analyzed for the drug content. The drug entrapment efficiency was calculated using the following formula.

Encapsulation efficiency = {Actual weight of drug in sample/ Theoretical weight of drug} *100

In-vitro drug release:

The USP dissolution rate testing apparatus was employed to study the release of Diclofenac microspheres of different ratios (M1, M2, M3) using phosphate buffer PH 6.8 as a dissolution medium. 100mg equivalent of Diclofenac containing microspheres was taken. Dissolution test was being carried out at 75 rpm maintained at 37⁰ C±0.5⁰ C. 5ml of samples were withdrawn at specific time interval for 8 hours. The sample volume was replaced by an equal volume of fresh medium. The concentration was determined spectrophotometrically at 276nm. The percentage of drug release at various time intervals was calculated and plotted against time.



Observation Table: Percentage Drug release:

Time (hrs.)	% CDR		
	M1	M2	M3
0	0	0	0
1	19.8	15	10.2
2	26.2	23	20
3	33	29.6	25.6
4	43.9	40.1	37.2
5	56	51	46.1
6	63.4	59.8	55.6
7	74.23	69	64
8	78.9	74.7	68.6

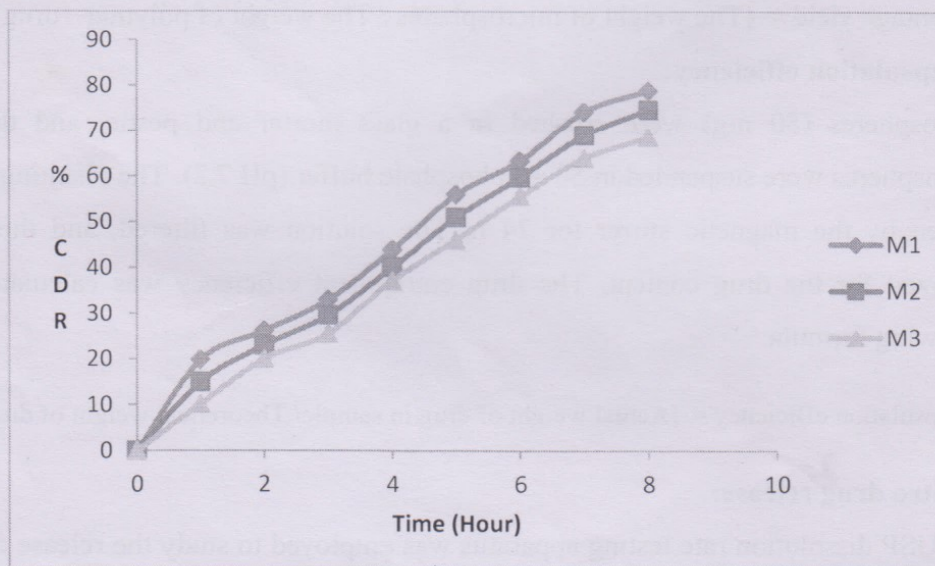
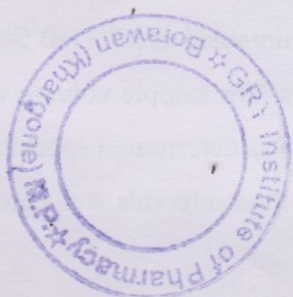
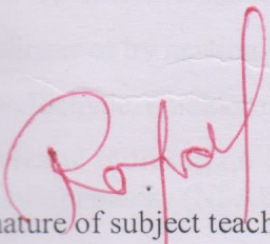


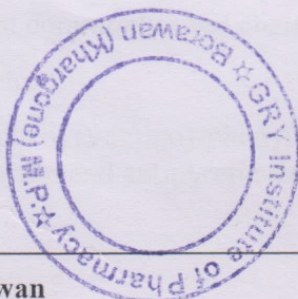
Fig: In vitro drug release profiles of various drug loaded microspheres Formulations

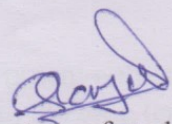


Result and discussion:

The Diclofenac sodium loaded microspheres were successfully formulated and evaluated.


Signature of subject teacher




Signature of student

JNCET'S GRY INSTITUTE OF PHARMACY

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D. Pharm / B. Pharm / M. Pharm

Subject: Pharmaceutical Practicals - I

Subject Code: - MPH - 105 P

Semester: Ist **Year** Ist **Session :** 2021 - 2022

Name: Muskan Kushwah

Enrollment No 0816PY21MP19

Vidhya vihar , Borawan, Khargone - 451228(M.P)

Phone : 07285-277847

Visit us at :gryip.com E-mail: principalgry@gmail.com



JNCET'S GRY INSTITUTE OF PHARMACY

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VISION -

To develop pharma professionals through quality education who will excel in the field of pharmacy and have good moral values.

MISSION -

1. To develop skilled pharmacist through quality education.
2. Fostering pharmacist for pharmaceutical industries and academia.
3. Instigate ethical practices to make students a responsible pharmacist.



Subject : Pharmaceutics Practicals - I

Semester : Ist Year : Ist SESSION : 2021 - 2022

Name : Muskan Kushwah

Enrollment No. : 0816PY21MP19

“Vidhya Vihar”, Borawan (Khargone) M.P.- 451228 (07285) 277847

Visit us at : www.gryip.com

e-mail : principalgry@gmail.com

CERTIFICATE

This is to certify that Mr./Ms. Muskeen Kushwah

Enrollment No. 0816PY21MPI9 Studying in I semester I year

of this institute has satisfactorily completed the Practical Work in the subject of

Pharmaceutical practicals - I and given complete account of

his/her work in this Note-Book.



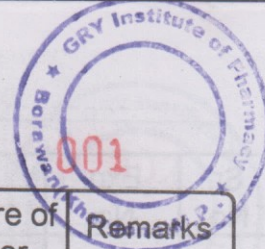
Nidhi

Subject Incharge

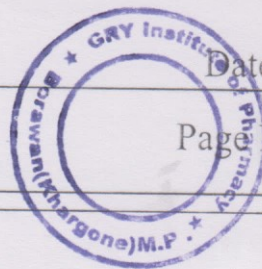
Mrs. Nidhi Namdev

Date : 19/02/22

INDEX



Sr. No.	Exp. No.	Object	Date	Page No.	Signature of Teacher	Remarks
1.	1.	To perform the quantitative spectrophotometric estimation of drug (diclofenac) by calibration curve method.	06/12/21	3-8	<u>TSTAN</u>	A
2.	2.	To estimate paracetamol & Ibuprofen in supplied marketed formulation by simultaneous equation method.	21/12/21	10-16	<u>TSTAN</u>	B
3.	3.	To perform quantitative spectrophotometric estimation of drug (paracetamol) by standard Absorptivity method.	23/12/21	17-19	<u>TSTAN</u>	C
4.	4.	To carry out preformulation studies of tablet (metronidazole)	28/12/21	20-23	<u>Nishi</u>	B
5.	5.	Preparation of evaluation of floating tablet by following method.	29/12/21	24-28	<u>Nishi</u>	A



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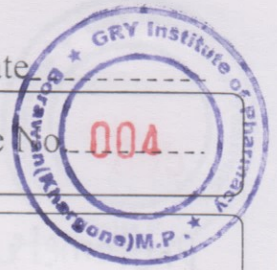
Object :- To perform the quantitative spectrophotometric estimation of drug (diclofenac) by calibration curve method.

Reference :- A.H. Beckett, J.B. Stenlake, Practical Pharmaceutical Chemistry. 4th ed. 1988 London: The Athlone Press, part II pp. 255-337.

Requirements :- Chemical / Reagents :- Pure drug sample of Diclofenac, supplied sample of Diclofenac, solvent (0.1N aqueous NaOH solution).

General / Glassware :- volumetric flask (50ml & 100ml), pipette (10 ml, 1ml), Beaker, Funnel, Filter paper, UV-visible spectrophotometer (Simadzu UV-1800), matched pair of spectrophotometer quartz cuvettes (3.5ml).

Theory :- Spectrophotometric methods :- UV-visible Spectrophotometry is one of the most frequently employed techniques in a pharmaceutical analysis. It involves measuring the amount of ultraviolet or visible radiation



Expt.No.-----

absorbed by a substance in solution. Instrument which measure the ratio, or function of ratio of the intensity of two beams of light in the UV visible region are called ultraviolet - visible spectrophotometers.

In qualitative analysis, ~~organic~~ compounds can be identified by use of spectrophotometer, if any recorded data is available & quantitative Spectrophotometric analysis is used to ascertain the quantity of molecular species absorbing the radiation. Spectrophotometric technique is simple, rapid, moderately specific and applicable to small quantities of compounds. The fundamental law that governs the quantitative Spectrophotometric analysis is the Beer-Lambert law which is stated as,

"When a beam of monochromatic light is passed through a transparent cell containing a solution of an absorbing substance, reduction of intensity of the light may occur the rate of reduction in intensity with the thickness of the medium is proportional to the intensity of the light and the concentration of the absorbing substances".

Teacher's Signature : _____

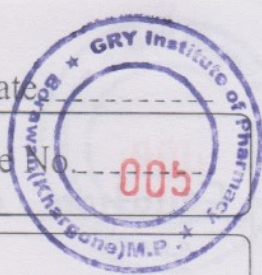
Photometric

266.0 nm | 1.2466A

Smpl No.	ABS	K * ABS
1	0.4088	0.4088
2	0.5125	0.5125
3	0.8351	0.8351
4	1.0818	1.0818
5	1.4310	1.4310
6	1.2383	1.2383

Smpl. No Data File Data Disp Factor K

$K = 1.0000$



Expt.No. _____

Mathematically Beer-Lamberts law is expressed as:-

$$A = abc \text{ where,}$$

A = absorbance or optical density

a = absorbance or extinction coefficient,

b = path length of radiation through sample (cm)

c = Concentration of solute in solution.

For the assay of substance in one component system, following methods are routinely being used. They are as follows:-

- Single point method.
- Double point method.
- Calibration curve method.
- Standard absorptivity method.

Calibration curve method :-

In calibration curve method, the absorbances of a number of standard solutions of the reference substance at concentration's encompassing the sample concentration are measured and a calibration graph is constructed. The concentration of the analyte in the sample solution is read from the graph as the concentration of the analyte in the sample solution is corresponding to the

Teacher's Signature : _____

Equation of standard curve for paracetamol

$$y = mx + c$$

$$y = 0.052x + 0.069$$

$$R^2 = 0.975$$

Absorbance of unknown solution = 0.701

Concentration of unknown soln (x)

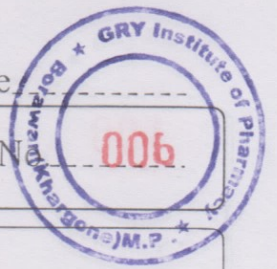
$$= \frac{y - c}{m} = \frac{0.701 - 0.069}{0.052}$$

$$= 12.153 \text{ } \mu\text{g/ml}$$

$$\% \text{ label claim} = \frac{\text{Practical concentration}}{\text{Theoretical concentration}} \times 100$$

$$= \frac{12.153}{10} \times 100$$

$$= 121.5 \%$$



Expt.No. _____

the absorbance of the solution or an equation of straight line ($Y=mx+c$) can be developed from the calibration curve, where Y = absorbance of sample analyte, m = slope of the straight line and C = intercept on the Y -axis.

Procedure :- Preparation of standard stock solution :-

1. Accurately weighed 100 mg of pure drug sample of diclofenac was transferred carefully into a 100 ml volumetric flask & dissolve in small amount of solvent and finally the volume was made up to mark with the same solvent to get a theoretical concentration of 1000 $\mu\text{g/ml}$.

Preparation of standard dilution :-

1. From the above stock solution, 10 ml was transferred to another 100 ml volumetric flask volume was made up to mark with the same solvent to get a theoretical concentration of 100 $\mu\text{g/ml}$.
2. From the above solution 0.5, 1.0, 1.5, 2.0 and 2.5 ml were transferred in to five separate

Teacher's Signature : _____



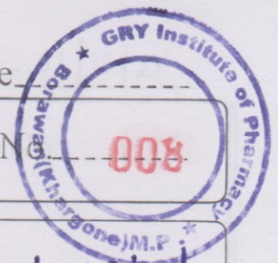
10 ml volumetric flask to achieve the final concentration of 5, 10, 15, 20, 25 $\mu\text{g/ml}$ and the absorbance was recorded at 219 nm.

3. A calibration curve was plotted by taking concentration on x-axis & absorbance on y-axis & a calibration curve equation was constructed.

Preparation of sample solution :-

1. 20 tablets of marketed formulation (Diclofenac = 500mg) were weighed and triturated to make a homogeneous mixture.
2. From the tablet powder accurately weighed quantity of powder equivalent to 5 mg of Diclofenac were transferred into a volumetric flask and the content was dissolved and the volume was made up to mark with solvent.
3. From this solution 10 ml was transferred into a 100 ml volumetric flask and the content was dissolved and the volume was made up to mark with solvent.
4. From this solution 0.5 ml was transferred into another 50 ml volumetric flask and volume was made up to mark with the

Teacher's Signature : _____



Expt.No.-----

Solvent to get a theoretical concentration of 10 $\mu\text{g/ml}$ of Diclofenac.

5. The absorbance were measured at 219 nm (λ_{max} of Diclofenac) and against solvent blank of concentration of Diclofenac was estimate by using the following formula.

$$x = (Y - c) / m$$

where, x = concentration of unknown solution.

Y = Absorbance of unknown solution.

m = Slope of the straight line.

c = Intercept on the Y -axis.

Determination of % ~~label~~ label claim of the marketed formulation :- The % label claim of the marketed formulation can be determined by using following formula :-

$$\% \text{ Label Claim} = \left[\frac{\text{Practical Concentration}}{\text{Theoretical Concentration}} \right] \times 100$$

Result :- % label claim in marketed formulation was found to be 121.51.

Teacher's Signature

INDUSTRIAL TRAINING REPORT



2018-19

An industrial training report

Submitted to

Rajiv Gandhi proudyogiki vishwadhhalay Bhopal

In partial fulfillment of requirement for the degree of

BACHELOR OF PHARMACY

Training organized by -

“ZENITH DRUGS PVT. LTD. ”

SUBMITTED BY
B. PharmVIIthsem

AADITYA KUSHWAHA
0816PY151005

GRY INSTITUTE OF PHARMACY

“VIDYA-VIHAR” BORAWAN (KHARGONE) MADHYA PRADESH – 451228

Verified by me

(Signature)
11/8/18



(Signature)
Principal,
GRY. Institute Of Pharmacy
BORAWAN (KHARGONE) 451228



ZENITH DRUGS P. LTD.

(Pharmaceutical Manufacturers)



Survey No: 72/5, Muradpura
(Orangpura) Dhar Road,
Near Kalaria, Indore (M.P.) 453001
Mobile : 8435501868, 8435501867
info@zenithdrugs.com
sales@zenithdrugs.com
purchase@zenithdrugs.com
www.zenithdrugs.com

DATE- 30/06/2018

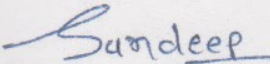
TO WHOM SO EVER IT MAY CONCERN

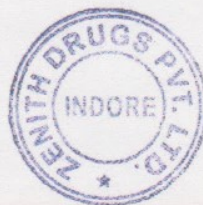
This is to certify that **Mr. Aaditya Kushwah**, student of "**GRY Institute Of Pharmacy Borawan**", has completed the compulsory Industrial Training in 7th sem. (Four Weeks) in our organization.

During his work we observe him obedient, honest and dedicated.

We hope and wish him for bright and good future.

AUTHORIZED BY:


ZENITH DRUGS PVT. LTD




Principal,
GRY. Institute Of Pharmacy
BORAWAN (KHARGONE) 451 228

INDUSTRIAL TRAINING REPORT



2018-19

An industrial training report

Submitted to

Rajiv Gandhi proudyogiki vishwadhalay Bhopal

In partial fulfillment of requirement for the degree of

BACHELOR OF PHARMACY

Training organized by -

“ZENITH DRUGS PVT. LTD.”

SUBMITTED BY

B. Pharm VIIth sem

KUNDAN YADAV

0816PY151033

GRY INSTITUTE OF PHARMACY

“VIDYA-VIHAR” BORAWAN (KHARGONE) MADHYA PRADESH - 451228

Verified by me

(Signature)
31/4/18



(Signature)
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GRY. Institute Of Pharmacy
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sales@zenithdrugs.com
purchase@zenithdrugs.com
www.zenithdrugs.com

DATE- 30/06/2018

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr. Kundan Yadav**, student of “**GRY Institute Of Pharmacy Borawan**”, has completed the compulsory Industrial Training in 7th sem. (Four Weeks) in our organization.

During his work we observe him obedient, honest and dedicated.

We hope and wish him for bright and good future.

AUTHORIZED BY:

Sandeep

ZENITH DRUGS PVT. LTD



Devi
Principal,
GRY Institute of Pharmacy
BORAWAN (KHARGONE) 451 228

VOCATIONAL TRAINING REPORT



2018-19

A Vocational Training Report

Submitted to

Rajiv Gandhi Proudyogiki Vishwavidhyalaya, Bhopal

In Partial Fulfillment requirement for the degree of

BACHELOR OF PHARMACY

Training at

CLEAN ZONE

Verified by :-

Dr. Rakesh Punasiya

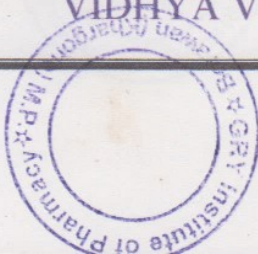
Rakesh Punasiya
3/3/18

Submitted by:-

Lakhan Baghel
B.Pharmacy (VIIth Sem.)
Er. No. 0816PY151034

GRY INSTITUTE OF PHARMACY

VIDHYA VIHAR BORAWAN KHARGONE M.P.451228



Lakhan Baghel
Principal,

GRY. Institute Of Pharmacy
BORAWAN (KHARGONE) 451 228



Clean Zone
Services
Validation Engineers & Consultant

20th June 2018

CONTENTS

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This is to certify that Mr. Lakhan Baghel a B.Pharma 3rd year student of GRY INSTITUTE OF PHARMACY BORAWAN (Khargone) has under gone training with us in our HVAC validation Department from 04th June 2018 to 20th June 2018 Satisfactory.

We wish him all success in his future endear ours.

For , Cleanzone Services



Authorized signature

Devi
BORAWAN (KHARGONE) 451 228
GRY INSTITUTE OF PHARMACY
BORAWAN (KHARGONE) 451 228

11/02/2019	Vaishali % Padmesham Sarda	Bansilal	II nd year	9826612174	8111
12/02/2019	Sawant % Gopal Dharve	Tawaji	II nd year	7354742771	3112
19/02/2019	Deepak % Umkar More	Tawaji	I st year	7354742774	3112
12-2-19	Shirani % Narayan Singh	Barda	I st year	9926939024	3112
13/02/19	Pritya % Rajendra Patil	Bikram	II nd year	9009090095	(Dant)
13-2-19	Amuj % M. Kamlesh Joshi	Khatija	II nd year	9424087925	3112
13/02/19	Abhishek % M. Akhlesh Ratul	Dhangaon	IV th sem	9826489426	3112
13/02/19	Shivani % M. Sumet Singh	Khandwa	IV th sem	9926272428	3112
13/02/19	Shivraj % M. Dulikand	Chhaprasa	IV th sem	9926037248	3112
14/02/19	Niti % M. Saptishi	Piplod	IV th sem	9424574616	3112
14/02/19	Ravindra % S. K. Bakuram	Shiggaon sipari	IV th sem	9165350824	3112
14/02/19	Peena % Ramjaya Narve	Shirniya	IV th sem	9754201204	3112
15/2/19	Jayesh % Vinay Mungam	Kharagar	IV th sem	7509784240	Shirni
15/02/19	Sagar % P. P. Patil	Khandwa	III rd year 4 th sem	7441191522	3112
15/02/19	Reena % D. D. Devram yaden	Bhangaon	I st year I st sem	9575806758	3112
16/02/19	Sainil % Jayaramchandra	Segaon	I st year II nd sem	967908580	3112
16/02/19	Vishal % Manohar Tristna	Pandharna	II nd year IV th sem	8966989990	3112
16/02/19	Ky. M. K. P. M. Chandra	Bakawa	II nd year	9753663897	3112
16/02/19	Robit % Gokul Solanki	Badgaon	I st year II nd sem	9669788086	3112
18/02/19	Abhishek % Mahendra	Bedfad	I st year II nd sem	99264-12503	3112
20/02/19	Pravin % Mukesh Yadi	Chaurani	4 th year	91797-76718	3112



Handwritten signature
 GPR Institute of Pharmacy
 Gorakhpur (Kharagpur) 229

STUDENT REPORT

II

Name of Student: Megha Kumari Pursingia Semester / Year: _____

Name of Teacher Guardian: Mr. Bhugwan Prasad

STATUS

ATTENDANCE tick mark (✓)	Present						status
	BP-201T	BP-202T	BP-203T	BP-204T	BP-205T	BP-206T	
	Total Attendance						
	18	13	15	15	12	16	
	19	18	16	18	16	19	
RESULTS							
CGPA <u>7.52</u>							
SGPA <u>7.52</u>							
Fail in: (NA if Pass)							
1. _____ 2. <u>NA</u> 3. <u>NA</u> 4. <u>NA</u> 5. _____							
GOAL							
(after completion B.Pharm)							

Suggestions: (For Pursuing Semester): Doing well, no need to suggest.

Signature

Principal,





GRY INSTITUTE OF PHARMACY

Vidya Vihar, BORAWAN (Khargone) MP - 451 228

☎ (07285) 277846-48 Fax Nos (07285) 277848, 277710 - 16

Visit us at <http://www.grypharmainst.org>; E-mail: principalgry@gmail.com

Parent / Teacher Meeting Form

Name of Student: Mayur Kumar Panwar

Date: 01/03/20

Sem: II Year: I

Parent Contact Information: _____

BEHAVIOR: Good / Excellent / Need to improve / Unsatisfactory
(Tick the option)

✓ 9926424267

Comments by Teacher Guardian:

Academic is very good.

Comments by Subject Teacher:

BP-201T Good student but need to be focus.
BP-202T Attentive but need to focus on chemistry
BP-203T Satisfactory
BP-204T well done; good in study
BP-205T improvement needed focus on study
BP-206T Satisfactory

Suggestion by Parents:

छात्र के रिजल्ट और पूरी रिपोर्ट से संतुष्ट हूँ।

Signatures

Parent/Caregiver: _____

Teacher Guardian: _____

Date: 01/03/20

Date: 01/03/20



Devi
Principal,
GRY. Institute of Pharmacy
BORAWAN (Khargone) 451228

GRY Institute of Pharmacy, Borawan

Daily Attendance Register

Teacher Guardian - Mr. Aman Kansare

24

S.no	Name of student	17/3-21		18/3/21		19/03/21		20/03/21		22/03/21		23/3/21		24/03/21	
		Sign in	Sign out	Sign in	Sign out	Sign in	Sign out	Sign in	Sign out	Sign in	Sign out	Sign in	Sign out	Sign in	Sign out
1	Harshit yadav	OFF													
2	Hosilal yadav														
3	Jitendra pawar														
4	Keshav Gupta														
5	Ketan mali														
6	Kuldeep muchala														
7	Manish rawat														
8	Matin sheikh														
9	Mayank joshi														
10	Mohit gupta														
11	Pankaj patil														
12	Pawan yadav														
13	Piyush mahawar														
14	Prakash rathore														
15	Pritesh jain														
16	Rajkumar yadav														
17	Ram yadav														
18	Yashraj Wasle														
19	Yasin Khan														
20	Yogendra Mandloi														

Principal,
GRY, Institute of Pharmacy
BORAWAN (Khargone), 451228





JNCET'S

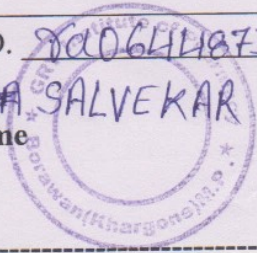
GRY INSTITUTE OF PHARMACY
REGISTRATION FORM YEAR – 2020-2021
B. PHARMACY



MAHENDRA RAO
28-06-2019

Name of student MAHENDRA RAO
 Fathers Name MUKESH RAO Mothers Name SUNITA
 Parents Mob. No. (01) 8959303022 (02) 6268744390
 Student Mob.No. (01) 6268744390 (02) _____
 Tel. No. _____ Date of Birth 26/06/2002
 Category (S.T./S.C./O.B.C./GEN) O.B.C. Domicile: (Yes / No.) YES
 Permanent address VILLAGE BOHLARI
 PIN Code: 450991
 E-mail I.D. 800644873@gmail.com

Mr. VIJAY B. SALVEKAR
T.G. Name



Principal,
GRY. Institute of Pharmacy
BORAWAN (Khargone)451228

Mahendra
Signature of student



JNCET'S

GRY INSTITUTE OF PHARMACY
REGISTRATION FORM YEAR – 2020-2021
B. PHARMACY



Name of student Aditi Gupta
 Fathers Name Mr. Rajendra Gupta Mothers Name Sadhna Gupta
 Parents Mob. No. (01) 7693058434 (02) 9424058434
 Student Mob.No. (01) 9302620366 (02) -
 Tel. No. _____ Date of Birth 01-12-2003
 Category (S.T./S.C./O.B.C./GEN) GEN Domicile: (Yes / No.) _____
 Permanent address Kujri chok gogawan dist. Khargone
 PIN Code: 451335
 E-mail I.D. guptalal593@gmail.com

T.G. Name

Dr. Laksh Punariya.

A.
Signature of student



Principal,
GRY. Institute of Pharmacy
BORAWAN (Khargone)451228



JNCET'S
GRY INSTITUTE OF PHARMACY
 (Approved by AICTE & PCI; Affiliated to RGPV; Recognized by Govt. of M.P.)
 Vidya Vihar, Borawan (Khargone) MP - 451 228
 ☎ (08285) 277847
 Visit us at: gryip.com; principalgry@gmail.com

ACADEMIC AUDIT REPORT: Year 2016 (Odd Semester)

Program: B.Pharma/M.pharma

Name of the Faculty with designation: Dr. Rakesh Punasiya Professor

a. Subjects taught:

S. No.	Theory / Practical	UG/PG	No. of classes allotted per week
1	Pharmaceutical Biotechnology	UG	4 classes
2	Theory & Practical (PY-7041)	UG	2 Lab
3	Biotechnology & Bioinformatics	PG	3 classes
4	Theory & Practical (MPY-102)	PG	2 Lab
5			
6			

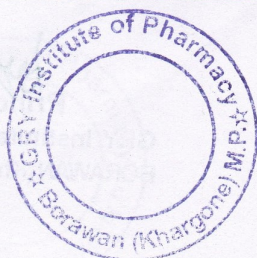
b. Submission of records:

Parameters	Yes	No
Attendance record	YES	
Question papers	YES	
Mentor record	YES	
Internal marks & grading	YES	
Tutorial sheet	YES	
Assignment sheet	YES	
CO/PO attainment	YES	
Weak students analysis	YES	
Lesson plan	YES	
Use of ICT	YES	
Teaching work assigned/completed the syllabus	YES	
Lecture notes	YES	

c. Missing classes, make up classes and Extra classes taken

S. No.	Course/Paper & Branch	Level	No. Of classes taken
1	Biotechnology	UG	Four (04)

Document



[Signature]
 Principal,
 GRY Institute of Pharmacy
 BORAWAN (Khargone) 451 228

d. Other responsibilities:

Participations in:

Activities	Remarks
Educational Tour / Industry implant training Placement activity	—
Extension Activities : Institutional governance / Participation in committees etc	sc/st cell, Anti-ragging Committee, Internal/complaint committee (Gender) students grievance cell
Any other	

e. Patent filed :

f. Academic Growth: Associate professors, Guides OIM-Pharmacy students

g. Seminars/workshops attended: 01

S. NO.	CATEGORY	Nos
a.	International seminars/conferences/symposia	—
b.	National seminars/conferences/symposia	01
c.	Regional/Local seminars/conferences/symposia	—

h. Publications:

S. No.	CATEGORY	DETAILS	Nos
a.	Referred journals (UGC Care)	—	—
b.	Other Referred journals	Int. J. of Pharmaceutical Sciences & Pharmacy	01
c.	Conference proceedings	SCORE-INDORE	01
g.	Any Other		—

i. Innovative practices adopted: Yes

j. Contribution to the Institute: counselling, admission, PCI 145 Practice
Academic charge, lab-in-charge.

k. Opinion of the committee:

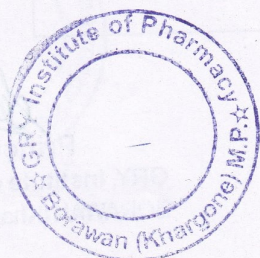
l. GRADE OF THE FACULTY:

Excellent	Very good	Good	Fair	To be Improved

(Member-Academic audit committee)

(Member-Academic audit committee)

(Chairman-Academic audit committee)



Principal,
GRY Institute of Pharmacy
BORAWAN (Kharagone) 451228



ACADEMIC AUDIT REPORT: Year 2021 (Odd Semester)

Program: B.Pharma/M.Pharma

Name of the Faculty with designation: Dr. Rakesh Punariya Professor

a. Subjects taught:

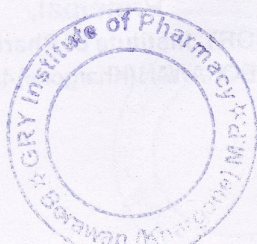
S. No.	Theory / Practical	UG/PG	No. of classes allotted per week
1	Microbiology Theory	UG	4 classes
2	Practical BP-302T, RP302T	UG	3 lab
3	Drug delivery system	PG	3 classes
4	Theory MPH-102T		
5			
6			

b. Submission of records:

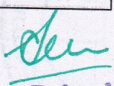
Parameters	Yes	No
Attendance record	Yes	
Question papers	Yes	
Mentor record	Yes	
Internal marks & grading	Yes	
Tutorial sheet	Yes	
Assignment sheet	Yes	
CO/PO attainment	Yes	
Weak students analysis	Yes	
Lesson plan	Yes	
Use of ICT	Yes	
Teaching work assigned/completed the syllabus	Yes	
Lecture notes	Yes	

c. Missing classes, make up classes and Extra classes taken

S. No.	Course/Paper & Branch	Level	No. Of classes taken
1	Microbiology BP-302	UG	02
	DDS MPH-102T	PG	02



1


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GRY Institute of Pharmacy
BORAWAN (Khargone) 451228

d. Other responsibilities:

Participations in:

Activities	Remarks
Educational Tour / Industry implant training Placement activity	— SCLC cell
Extension Activities : Institutional governance / Participation in committees etc	Anti-ragging committee Internal complaint committee
Any other	Student grievance cell

e. Patent filed :

f. Academic Growth:

g. Seminars/workshops attended:

M. Pharms, student guided,

S. NO.	CATEGORY	Nos
a.	International seminars/conferences/symposia	—
b.	National seminars/conferences/symposia	01
c.	Regional/Local seminars/conferences/symposia	—

h. Publications:

S. No.	CATEGORY	DETAILS	Nos
a.	Referred journals (UGC Care)	—	—
b.	Other Referred journals	—	—
c.	Conference proceedings	—	—
g.	Any Other	—	—

i. Innovative practices adopted:

Yes

j. Contribution to the Institute:

Academic exchange, PCI inspection.

k. Opinion of the committee:

Admission cell, Counciling cell

l. GRADE OF THE FACULTY:

Excellent	Very good	Good	Fair	To be Improved

(Member-Academic audit committee)

(Member-Academic audit committee)



(Chairman-Academic audit committee)

2

Principal,
GRY. Institute of Pharmacy
BORAWAN (Khargone) 451228

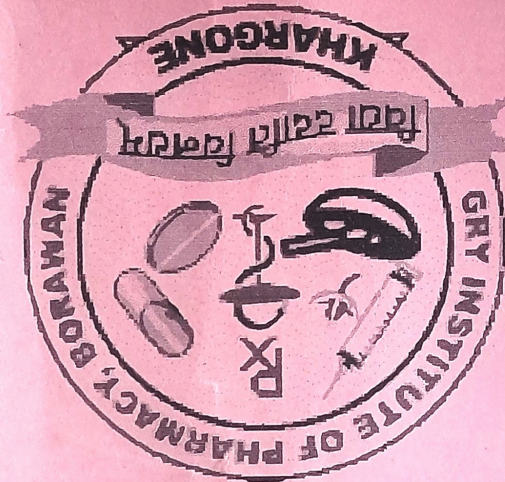
Attendance Register

For Session 2016 - 2017

Make-up Classes
(Missing/ Extra/Remedial)

JNCET'S
GRY INSTITUTE OF PHARMACY

(Approved by PCI, New Delhi/Affiliated to RGPV Bhopal, Recognised by Govt. of M.P.)
Vidhya Vihar, Borawan (Khargone) M.P. 451228, Ph. (07285) 277847



Semester

I, II

Year:

I

Sr. No.	Date/Lecture No.	Name of Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Aashita Kamanga	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2	Abhishek Kumaravel	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3	Abhishek Kushwaha	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4	Abhishek Pal	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
5	Ashika Kishan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
6	Ajay Alkade	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
7	Anant Gajjar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
8	Anish Kumaravel	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
9	Anil Rathore	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
10	Angali Chakras	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
11	Ankit Sonalkar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
12	Ankit Yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
13	Anshul Gupta	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
14	Anshul Joshi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
15	Devendra Chakram	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
16	Dhyanendra Gnanabhai	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
17	Diyesh Saini	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
18	Fatihah	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
19	Fatema	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
20	Gaureav Dandekar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
21	Gaurav Mendoloi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
22	Hasan Gale	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
23	Himanshu Bhavsara	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
24	Himanshu Kushwah	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
25	Tabaq	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
26	Jayshree	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
27	Jeyan Changaner	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
28	Kapil Bhavsara	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
29	Kapil Rathore	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
30	Kabir Changaner	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
31	Khema	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
32	Krishna Salve	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
33	Kuldeep Jaiswal	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
34	Kunal Soni	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
35	Kundan Yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
36	Kalu Yadav	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
37	Manavesh Patidar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
38	Manish Patidar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
39	Mayank Patidar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
40	Mayukh Nikumbhe	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

Principal,
GRV Institute of Pharmacy
BOSAP-51(Kharagone) 451228



Sr. No.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
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34	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
35	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
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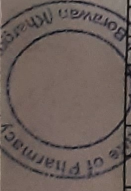
Principal,
GRV Institute of Pharmacy
BORAWAN(Kharagone) 451228



No.	Name of Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
36	Devi Laxmi No.																		
37	Devi Laxmi No.																		
38	Devi Laxmi No.																		
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87	Devi Laxmi No.																		
88	Devi Laxmi No.																		

No.	Name of Student	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
41	Devi Laxmi No.																											
42	Devi Laxmi No.																											
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Tutorial sheet No. T01

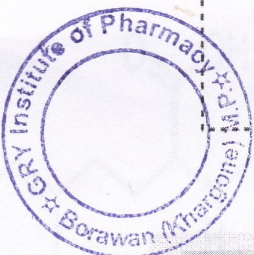
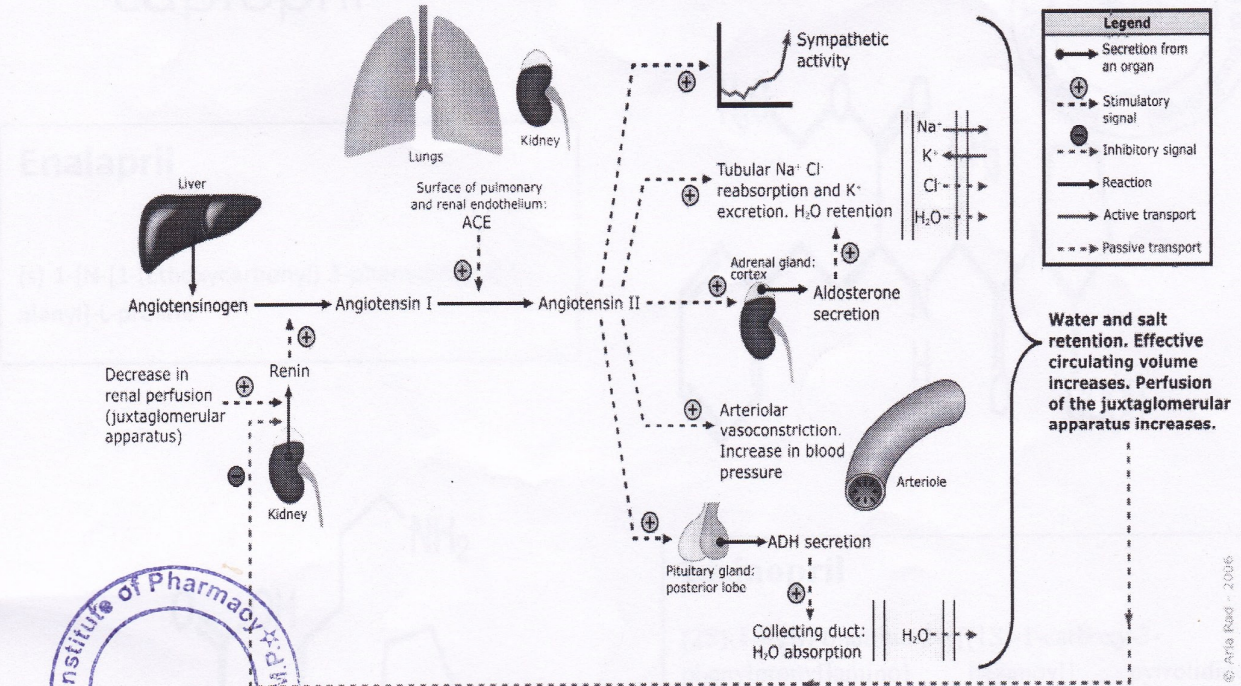
Subject Name: Medicinal Chemistry-II

Subject code: BP-501T

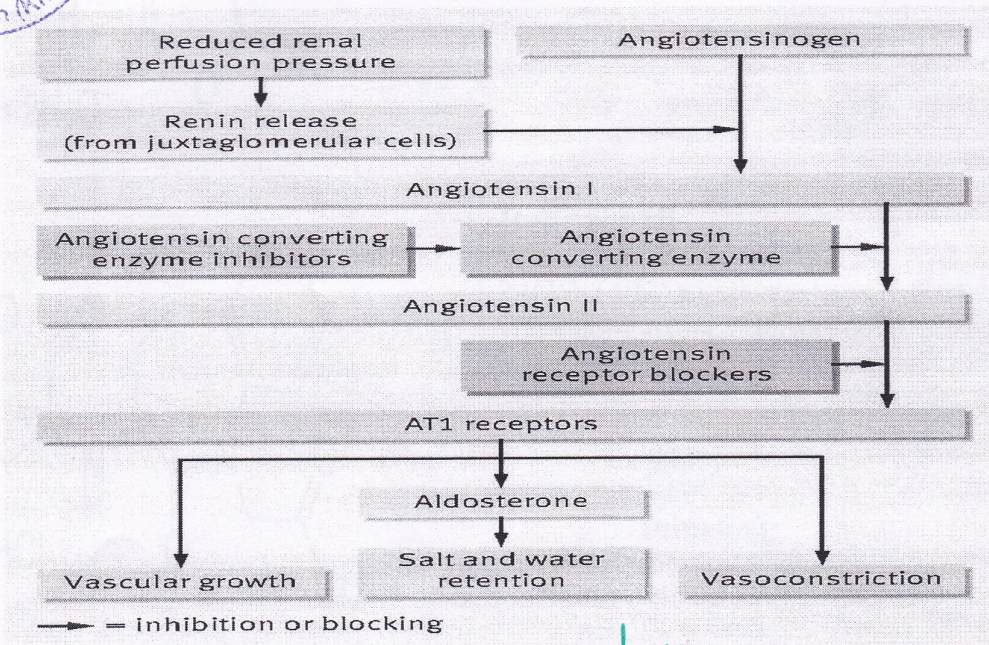
Year/Semester V

Q.1 Explain mechanism of action of ACE inhibitors drugs with structure.

Renin-angiotensin-aldosterone system

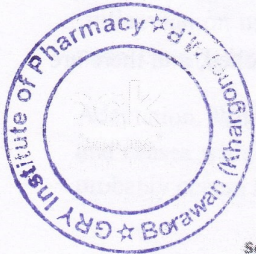


Angiotensin- Converting Enzyme Inhibitors

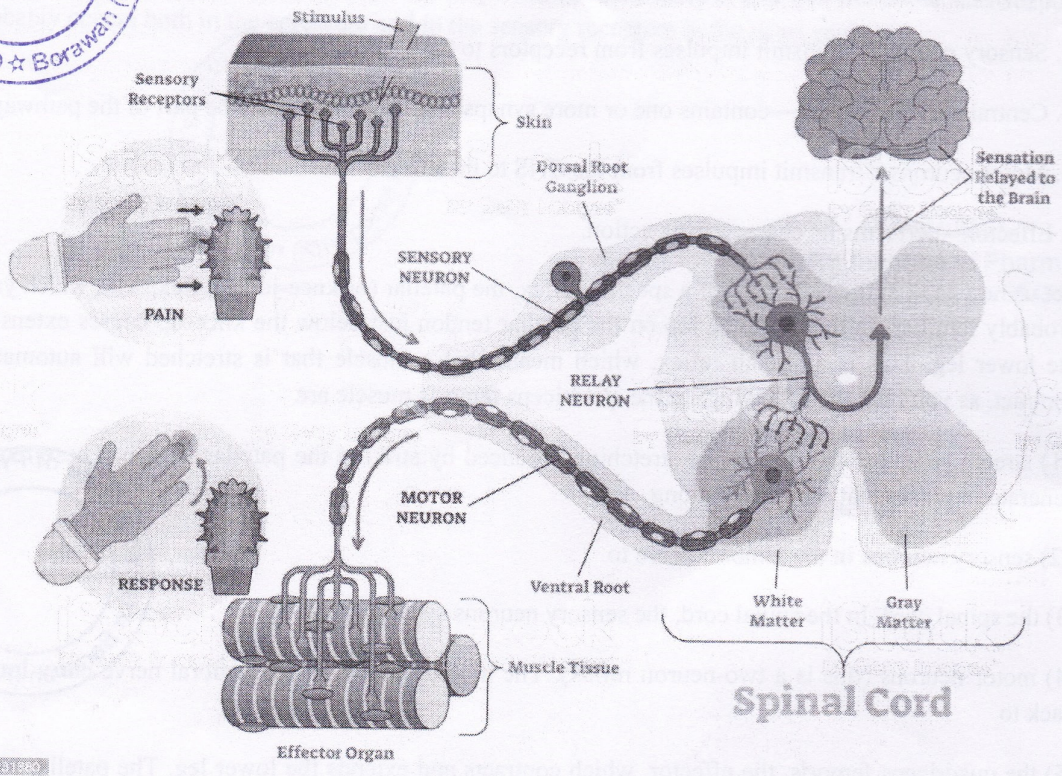


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neurons. Again, however, the brain does not have to make a decision to protect the body; the flexor reflex does that automatically (see Box 8-3: Spinal Cord Injuries). The brain may know that the reflex has taken place, and may even learn from the experience, but that requires different neurons, not the reflex arc.

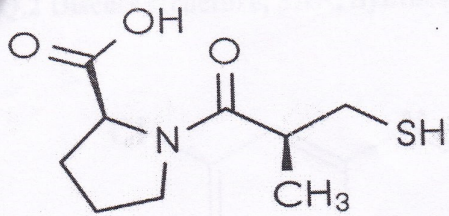


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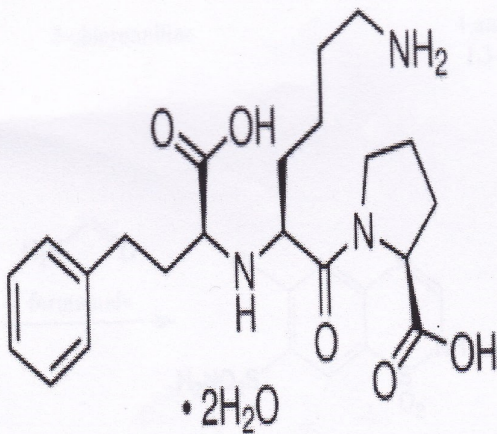
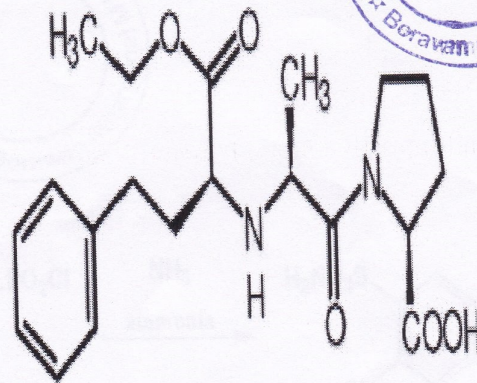


captopril

1-[(2s)-3-mercapto-2-methyl propionyl]-L-proline

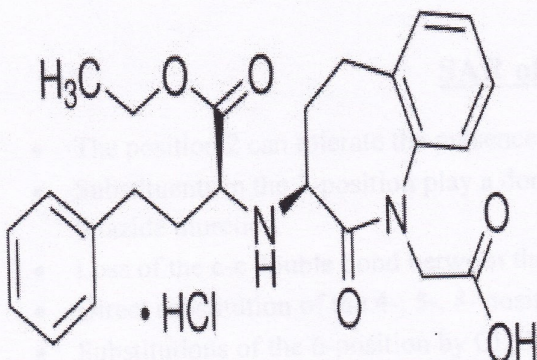
Enalapril

(s)-1-[N-[1-(Ethoxycarbonyl) 3-phenylpropyl]-L-alanyl]-L-proline



Lisinopril

(2S)-1-[(2S)-6-amino-2-{{(1S)-1-carboxy-3-phenylpropyl} amino} hexanoyl] pyrrolidine-2-carboxylic acid

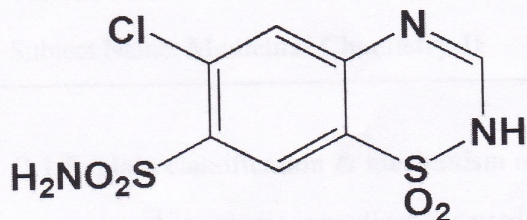


Benazepril

2-[(3S)-3-[[[(2S)-1-ethoxy-1-oxo-4-phenylbutan-2-yl]amino]-2-oxo-4,5-dihydro-3H-1-benzazepin-1-yl] acetic acid

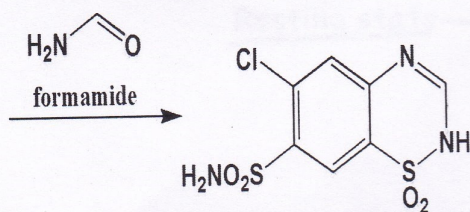
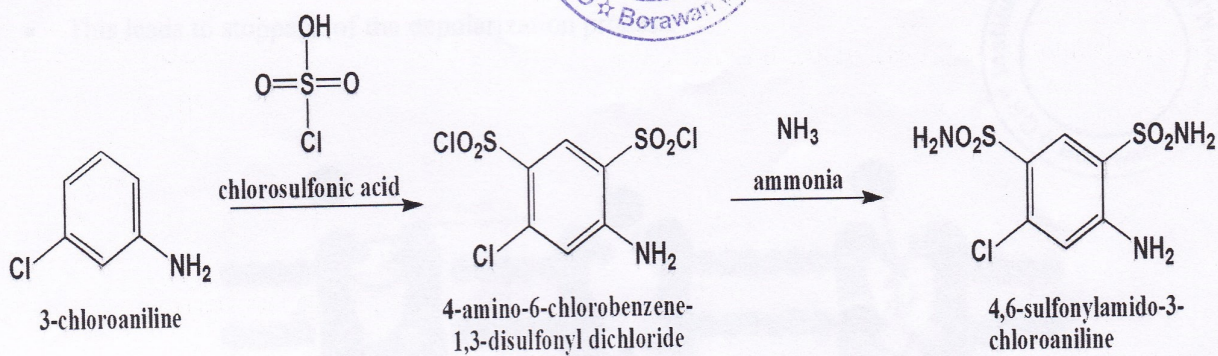
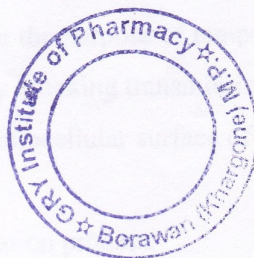
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Q.2 Discuss structure, SAR, Synthesis of chlorothiazide drug.



1,1-dioxo-6-chloro-2H-1,2,4-benzothiadiazine - 7-sulfonamide

Chlorothiazide



SAR of Thiazide Diuretics

- The position 2 can tolerate the presence of relatively small alkyl groups CH₃.
- Substituents in the 3-position play a dominant role in determining the potency & duration of action of thiazide diuretics.
- Loss of the c-c double bond between the 3- & 4- position of nucleus increase the diuretic potency.
- Direct substitution of the 4-, 5-, 8- position with an alkyl group decrease the activity.
- Substitutions of the 6-position by Cl, Br, CF₃, NO₂ group increase the diuretic potency.
- Sulphamoyl group at 7-position is a necessary for activity.

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Tutorial sheet No. T02

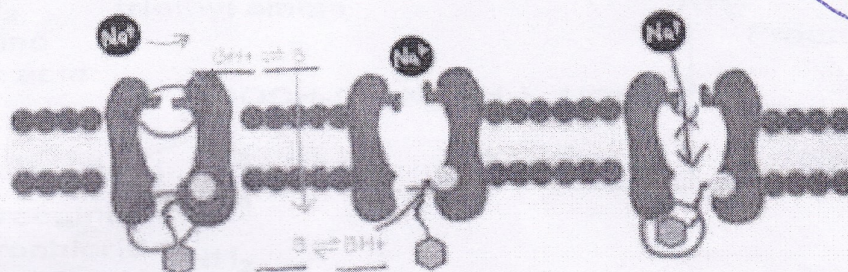
Subject Name: Medicinal Chemistry-II

Subject code: BP-501T

Year/Semester V

Q.1 Explain classification & mechanism of action of local anesthetic drugs.

- Local anesthetic is medications used for the purpose of temporary & reversible elimination of painful feelings in specific areas of the body by blocking transmission of nerve fiber impulses.
- These drugs selectively bind with the intracellular surface of sodium channels & block the entrance of sodium ions into the cell.
- This leads to stoppage of the depolarization process.



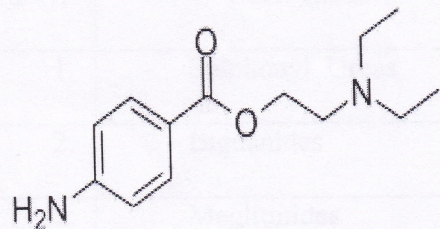
Resting state → Activated state → Inactivated state

Drugs classification

S. N.	Derivatives	Drug Name
1.	Benzoic acid derivatives	Cocaine, Hexylcaine, Meprylcaine, Cyclomethycaine, Piperocaine
2.	Aminobenzoic acid derivatives	Benzocaine, Butamben, Tetracaine, Procaine, Butacaine, Benoxinate, Propoxycaine
3.	Anilides derivatives	Lignocaine, Mepivacaine, Etidocaine, Prilocaine
4.	Miscellaneous	Phenacaine, Diperon, Dibucaine
5.	Newer drugs	Ropivacaine, Levobupivacaine

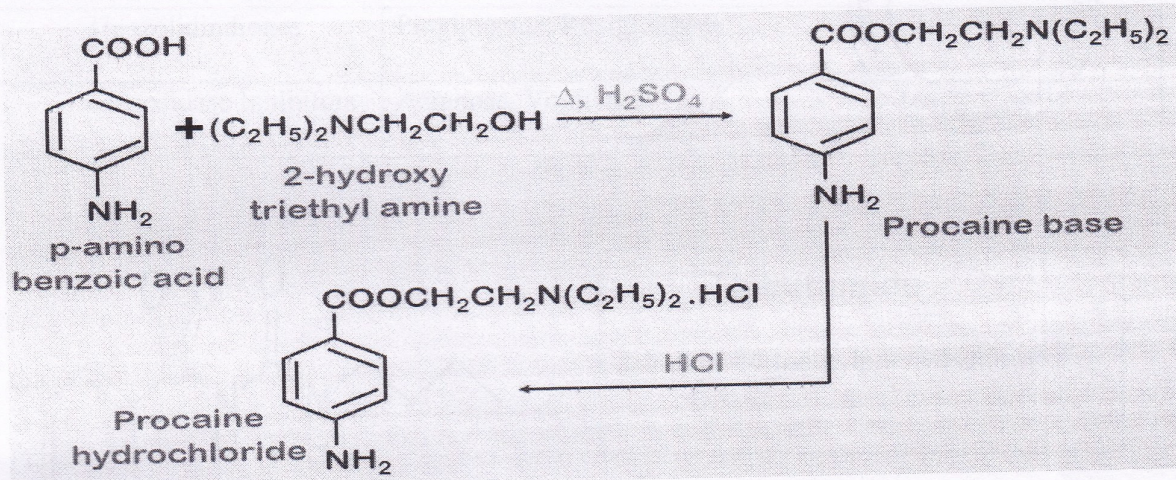
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Q.2 Discuss structure, SAR, Synthesis of procaine drug.



Procaine

2-(diethylamino) ethyl 4-aminobenzoate;hydrochloride



SAR of benzoic acid derivatives

❖ Aryl ring substitution

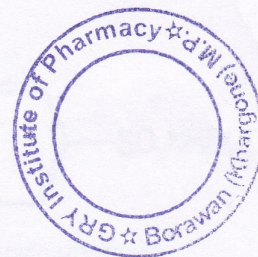
1. P or ortho positions substitution may enhance activity.
2. Alkoxy, amino, alkyl amino, methyl, ethyl group increase activity.

❖ Bridge substitution

1. The bridge may be C, O, N, S.
2. Increasing the chain length will increase potency but will also increase toxicity.
3. In procaine, branching will increase duration of action.

❖ Amino alkyl group

1. The amino alkyl group is not necessary for activity, but it is used to form water-soluble salts.
2. Tertiary amines results in more useful agents.
3. Secondary amines appear to be longer activity, but they are more irritating.
4. Primary amines are not very active & cause irritation.
5. Tertiary amino group may be diethylamino, piperidine or pyrrolidino, leading to the product that exhibits essentially the same degree of activity.



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Q.1. Detail note on Reflex arc.

Answer.

Reflex Arc A reflex arc is the pathway that nerve impulses travel when a reflex is elicited, and there are five essential parts:

1. Receptors—detect a change (the stimulus) and generate impulses.
2. Sensory neurons—transmit impulses from receptors to the CNS.
3. Central nervous system—contains one or more synapses (interneurons may be part of the pathway).
4. Motor neurons—transmit impulses from the CNS to the effector.
5. Effector—performs its characteristic action.

Let us now look at the reflex arc of a specific reflex, the patellar (or knee-jerk) reflex, with which you are probably familiar. In this reflex, a tap on the patellar tendon just below the kneecap causes extension of the lower leg. This is a stretch reflex, which means that a muscle that is stretched will automatically contract. as you read the following: In the quadriceps femoris muscle are

(1) stretch receptors that detect the stretching produced by striking the patellar tendon. These receptors generate impulses that are carried along

(2) sensory neurons in the femoral nerve to

(3) the spinal cord. In the spinal cord, the sensory neurons synapse with

(4) motor neurons (this is a two-neuron reflex). The motor neurons in the femoral nerve carry impulses back to

(5) the quadriceps femoris, the effector, which contracts and extends the lower leg. The patellar reflex is one of many used clinically to determine whether the nervous system is functioning properly. If the patellar reflex were absent in a patient, the problem could be in the thigh muscle, the femoral nerve, or the spinal cord. Further testing would be needed to determine the precise break in the reflex arc. If the reflex is normal, however, that means that all parts of the reflex arc are intact. So the testing of reflexes may be a first step in the clinical assessment of neurologic damage. You may be wondering why we have such reflexes, these stretch reflexes. What is their importance in our everyday lives? Imagine a person standing upright—is the body perfectly still? No, it isn't, because gravity exerts a downward pull. However, if the body tilts to the left, the right sides of the leg and trunk are stretched, and these stretched muscles automatically contract and pull the body upright again. This is the purpose of stretch reflexes; they help keep us upright without our having to think about doing so. If the brain had to make a decision every time we swayed a bit, all our concentration would be needed just to remain standing. Since these are spinal cord reflexes, the brain is not directly involved. The brain may become aware that a reflex has taken place, but that involves another set of neurons carrying impulses to the brain.

Flexor reflexes (or withdrawal reflexes) are another type of spinal cord reflex. The stimulus is something painful and potentially harmful, and the response is to pull away from it. If you inadvertently touch a hot stove, you automatically pull your hand away. Flexor reflexes are three-neuron reflexes, because sensory neurons synapse with interneurons in the spinal cord, which in turn synapse with motor

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Lecture Plan

Subject: HUMAN ANATOMY AND PHYSIOLOGY-II

Theory/ Practical: THEORY

Subject code: BP 201T

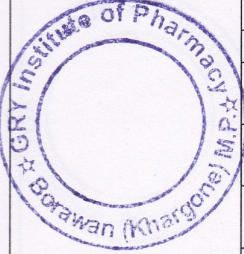


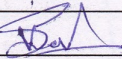
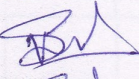
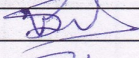

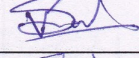

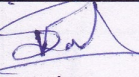
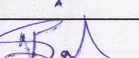
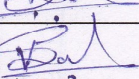
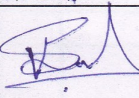
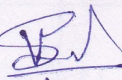
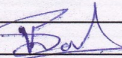
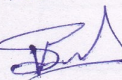

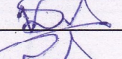
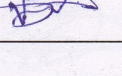
Semester: II

Total Hours Planned: 42

Subject In charge: Mr. Vijay Salvekar

Session: Jan to June 2018

Total Number of Hours Prescribed: 35

Chapter details	S.No	Topics to be covered	Date	Signature	Remark
	1.	NERVOUS SYSTEM: Organization of nervous system, neuron, neuroglia, classification and properties of nerve fibre	02/01 03/01		
	2.	electrophysiology, action potential, nerve impulse, receptors, synapse, neurotransmitters.	09/01 10/01		
	3.	continue	10/01		
	4.	Central nervous system: Meninges, ventricles of brain and cerebrospinal fluid.	14/01		
	5.	Continue	14/01		
	6.	structure and functions of brain (cerebrum, brain stem, cerebellum),	21/01		
	7.	Continue	21/01		
	8.	Continue	28/01		
	9.	spinal cord (gross structure, functions of afferent and efferent nerve tracts, reflex activity)	30/01		
	10.	Continue	31/01		
	11.	Continue	31/01		
Unit II	12.	DIGESTIVE SYSTEM Anatomy of GI Tract with special reference to anatomy and functions of stomach	04/02		
	13.	(Acid production in the stomach, regulation of acid production through parasympathetic nervous system, pepsin role in protein digestion)	05/02		
	14.	Continue	05/02		
	15.	small intestine and large intestine, anatomy and functions of salivary glands, digestion and absorption of nutrients and disorders of GIT.	06/02		
	16.	continue	06/02		
	17.	Continue	06/02		
	18.	pancreas and liver, movements of GIT	07/02		



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Lecture Plan

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Theory/ Practical: THEORY

Subject code: BP 201T

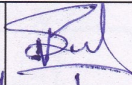
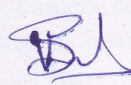

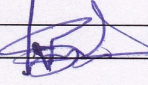
Semester: II

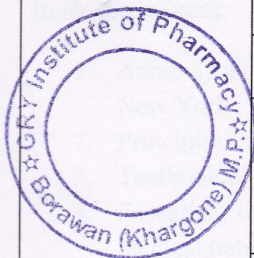
Total Hours Planned: 42

Subject In charge: Mr. Vijay Salvekar

Session: Jan to June 2018

Total Number of Hours Prescribed: 35

	19	ENERGETICS Formation and role of ATP, Creatinine Phosphate and BMR	08/02 08/02/04		
	20	continue	08/02		
UNIT-III	21	RESPIRATORY SYSTEM Anatomy of respiratory system with special reference to anatomy of lungs	09/02 08/03		
	22	mechanism of respiration, regulation of respiration	09/02		
	23	Lung Volumes and capacities transport of respiratory gases,	11/02		
	24	artificial respiration, and resuscitation methods	11/02		
	25	URINARY SYSTEM Anatomy of urinary tract with special reference to anatomy of kidney and nephrons, functions of kidney and urinary tract	14/02 08/04		
	26	continue	14/02		
	27	physiology of urine formation, micturition reflex	18/02		
	28	continue	20/02		
	29	role of kidneys in acid base balance, role of RAS in kidney and disorders of kidney	21/02		
	30	continue	21/02		
UNIT-IV	31	ENDOCRINE SYSTEM Classification of hormones, mechanism of hormone action	25/02		
		structure and functions of pituitary gland and their disorders.	25/02		
		thyroid gland, parathyroid gland and their disorders.	27/02		
	32	adrenal gland and their disorders.	27/02		
	33	Pancreas and their disorders.	28/02		
	34	pineal gland, thymus and their disorders.	28/02		
Unit -V	35	REPRODUCTIVE SYSTEM Anatomy and Functions of male reproductive system	06/03		
	36	fertilization, spermatogenesis	07/03		
	37	Anatomy and Functions of female reproductive system,	11/03		
	38	sex hormones, physiology of	13/03		



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Lecture Plan

Subject: HUMAN ANATOMY AND PHYSIOLOGY-II

Theory/ Practical: THEORY

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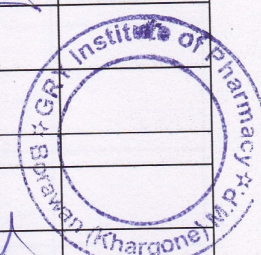
Semester: II

Total Hours Planned: 3542

Subject In charge: Mr. Vijay Salvekar

Session: Jan to June 2018

Total Number of Hours Prescribed: 35

		menstruation	14/03	<i>SV</i>	
	39	oogenesis, pregnancy and parturition	18/03		
	40	Introduction to genetics Chromosomes, genes and DNA,	20/03		
	41	continue	27/03		
	42	protein synthesis, genetic pattern of inheritance	01/03		
	43	continue	05/03	<i>SV</i>	

Book References:

1. Anatomy and Physiology in Health and Illness by Kathleen J.W. Wilson, Churchill Livingstone, New York
2. Principles of Anatomy and Physiology by Tortora Grabowski. Palmetto, GA, U.S.A.
3. Textbook of Practical Physiology by C.L. Ghai, Jaypee brothers medical publishers, New Delhi.
4. Essentials of Medical Physiology by K. Sembulingam and P. Sembulingam. Jaypee brothers medical publishers, New Delhi.

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Lecture Plan

Subject: PHARMACEUTICAL ORGANIC CHEMISTRY –I

Subject code: BP202T

Semester: II

Subject In charge: Mr. Nilesh Mandloi

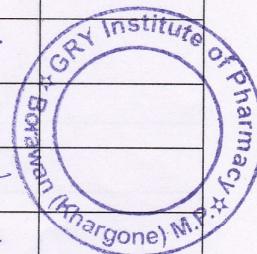
Session: Jan to June 2021

Theory/ Practical:

Total Hours Planned:

Total Number of Hours Prescribed:

Chapter details	S. No	Topics to be covered	Date	Signature	Remark
Unit-I Classification, nomenclature and isomerism	1.	Classification of Organic Compounds	08/03/21	NKJ	
	2.	continue	17/03/21	NKJ	
	3.	Common and IUPAC systems of nomenclature of organic compounds	19/3/21	NKJ	
	4.	continue	20/3/21	NKJ	
	5.	continue	24/03/21	NKJ	
	6.	Structural isomerisms in organic compounds	09/4/21	NKJ	
	7.	continue	—	—	
Unit-II Alkanes*, Alkenes* and Conjugated dienes*	8.	Method of preparations of and reactions of alkanes Halogenation of alkanes	23/4/21	NKJ	
	9.	E1 and E2 reactions – kinetics, order of reactivity of alkyl halides,	23/4/21	NKJ	
	10.	E1 verses E2 reactions, Factors affecting E1 and E2 reactions	24/4/21	NKJ	
	11.	Rearrangement of carbocations, Saytzeffs orientation and evidences	23/4/21	NKJ	
	12.	SP ³ hybridization in alkanes, uses of paraffins	16/4/21	NKJ	
	13.	Stabilities of alkenes, SP ² hybridization in alkenes	19/4/21	NKJ	
	14.	Method of preparations of and reactions of alkenes Ozonolysis, electrophilic addition reactions of alkenes	19/4/21 30/4/21	NKJ	
	15.	Markownikoff's orientation, free radical addition reactions of alkenes, Anti Markownikoff's orientation	30/4/21	NKJ	
	16.	Method of preparations of and reactions of conjugated dienes free radical addition reactions of conjugated dienes, allylic rearrangement	01/05/21	NKJ	
	17.	Stability of conjugated dienes, Diel-Alder, electrophilic addition	01/05/21	NKJ	
Unit-III Alkyl halides*	18.	Method of preparations of and reactions of alkyl halides	07/05/21	NKJ	
	19.	SN ¹ and SN ² reactions - kinetics, order of reactivity of alkyl halides,	03/05/21	NKJ	



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Lecture Plan

Subject: PHARMACEUTICAL ORGANIC CHEMISTRY –I

Theory/ Practical:

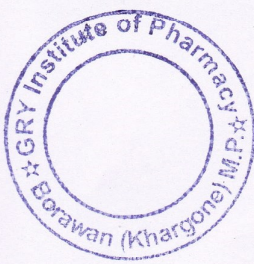
Subject code: BP202T

Semester: II

Total Hours Planned:

Subject In charge: Mr. Nilesh Mandloi Session: Jan to June 2021

Total Number of Hours Prescribed:

	20.	Continue	05/05/21	NKJ	
	21.	stereochemistry and rearrangement of carbocations	07/5/21	NKJ	
	22.	SN1 versus SN2 reactions, Factors affecting SN1 and SN2 reactions	07/5/21	NKJ	
	23.	Structure and uses of ethylchloride, Chloroform, trichloroethylene, tetrachloroethylene, dichloromethane, tetrachloromethane and iodoform	08/05/21	NKJ	
Alcohols*	24.	Method of preparations of and reactions of alcohol	19/5/21 26/5/21	NKJ	
	25.	Qualitative tests for alcohol	02/6/21	NKJ	
	26.	Structure and uses of Ethyl alcohol, chlorobutanol Cetosteryl alcohol, Benzyl alcohol, Glycerol, Propylene glycol	14/6/21	NKJ	
Unit-IV Carbonyl compounds* (Aldehydes and ketones)	27.	Method of preparations of and reactions of Aldehydes and ketones	15/6/21	NKJ	
	28.	Nucleophilic addition, Electromeric effect	16/6/21	NKJ	
	29.	aldol condensation, Crossed Aldol condensation, Cannizzaro reaction, Crossed Cannizzaro reaction,	18/6/21	NKJ	
	30.	Benzoin condensation, Perkin condensation, qualitative tests,	19/6/21	NKJ	
	31.	Structure and uses of Formaldehyde, Paraldehyde, Acetone, Chloral hydrate, Hexamine	21/6/21	NKJ	
	32.	Benzaldehyde, Vanilin, Cinnamaldehyde.	22/6/21	NKJ	
Unit-V Carboxylic acids*	33.	Method of preparations of and reactions of carboxylic acids	23/6/21	NKJ	
	34.	Inductive effect	23/6/21	NKJ	
	35.	Acidity of carboxylic acids, Effect of substituents on acidity	25/6/21	NKJ	
	36.	Qualitative tests for carboxylic acids, amide and ester	26/6/21	NKJ	
	37.	Structure and Uses of Acetic acid, Lactic acid, Tartaric acid, Citric acid, Succinic acid. Oxalic acid, Salicylic acid, Benzoic acid	28/6/21	NKJ	
	38.	Benzyl benzoate, Dimethyl phthalate,	28/6/21	NKJ	


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Lecture Plan

Subject: PHARMACEUTICAL ORGANIC CHEMISTRY –I

Subject code: BP202T

Semester: II

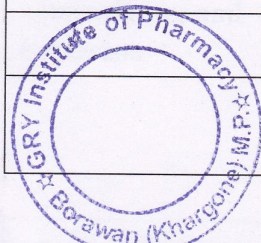
Subject In charge: Mr. Nilesh Mandloi Session: Jan to June 2021

Theory/ Practical:

Total Hours Planned:


Total Number of Hours Prescribed:

Chapter/Topic		Methyl salicylate and Acetyl salicylic acid			
Aliphatic amines*	39.	Method of preparations of and reactions of Aliphatic amines	30/6/21	NKJ	
	40.	Basicity, effect of substituent on Basicity	29/6/21	NKJ	
	41.	Qualitative test,	01/7/21	NKJ	
	42.	Structure and uses of Ethanolamine, Ethylenediamine, Amphetamine	03/07/21	NKJ	



Book References:

1. Organic Chemistry by Morrison and Boyd
2. Organic Chemistry by I.L. Finar, Volume-I
3. Textbook of Organic Chemistry by B.S. Bahl & Arun Bahl.
4. Organic Chemistry by P.L.Soni


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Lecture Plan

Subject: HUMAN ANATOMY AND PHYSIOLOGY-II

Theory/ Practical: THEORY

Subject code: BP 201T

Semester: II

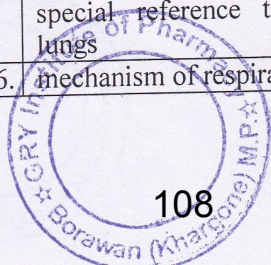
Total Hours Planned:

Subject In charge: Mr.Prabhat Das

Session: Jan to July 2021

Total Number of Hours Prescribed:

Chapter details	S.No	Topics to be covered	Date	Signature	Remark
Unit I	1.	NERVOUS SYSTEM: Organization of nervous system, neuron, neuroglia, classification and properties of nerve fibre	16/3/21	Pm	
	2.	electrophysiology, action potential, nerve impulse, receptors, synapse, neurotransmitters.	18/3/21	Pm	
	3.	Central nervous system: Meninges, ventricles of brain and cerebrospinal fluid.	20/3/21	Pm	
	4.	structure and functions of brain (cerebrum, brain stem, cerebellum),	23/3/21	Pm	
	5.	Continue	28/3/21	Pm	
	6.	spinal cord (gross structure, functions of afferent and efferent nerve tracts, reflex activity)	26/3/21	Pm	
	7.	Continue	27/3/21	Pm	
Unit II	8.	DIGESTIVE SYSTEM Anatomy of GI Tract with special reference to anatomy and functions of stomach	8/4/21	Pm	
	9.	(Acid production in the stomach, regulation of acid production through parasympathetic nervous system, pepsin role in protein digestion)	12/4/21	Pm	
	10.	Continue	19/4/21	Pm	
	11.	small intestine and large intestine, anatomy and functions of salivary glands, digestion and absorption of nutrients and disorders of GIT.	20/4/21	Pm	
	12.	Continue	22/4/21	Pm	
	13.	pancreas and liver, movements of GIT	3/5/21	Pm	
	14.	ENERGETICS Formation and role of ATP, Creatinine Phosphate and BMR	4/5/21	Pm	
UNIT-III	15.	RESPIRATORY SYSTEM Anatomy of respiratory system with special reference to anatomy of lungs	6/5/21	Pm	
	16.	mechanism of respiration, regulation	11/5/21	Pm	



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