2.5.1. Mechanism of Internal / External assessment is transparent and the grievance redressal system is time-bound and efficient.

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Avanthi Institute of Pharmaceutical Sciences
Cherukupally (V), Bhogapuram Mandal
Vizianagaram Dt., - 531162

Principal
PRINCIPAL
Avanthi Institute of Pharmaceutical Sciences
Cherukupally (V), Bhogapuram Mandal
Vizianagaram Dt., - 531162

Mechanism for Internal Examination Grievance Redressal

The college offers a well-functioning grievance procedure for examination-related issues. At the college offers a well-functioning grievance procedure for examination-related issues. At the college level, an examination committee is constituted, comprising of Principal, senior Faculty as and other teaching faculty as supporting members for smooth conduction of internal and external examinations. The end semester examination is conducted by university, and the students appear at the jumbling center allotted by the university. Students who have issues regarding exams can address principal, exam in charge and the concerned faculty. The organization conducts internal exams in accordance with university rules. In accordance with university policies and procedures, the entire grievance procedure for exams is time-bound.

There are two types of assessments:

(1) External Examination (EE)

(2) Internal Assessment or examination (IA).

Procedure of conduction of Internal Examination:

- In accordance with the timetables published by JNTU-GV, Vizianagaram, faculty members will enlighten students at the start of the semester about the different elements of the evaluation process.
- Two internal examinations are conducted in each semester for both theory and practical courses.
- All faculty members, students will receive schedule of internal exams and displayed on the college notice board.
- The timetables for the internal examination are created in accordance with university policies and are provided to the students plenty of notice.
- Two invigilators are appointed to each hall for the effective administration of internal assessments.
- The faculty members in charge of the course evaluate the scripts, and they are required to submit the scripts not later than three days after the exam date.
- The students receive the scripts from the concerned faculty to check any discrepancy or doubt in checking, and any concerns are promptly addressed and resolved.
- By adopting the criteria as per the guidelins of affiliating university, complete transparency is maintained in internal examinations.

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- After preparing the assessments report by faculty it is shown to Principal and a copy is submitted by the concerned faculty to the examination section.
- The assessment marks of two sessional exams displayed on the notice board, and uploaded in university portal at the end of each semester.
- Continuous mode is evaluated for each student, by considering their attendance, teacher - student interaction and academic activities. The Project Review Committee (PRC) evaluates the projects quality in conjunction with the project guides.

Redressal of Internal Examination Grievances (College level):

- The concerned faculty distributes the internal examination scripts to students and collects their grievances if any.
- If any corrections raises that the marks scored are not up to his/her expectations, the student will bring them to the attention of the relevant teaching member.
- The responsible faculty member will reassess the response sheet in accordance with the evaluation scheme. If no discrepancy observed, the student will be informed by means of an explanation of the evaluation method, otherwise if discrepancy observed, the faculty will adjust the marks.
- If any complaints address by the student, In order to address these complaints, principal or HOD would give the relevant documents - such as the question paper, evaluation plan, and answer script - to another faculty for a prompt reevaluation.
- If there is no change in the marks upon revaluation, the student(s) will be informed as such. If there is a discrepancy any in the grades, principal/HOD will notify the relevant faculty to adjust the marks.
- The mid marks are shown on the notice board and are awarded in accordance with predetermined strategies.

Process for Examining Internal Grievances:

- The college has a smooth grievance procedure for exam-related issues. If any exam irregularities observed by the college are promptly reported to the university's controller of examinations, who then makes any necessary corrections. Students can also use the web portal and suggestion box. The principal, IQAC, and exam in charge closely monitor each internal assessment procedure and make any necessary corrections. Students will be informed of the grievances' resolution within a predetermined timeframe. The action taken on the grievances will be communicated to students within a stipulated time period.

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Procedure of conduction of External Examination:

The college has a well-functioning grievance procedure for examination-related issues. Any discrepancies with the exams that the college finds are reported right away to the university controller of examinations, and any necessary corrections are only made after receiving directives from the university. It is time-bound and extremely transparent.

External Examination Process:

- The university will select an external examiner from among the other colleges to conduct the end examination for the lab and projects.
- The university will select an observer from among the other colleges to conduct the end semester theory exams.
- Based on the timetables, the Examination Cell will create the faculty invigilation chart and the student seating plan with an internal jumbling mechanism.
- Invigilators will announce the guidelines pertaining to in the examination hall.
- Examiners are required to announce in the examination hall the regulations, governing the conduct of the exams.
- It is expected of the invigilators to maintain the peace in the exam room and handle delicate situations with tact.
- If an issue is found, the person in question may notify the Chief Supervisor of the matter, and based on the gravity of the problem, the Controller of the Examinations (CE) may be notified as well.
- Exams are usually scheduled to begin at 10:00 AM for the afternoon session and at 2:00 PM for the morning session.
- The invigilators were advised to arrive at their designated examination halls no later than thirty minutes prior to the start of the exam.
- It is the sole responsibility of the invigilators assigned to a hall to submit the answer booklets to the relevant Examination Cell authorities, and they are all instructed to report back to the Examination Cell upon completion of the examination.
- Invigilators were instructed to notify the Chief Supervisor right away if they discovered or tracked down any unusual incidents while conducting the examinations.

Redressal of External Examination Grievances (University level):

After being sent through the college Examination Cell, questions about results and mark sheet corrections issued by the university are handled at the J.N.T.U-GV Examination Cell. Students may request a revaluation, recount, or challenged evaluation by paying the required processing fee to the

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university if they are unhappy with the grades they received. Students may apply for revaluation, recounting, and challenged evaluation if they are unhappy with the grades they received from the university. To do this, they must pay the required processing fee. The college sends a photocopy of the mark list along with an application to correct errors at the university level for students whose marks are either not entered at all or entered incorrectly. As a result, the college handles any student grievances promptly and with the utmost care.

Principal

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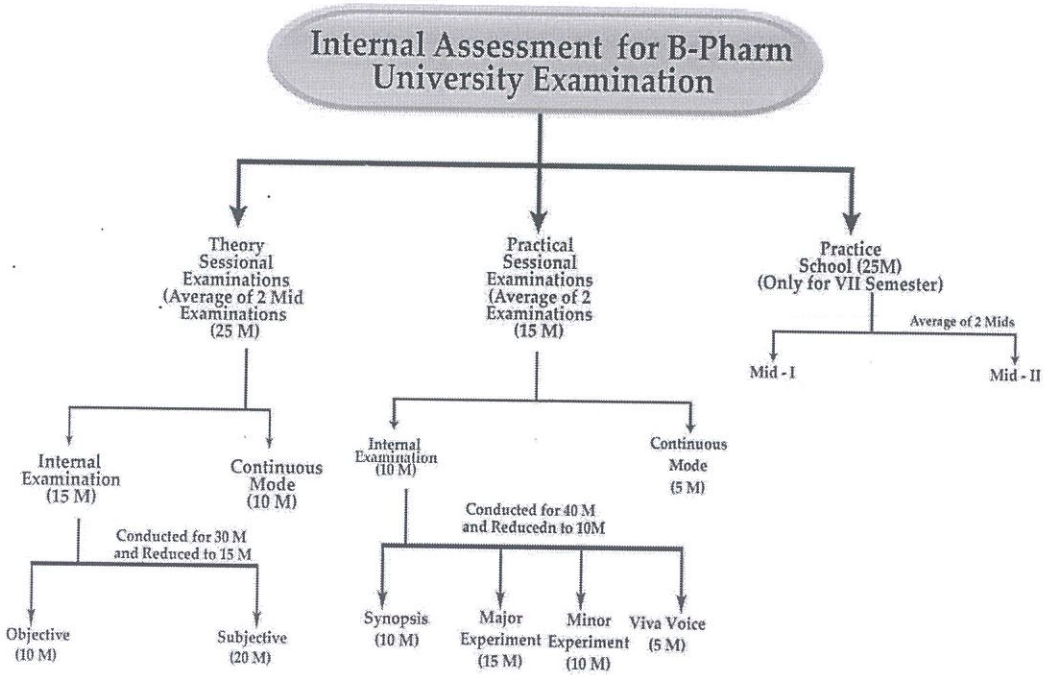
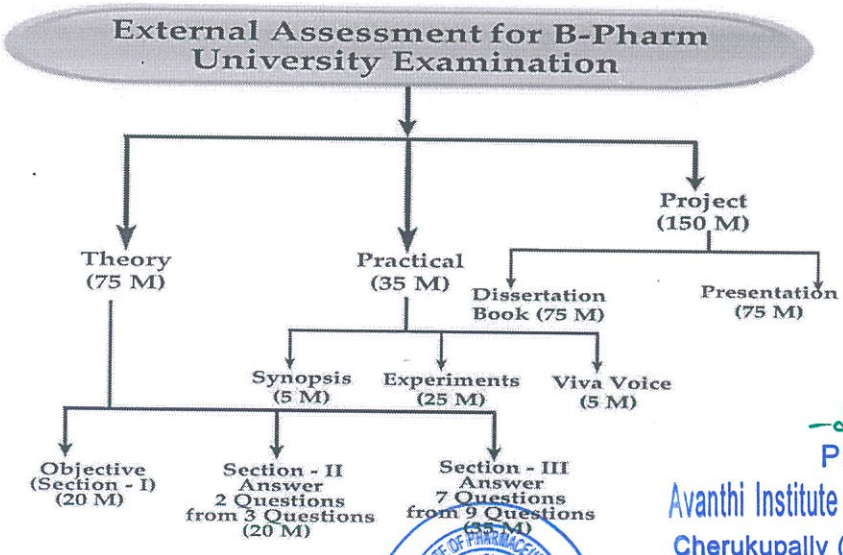
ACADEMIC REGULATIONS AS PER UNIVERSITY AND PCI GUIDELINES

Mechanism of Internal and External Examinations

Avanthi Institute of Pharmaceutical technology follows the academic regulations and guidelines set by the University and PCI, New Delhi.



Internal Assessment for B Pharm University Examinations



External Assessment for B-Pharm University Examinations

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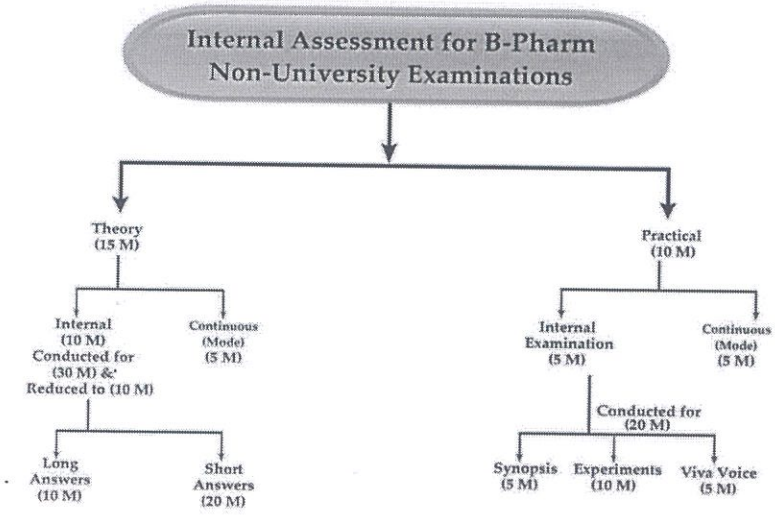
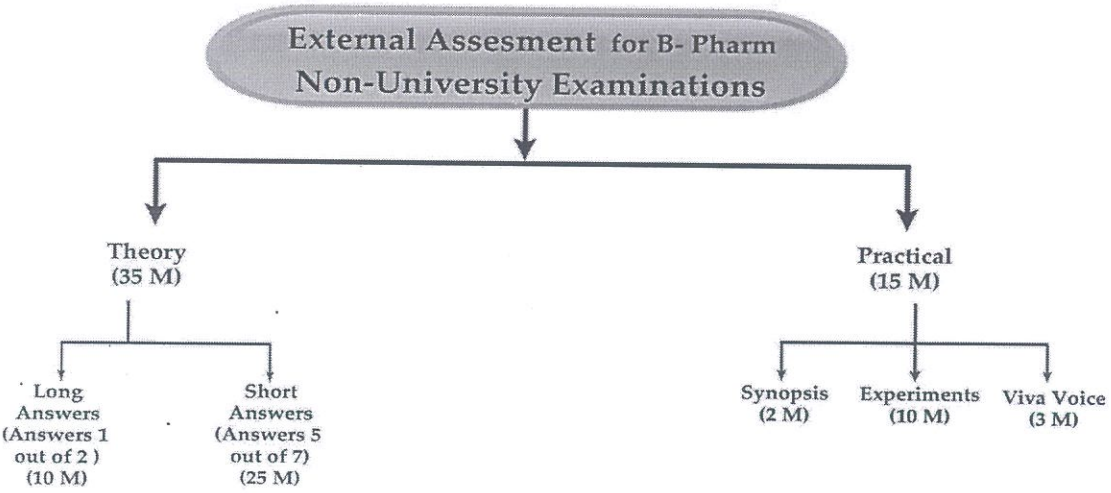


Internal Assessment for B-Pharm Non-University Examinations



External Assessment for B-Pharm Non-University Examinations

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JNTUK KAKINADA

Rules & Syllabus for the Bachelor

of Pharmacy (B. Pharm) Course

as approved by
Pharmacy Council of India
New Delhi

[Framed under Regulation 6, 7 & 8 of the Bachelor of

Pharmacy (B. Pharm) course regulations 2014]

CHAPTER- I: REGULATIONS

1. Short Title and Commencement

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

2. Minimum qualification for admission

2.1 First year B. Pharm:

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

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

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

3. Duration of the program

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

4. Medium of instruction and examinations

Medium of instruction and examination shall be in English.

5. Working days in each semester

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

6. Attendance and progress

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

7. Program/Course credit structure

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

7.1. Credit assignment

7.1.1. Theory and Laboratory courses

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

7.2. Minimum credit requirements

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

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

8. Academic work

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

9. Course of study

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

Table-I: Course of study for semester I

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

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

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

* Non University Examination (NUE)

Table-II: Course of study for semester II

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

*****Non University Examination (NUE)

Table-III: Course of study for semester III

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

Table-IV: Course of study for semester IV

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

Table-V: Course of study for semester V

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

Table-VI: Course of study for semester VI

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

Table-VII: Course of study for semester VII

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

***** Non University Examination (NUE)

Table-VIII: Course of study for semester VIII

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

Table-IX: Semester wise credits distribution

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

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

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

#Applicable ONLY for the students studied Mathematics / Physics / Chemistry at HSC and appearing for Remedial Biology course.

10. Program Committee

1. The B. Pharm. program shall have a Program Committee constituted by the Head of the institution in consultation with all the Heads of the departments.

2. The composition of the Program Committee shall be as follows:

   A senior teacher shall be the Chairperson; One Teacher from each department handling B.Pharm courses; and four student representatives of the program (one from each academic year), nominated by the Head of the institution.

3. Duties of the Program Committee:

   i. Periodically reviewing the progress of the classes.
   ii. Discussing the problems concerning curriculum, syllabus and the conduct of classes.
   iii. Discussing with the course teachers on the nature and scope of assessment for the course and the same shall be announced to the students at the beginning of respective semesters.
   iv. Communicating its recommendation to the Head of the institution on academic matters.
   v. The Program Committee shall meet at least thrice in a semester preferably at the end of each Sessionalexam (Internal Assessment) and before the end semester exam.

11. Examinations/Assessments

The scheme for internal assessment and end semester examinations is given in Table – X.

11.1. End semester examinations

The End Semester Examinations for each theory and practical coursethrough semesters I to VIII shall beconducted by the university except for the subjects with asterix symbol (*) in table I and II for which examinations shall be conducted by the subject experts at college level and the marks/grades shall be submitted to the university.

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 Exams		Total	Marks	Duration	
			Marks	Duration				
BP101T	Human Anatomy and Physiology I– Theory	10	15	1 Hr	25	75	3 Hrs	100
BP102T	Pharmaceutical Analysis I – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP103T	Pharmaceutics I – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP104T	Pharmaceutical Inorganic Chemistry – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP105T	Communication skills – Theory *	5	10	1 Hr	15	35	1.5 Hrs	50
BP106RBT BP106RMT	Remedial Biology/ Mathematics – Theory*	5	10	1 Hr	15	35	1.5 Hrs	50
BP107P	Human Anatomy and Physiology – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP108P	Pharmaceutical Analysis I – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP109P	Pharmaceutics I – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP110P	Pharmaceutical Inorganic Chemistry – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP111P	Communication skills – Practical*	5	5	2 Hrs	10	15	2 Hrs	25
BP112RBP	Remedial Biology – Practical*	5	5	2 Hrs	10	15	2 Hrs	25
	Total	**70/75$^{\$}$/80$^{\#}$**	**115/125$^{\$}$/130$^{\#}$**	**23/24$^{\$}$/26$^{\#}$ Hrs**	**185/200$^{\$}$/210$^{\#}$**	**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)

Semester II

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP201T	Human Anatomy and Physiology II – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP202T	Pharmaceutical Organic Chemistry I – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP203T	Biochemistry – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP204T	Pathophysiology – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP205T	Computer Applications in Pharmacy – Theory*	10	15	1 Hr	25	50	2 Hrs	75
BP206T	Environmental sciences – Theory*	10	15	1 Hr	25	50	2 Hrs	75
BP207P	Human Anatomy and Physiology II –Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP208P	Pharmaceutical Organic Chemistry I– Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP209P	Biochemistry – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP210P	Computer Applications in Pharmacy – Practical*	5	5	2 Hrs	10	15	2 Hrs	25
	Total	**80**	**125**	**20 Hrs**	**205**	**520**	**30 Hrs**	**725**

***** The subject experts at college level shall conduct examinations

Semester III

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP301T	Pharmaceutical Organic Chemistry II – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP302T	PhysicalPharmaceuticsI –Theory	10	15	1 Hr	25	75	3 Hrs	100
BP303T	Pharmaceutical Microbiology – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP304T	Pharmaceutical Engineering – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP305P	Pharmaceutical Organic Chemistry II – Practical	5	10	4 Hr	15	35	4 Hrs	50
BP306P	Physical Pharmaceutics I – Practical	5	10	4 Hr	15	35	4 Hrs	50
BP307P	Pharmaceutical Microbiology – Practical	5	10	4 Hr	15	35	4 Hrs	50
BP308P	Pharmaceutical Engineering – Practical	5	10	4 Hr	15	35	4 Hrs	50
Total		**60**	**100**	**20**	**160**	**440**	**28Hrs**	**600**

Semester IV

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP401T	Pharmaceutical Organic Chemistry III– Theory	10	15	1 Hr	25	75	3 Hrs	100
BP402T	Medicinal Chemistry I – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP403T	Physical Pharmaceutics II – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP404T	Pharmacology I – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP405T	Pharmacognosy I – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP406P	Medicinal Chemistry I – Practical	5	10	4 Hr	15	35	4 Hrs	50
BP407P	Physical Pharmaceutics II – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP408P	Pharmacology I – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP409P	Pharmacognosy I – Practical	5	10	4 Hrs	15	35	4 Hrs	50
Total		**70**	**115**	**21 Hrs**	**185**	**515**	**31 Hrs**	**700**

Semester V

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP501T	Medicinal Chemistry II – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP502T	Industrial PharmacyI– Theory	10	15	1 Hr	25	75	3 Hrs	100
BP503T	Pharmacology II – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP504T	Pharmacognosy II – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP505T	Pharmaceutical Jurisprudence – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP506P	Industrial PharmacyI– Practical	5	10	4 Hr	15	35	4 Hrs	50
BP507P	Pharmacology II – Practical	5	10	4 Hr	15	35	4 Hrs	50
BP508P	Pharmacognosy II – Practical	5	10	4 Hr	15	35	4 Hrs	50
Total		**65**	**105**	**17 Hr**	**170**	**480**	**27 Hrs**	**650**

Semester VI

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP601T	Medicinal Chemistry III – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP602T	Pharmacology III – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP603T	Herbal Drug Technology – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP604T	Biopharmaceutics and Pharmacokinetics – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP605T	Pharmaceutical Biotechnology– Theory	10	15	1 Hr	25	75	3 Hrs	100
BP606T	Quality Assurance– Theory	10	15	1 Hr	25	75	3 Hrs	100
BP607P	Medicinal chemistry III – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP608P	Pharmacology III – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP609P	Herbal Drug Technology – Practical	5	10	4 Hrs	15	35	4 Hrs	50
Total		**75**	**120**	**18 Hrs**	**195**	**555**	**30 Hrs**	**750**

Semester VII

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP701T	Instrumental Methods of Analysis – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP702T	Industrial Pharmacy – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP703T	Pharmacy Practice – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP704T	Novel Drug Delivery System – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP705 P	Instrumental Methods of Analysis – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP706 PS	Practice School*	25	-	-	25	125	5 Hrs	150
Total		**70**	**70**	**8Hrs**	**140**	**460**	**21 Hrs**	**600**

***** The subject experts at college level shall conduct examinations

Semester VIII

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP801T	Biostatistics and Research Methodology – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP802T	Social and Preventive Pharmacy – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP803ET	Pharmaceutical Marketing – Theory	10 + 10 = 20	15 + 15 = 30	1 + 1 = 2 Hrs	25 + 25 = 50	75 + 75 = 150	3 + 3 = 6 Hrs	100 + 100 = 200
BP804ET	Pharmaceutical Regulatory Science – Theory							
BP805ET	Pharmacovigilance – Theory							
BP806ET	Quality Control and Standardization of Herbals – Theory							
BP807ET	Computer Aided Drug Design – Theory							
BP808ET	Cell and Molecular Biology – Theory							
BP809ET	Cosmetic Science – Theory							
BP810ET	Experimental Pharmacology – Theory							
BP811ET	Advanced Instrumentation Techniques – Theory							
BP812PW	Project Work	-	-	-	-	150	4 Hrs	150
	Total	**40**	**60**	**4 Hrs**	**100**	**450**	**16 Hrs**	**550**

11.2. Internal assessment: Continuous mode

The marks allocated for Continuous mode of Internal Assessment shall be awarded as per the scheme given below.

Table-XI:Scheme for awarding internal assessment: Continuous mode

Theory		
Criteria	**Maximum Marks**	
Attendance (Refer Table – XII)	4	2
Academic activities (Average of any 3 activities e.g. quiz, assignment, open book test, field work, group discussion and seminar)	3	1.5
Student – Teacher interaction	3	1.5
Total	**10**	**5**
Practical		
Attendance (Refer Table – XII)	2	
Based on Practical Records, Regular viva voce, etc.	3	
Total	**5**	

Table- XII: Guidelines for the allotment of marks for attendance

Percentage of Attendance	**Theory**	**Practical**
95 – 100	4	2
90 – 94	3	1.5
85 – 89	2	1
80 – 84	1	0.5
Less than 80	0	0

11.2.1. Sessional Exams

Two Sessional exams shall be conducted for each theory / practical course as per the schedule fixed by the college(s). The scheme of question paper for theory and practical Sessional examinations is given below. The average marks of two Sessional exams shall be computed for internal assessment as per the requirements given in tables – X.

Sessional exam shall be conducted for 30 marks for theory and shall be computed for 15 marks. Similarly Sessional exam for practical shall be conducted for 40 marks and shall be computed for 10 marks.

Question paper pattern for theory Sessional examinations

For subjects having University examination

I. Multiple Choice Questions (MCQs)	=	10 x 1 = 10
OR		OR
Objective Type Questions (5 x 2)	=	05 x 2 = 10
(Answer all the questions)		
I. Long Answers (Answer 1 out of 2)	=	1 x 10 = 10
II. Short Answers (Answer 2 out of 3)	=	2 x 5 = 10

Total	=	30 marks

For subjects having Non University Examination

I. Long Answers (Answer 1 out of 2)	=	1 x 10 = 10
II. Short Answers (Answer 4 out of 6)	=	4 x 5 = 20

Total	=	30 marks

Question paper pattern for practical sessional examinations

I. Synopsis	=	10
II. Experiments	=	25
III. Viva voce	=	05

Total	=	40 marks
		----------

12. Promotion and award of grades

A student shall be declared PASSand eligible for getting gradein a course of B.Pharm.program if he/she secures at least 50% marks in that particular course including internal assessment.For example, to be declared as PASS and to get grade, the student has to secure a minimum of 50 marks for the total of 100 including continuous mode of assessment and end semester theory examination and has to secure a minimum of 25 marks for the total 50 including internal assessment and end semester practical examination.

13. Carry forward of marks

In case a studentfails to secure the minimum 50% in any Theory or Practical course as specified in 12,then he/she shall reappear for the end semester examinationof that course. However his/her marks of the Internal Assessmentshallbe carried overand he/she shall be entitled for grade obtained by him/her on passing.

14. Improvement of internal assessment

A studentshall have the opportunity to improvehis/her performance only oncein the Sessional exam component of the internal assessment. The re-conduct of the Sessional exam shall be completed before the commencement of next end semester theory examinations.

15. Re-examination of end semester examinations

Reexamination ofend semester examinationshall be conducted as per the schedule given in table XIII. The exact dates of examinations shall be notified from time to time.

Table-XIII: Tentative schedule of end semester examinations

Semester	For Regular Candidates	For Failed Candidates
I, III, V and VII	November / December	May / June
II, IV, VI and VIII	May / June	November / December

Question paper pattern for end semester theory examinations

For 75 marks paper

I. Multiple Choice Questions(MCQs) = 20 x 1 = 20
OR OR
Objective Type Questions (10 x 2) = 10 x 2 = 20
(Answer all the questions)
II. Long Answers (Answer 2 out of 3) = 2 x 10 = 20
III. Short Answers (Answer 7 out of 9) = 7 x 5 = 35

Total = 75 marks

For 50 marks paper

I. Long Answers (Answer 2 out of 3) = 2 x 10 = 20
II. Short Answers (Answer 6 out of 8) = 6 x 5 = 30

Total = 50 marks

For 35 marks paper

I. Long Answers (Answer 1 out of 2) = 1 x 10 =10
II. Short Answers (Answer 5 out of 7) = 5 x 5 = 25

Total = 35 marks

Question paper pattern for end semester practical examinations

I. Synopsis = 5
II. Experiments = 25
III. Viva voce = 5

Total = 35 marks

---

16. Academic Progression:

No student shall be admitted to any examination unless he/she fulfills the norms given in 6. Academic progression rules are applicable as follows:

A student shall be eligible to carry forward all the courses of I, II and III semesters till the IV semester examinations. However, he/she shall not be eligible to attend the courses of V semester until all the courses of I and II semesters are successfully completed.

A student shall be eligible to carry forward all the courses of III, IV and V semesters till the VI semester examinations. However, he/she shall not be eligible to attend the courses of VII semester until all the courses of I, II, III and IV semesters are successfully completed.

A student shall be eligible to carry forward all the courses of V, VI and VII semesters till the VIII semester examinations. However, he/she shall not be eligible to get the course completion certificate until all the courses of I, II, III, IV, V and VI semesters are successfully completed.

A student shall be eligible to get his/her CGPA upon successful completion of the courses of I to VIII semesters within the stipulated time period as per the norms specified in 26.

A lateral entry student shall be eligible to carry forward all the courses of III, IV and V semesters till the VI semester examinations. However, he/she shall not be eligible to attend the courses of VII semester until all the courses of III and IV semesters are successfully completed.

A lateral entry student shall be eligible to carry forward all the courses of V, VI and VII semesters till the VIII semester examinations. However, he/she shall not be eligible to get the course completion certificate until all the courses of III, IV, V and VI semesters are successfully completed.

A lateral entry student shall be eligible to get his/her CGPA upon successful completion of the courses of III to VIII semesters within the stipulated time period as per the norms specified in 26.

Any student who hasgiven more than 4 chances for successful completion of I / III semester courses and more than 3 chances for successful completion of II / IV semester courses shall be permitted to attend V / VII semester classes ONLY during the subsequent academic year as the case may be. In simpler terms there shall NOT be any ODD BATCH for any semester.

Note: Grade ABshould be considered as failed and treated as one head for deciding academic progression. Such rules are also applicable for those students who fail to register for examination(s) of any course in any semester.

17. Grading of performances

17.1. Letter grades and grade points allocations:

Based on the performances, each student shall be awarded a final letter grade at the end of the semester for each course.The letter grades and their corresponding grade points are given in Table – XII.

Table – XII: Letter grades and grade points equivalent to Percentage of marks and performances

Percentage of Marks Obtained	Letter Grade	Grade Point	Performance
90.00 – 100	O	10	Outstanding
80.00 – 89.99	A	9	Excellent
70.00 – 79.99	B	8	Good
60.00 – 69.99	C	7	Fair
50.00 – 59.99	D	6	Average
Less than 50	F	0	Fail
Absent	AB	0	Fail

A learner who remains absent for any end semester examination shall be assigned a letter grade of ABand a corresponding grade point of zero. He/she should reappear for the said evaluation/examination in due course.

18. The Semester grade point average (SGPA)

The performance of a student in a semester is indicated by a number called 'Semester Grade Point Average' (SGPA). The SGPA is the weighted average of the grade points obtainedin all the courses by the student during the semester. For example, if a student takes five courses(Theory/Practical) in a semester with credits C1, C2, C3, C4 and C5 and the student's grade pointsin these courses are G1, G2, G3, G4 and G5, respectively, and then students' SGPA is equal to:

$$\text{SGPA} = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4G_4 + C_5G_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

The SGPA is calculated to two decimal points.It should be noted that, the SGPA for any semester shall take into consideration the F and ABSgrade awarded in that semester. For example if a learner has a F or ABS grade in course 4, theSGPA shall then be computed as:

$$\text{SGPA} = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4 * \text{ZERO} + C_5G_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

19. Cumulative Grade Point Average (CGPA)

The CGPA is calculated with the SGPA of all the VIII semesters to two decimal points and is indicated in final grade report card/final transcript showing the grades of all VIII semesters and their courses. The CGPA shall reflect the failed statusin case of F grade(s),till the course(s) is/are passed. When the course(s)is/are passedby obtaining a pass grade on subsequent examination(s) theCGPA shall only reflect the new grade and not the fail grades earned earlier.The CGPA is calculated as:

$$\text{CGPA} = \frac{C_1S_1 + C_2S_2 + C_3S_3 + C_4S_4 + C_5S_5 + C_6S_6 + C_7S_7 + C_8S_8}{C_1 + C_2 + C_3 + C_4 + C_5 + C_6 + C_7 + C_8}$$

where $C_1, C_2, C_3,\ldots$ is the total number of credits for semester I,II,III,…. and $S_1,S_2, S_3,\ldots$is the SGPA of semester I,II,III,…. .

20. Declaration of class

The class shall be awarded on the basis of CGPA as follows:

First Class with Distinction	= CGPA of. 7.50 and above
First Class	= CGPA of 6.00 to 7.49
Second Class	= CGPA of 5.00 to 5.99

21. Project work

All the students shall undertake a projectunder the supervision of a teacher and submit a report. The area of the project shall directly relate any one of the elective subject opted by the student in semester VIII. The project shall be carried out in group not exceeding 5 in number. The project report shall be submitted in triplicate (typed & bound copy not less than 25 pages).

The internal and external examiner appointed by the University shall evaluate the project at the time of the Practical examinations of other semester(s). Students shall be evaluated in groups for four hours (i.e., about half an hour for a group of five students). The projects shall be evaluated as per the criteria given below.

Evaluation of Dissertation Book:

Objective(s) of the work done		15 Marks
Methodology adopted		20 Marks
Results and Discussions		20 Marks
Conclusions and Outcomes		20 Marks
	Total	**75 Marks**

Evaluation of Presentation:

Presentation of work		25 Marks
Communication skills		20 Marks
Question and answer skills		30 Marks
	Total	**75 Marks**

Explanation: The 75 marks assigned to the dissertation book shall be same for all the students in a group. However, the 75 marks assigned for presentation shall be awarded based on the performance of individual students in the given criteria.

22. Industrial training (Desirable)

Every candidate shall be required to work for at least 150 hours spread over four weeks in a Pharmaceutical Industry/Hospital. It includes Production unit, Quality Control department, Quality Assurance department, Analytical laboratory, Chemical manufacturing unit, Pharmaceutical R&D, Hospital (Clinical Pharmacy), Clinical Research Organization, Community Pharmacy, etc. After the Semester – VI and before the commencement of Semester – VII, and shall submit satisfactory report of such work and certificate duly signed by the authority of training organization to the head of the institute.

23. Practice School

In the VII semester, every candidate shall undergo practice school for a period of 150 hours evenly distributed throughout the semester. The student shall opt any one of the domains for practice school declared by the program committee from time to time.

At the end of the practice school, every student shall submit a printed report (in triplicate) on the practice school he/she attended (not more than 25 pages). Along with the exams of semester VII, the report submitted by the student, knowledge and skills acquired by the student through practice school shall be evaluated by the subject experts at college leveland grade point shall be awarded.

24. Award of Ranks

Ranks and Medals shall be awarded on the basis of final CGPA. However, candidates who fail in one or more courses during the B.Pharm program shall not be eligible for award of ranks.Moreover, the candidates should have completed the B. Pharm program in minimum prescribed number of years, (four years) for the award of Ranks.

25. Award of degree

Candidates who fulfill the requirements mentioned above shall be eligible for award of degree during the ensuing convocation.

26. Duration for completion of the program of study

The duration for the completion of the program shall be fixed as double the actual duration of the program and the students have to pass within the said period, otherwise they have to get fresh Registration.

27. Re-admission after break of study

Candidate who seeks re-admission to the program after break of study has to get the approval from the university by paying a condonation fee.

No condonation is allowed for the candidate who has more than 2 years of break up period and he/she has to rejoin the program by paying the required fees.

ACADEMIC CALANDER AS PER UNIVERSITY(JNTU-GV) GUIDELINES

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY - GURAJADA - VIZIANAGARAM
VIZIANAGARAM - 535 003, Andhra Pradesh (India)
(Established by Andhra Pradesh Act No. 22 of 2021)

Lr No: JNTUGV/DAP/AC/ IV year/ B.Tech/ B.Pharmacy/2022-23 *Date: 21-09-2022*

Dr. K. ChandraBhushana Rao M.E, Ph.D
Professor of Electronics and Communication Engineering
Director i/c, Academic and Planning,

To
All the Principals of affiliated colleges,
JNTUGV- Vizianagaram

Academic calendar of IV year B.Tech/ B.Pharmacy for the AY: 2022-23
(2019-20 Admitted Batch)

I SEMESTER			
Description	**From**	**To**	**Weeks**
Commencement of Class Work	04.07.2022		
I Unit of Instruction	04.07.2022	27.08.2022	8W
I Mid Examinations	29.08.2022	03.09.2022	1W
II Unit of Instructions	05.09.2022	29.10.2022	8W
II Mid Examinations	31.10.2022	05.11.2022	1W
Preparation &.Practical's	07.11.2022	12.1 1.2022	1W
End Examinations	14.11.2022	26.11.2022	2W
Commencement of II Semester Class Work	05.12.2022		
II SEMESTER			
I Unit of Instruction	05.12.2022	28.01.2023	8W
I Mid Examinations	30.01.2023	04.01.2023	1W
II Unit of Instructions	06.01.2023	01.04.2023	8W
II Mid Examinations	03.04.2023	08.04.2023	1W
Preparation &.Practical's	10.04.2023	15.04.2023	1W
End Examinations	17.04.2023	29.04.2023	2W

DAP i/c, JNTUGV

Copy to the secretary to Hon'ble Vice Chancellor, JNTUGV
Copy to Registrar, JNTUGV
Copy to Director i/c, Academic Audit, JNTUGV
Copy to Director i/c, Evaluation, JNTUGV

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Vizianagaram Dt., - 531162

INTERNAL THEORY EXAMINATION ASSESSMENT

II B Pharmacy II Sem I MID Examinations PCI, May-2023

Subject: Pharmacology-I **Branch: B Pharmacy**

Time: 120 min. **Max. Marks: 30 M** **Date of exam: 13/05/2023**

S. No	Questions	Blooms Taxonomy Level	Course Out Come	Marks
Answer any ONE question				
1.	Define biotransformation and write about the factors affecting rate of the absorption.	Apply understand	CO1	10
2.	Explain about neurohumoral transmission in detail.	Remember apply	CO2	10
Answer any TWO questions				
3.	a) Classify & Explain pre-anaesthetics. b) Classify centrally acting muscle relaxants.	Understand apply	CO1	05
4.	Classify General Anaesthetics and explain its Mechanism of action any one of the drugs	Apply understand	CO2	05
5.	Define the following terms given below a) Drug b) Toxicology c) Pharmacy d) Chrono biotics e) Chrono pharmacology	Remember apply	CO3	05

K. Rohini
Signature of the faculty

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ESTD : 2005

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www.avanthipharma.ac.in, principal@avanthipharma.ac.in

II B Pharmacy II Sem I MID Examinations PCI, May-2023

Subject: Pharmacology-I **Branch: B Pharmacy**

Time: 120 min. **Max. Marks: 30** **Date of exam: 13/05/2023**

Scheme of Evaluation

1) Define biotransformation and write about the factors affecting rate of the absorption. **10M**

i. Definition of biotransformation:3M

ii. Factors affecting rate of the absorption:7M

2) Explain about neurohumoral transmission in detail **10M**

5 Steps involved in transmission process – Each step 2 M

3) a) Classify & Explain pre- anesthetics **5M**

Definition: 1M

Classification &detail note on any drug: 1.5M

b) Classify centrally acting muscle relaxants

Definition: 1M

Classification &detail note on muscle relaxants: 1.5M

4) Classify General Anesthetics and explain its Mechanism of action any one of the drugs **5M**

Definition: 1M

Classification: 1M

Mechanism of drug: 3M

5) Define the following terms given below a) Drug b) Toxicology c) Pharmacy **5M**

d) Chrono biotics e) Chrono pharmacology

Each Definition of the term – 1M

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II B Pharmacy II Sem I MID Examinations PCI, May-2023

Subject: Pharmacology-I **Branch: B Pharmacy**

Time: 20 min. **Max. Marks: 10** **Date of exam: 13/05/2023**

Objective

1. The fraction of drug that reaches the systemic circulation is called (**a**)
   a) Biotransformation b) Bioavailability c) Bioequivalence d) Biopharmaceutics
2. Arrange the stages of general anaesthesia (**b**)
   a) Stage of Delirium-Stage of Analgesia- stage of Surgical anesthesia-stage of Medullary paralyses
   b) stage of analgesia- stage of delirium- stage of surgical anaesthesia- stage of medullary paralysis
   c) stage of analgesia- stage of delirium-stage of medullary paralysis-stage of surgical anesthesia
   d) stage of delirium-stage of analgesia-stage of medullary paralysis-stage of surgical anesthesia
3. One of the following drug is clonidine congener& central α_2 adrenergic agonist (**d**)
   a) Diazepam b) Chlorzoxazone c) Methocarbamol d) Tizanidine
4. The drug which has both antiepileptic& sedative-hypnotic activity (**a**)
   a) Phenobarbitone b) Carbamazepine c) Vigabatrin d) Phenytoin
5. The major adverse effect observed with Phenytoin (**d**)
   a) Gum hyper atrophy- Idiosyncrasy b) Nystagmus-Acne c) Osteomalacia-hypoclacemia d) All of the above
6. The drug that mainly acts on modifying calcium currents (**b**)
   a) Phenobarbitone b) Ethoxysuccimide c) Valproic acid d) Diazepam
7. The process of secretion of substances from cells is known as (**c**)
   a) Endocytosis b) Chemotaxis c) exocytosis d) Necrosis
8. The uptake of glucose by cells is a process occurs by (**c**)
   a) Active transport b) Passive transport c) Facilitated diffusion d) Carrier mediated transport
9. The inhibitory neurotransmitters are (**a**)
   a) GABA, Glycine b) Glutamate, Aspartate c) dopamine, 5HT
10. The Father of Pharmacology is ---------- (**c**)
    i. Rudolph Bucheim b) Francois Magendie c) Oswald Schmiedeberg d) Samuel Hahnemann

K. Rohini
Signature of the Faculty

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(Approved by AICTE, PCi & Govt.of A.P. Affiliated to JNTUK, Kakinada)

ESTD : 2005

SUBJECTIVE TEST

JNTUK Reg. No. : 21T51R0002
Student Name : A. Ramya Year : II
Branch : B. Pharm / Pharm D. / Pharm D. (P.B) / M. Pharm
Specialization : B. Pharmacy.
Subject Name : Pharmacology.
Marks Secured : 19/20

Date : 13-05-2023
Sem - II : mid-I
Time : 2 hrs
Total Marks : 19
Invigilators Signature :

II. ANSWER ANY ONE OF THE FOLLOWING :-

5. NEUROHUMORAL TRANSMISSION :

⇒ Neuro → Neuves / Neurons.

⇒ Humoral → chemical messengers.

⇒ The process in which the transmittion of the messages (or) signs from one neuve to the another neuron with the help of the chemical messengers / neuro transmitti-on.

⇒ The firstly neuro messengers impulses the impulses / messages and the storage of the nerves signs impulses are stored in the vasicles in the neuves

⇒ The Neurohumoral transmittion occurs in the five ways :-

(1.) Impulse conduction.
(2.) Transmitters release
(3.) Transmitter action of on the post junctional membrane.

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(4.) post junctional activity.

(5.) Transmitter release.

(1.) Impulse conduction :- The first stage the neuro transmitters conducts the impulse as the "action potential"

⇒ In resting state :- In the state of rest there is no action seen and no impulse is conducted in the neuron, it's rest in state. And the resting potential of it is **−70 mV**

⇒ Na^+ ions having the high concentration they have the ions on the cell and they are outside of cell and they posses and have **+ positive** charges on them plasma membrane

⇒ K^+ ions have the high concentration they have the ions inside the cell and they poses the −ve charge on plasma membrane

⇒ Depolarization :- The impulses are conducted as the Na^+ ions inside the outside having +ve charge moves outside the cell and the K^+ ions changes inside the cell

⇒ Na^+ ions have +ve charge inside the neuron cell.

⇒ K^+ ions moves outside then −ve charge is present outside the neuron

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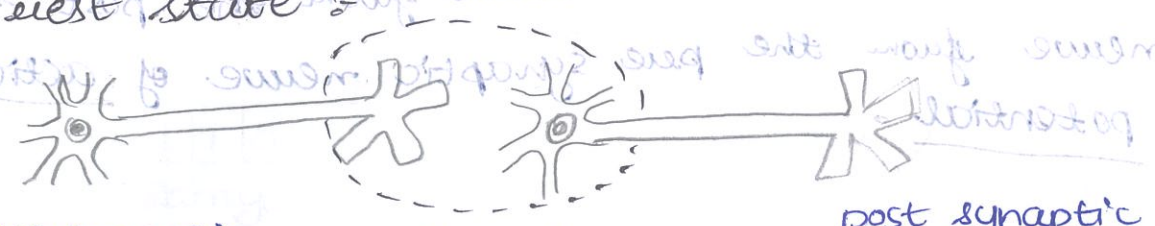
⇒ This is called as depolarization.

⇒ Action potential is (-70MV) — (-55MV)

⇒ In rest state :



presynaptic neuve

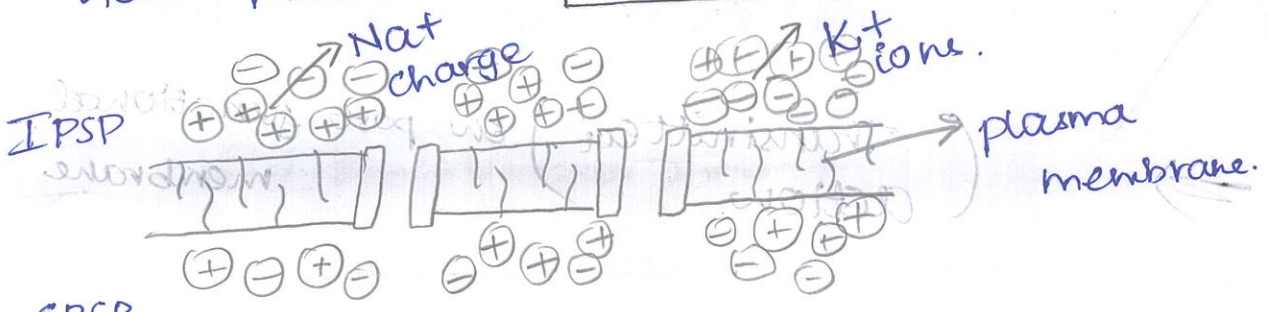
Synaptic dayt.

post synaptic neuve.

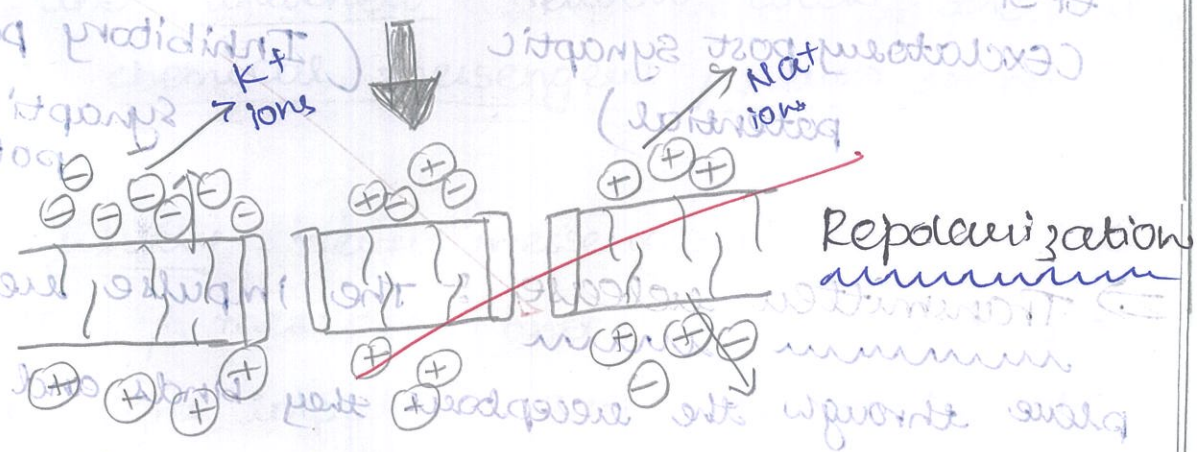
⇒ Repolarization : The impulses are conducted and the Na+ ions transmitts inside the cell and the K+ ions transmitts outside.

⇒ The process of the depolarization and repolarization is called as "Action potential."

Action potential is +35 mV +20mv to 30mv



DEPOLARIZATION



⇒ TRANSMITTER RELEASE : The impulse that is transmitted the conducted messages posses some released through the neuro transmitter it comes outside the cell. from the plasma membrane

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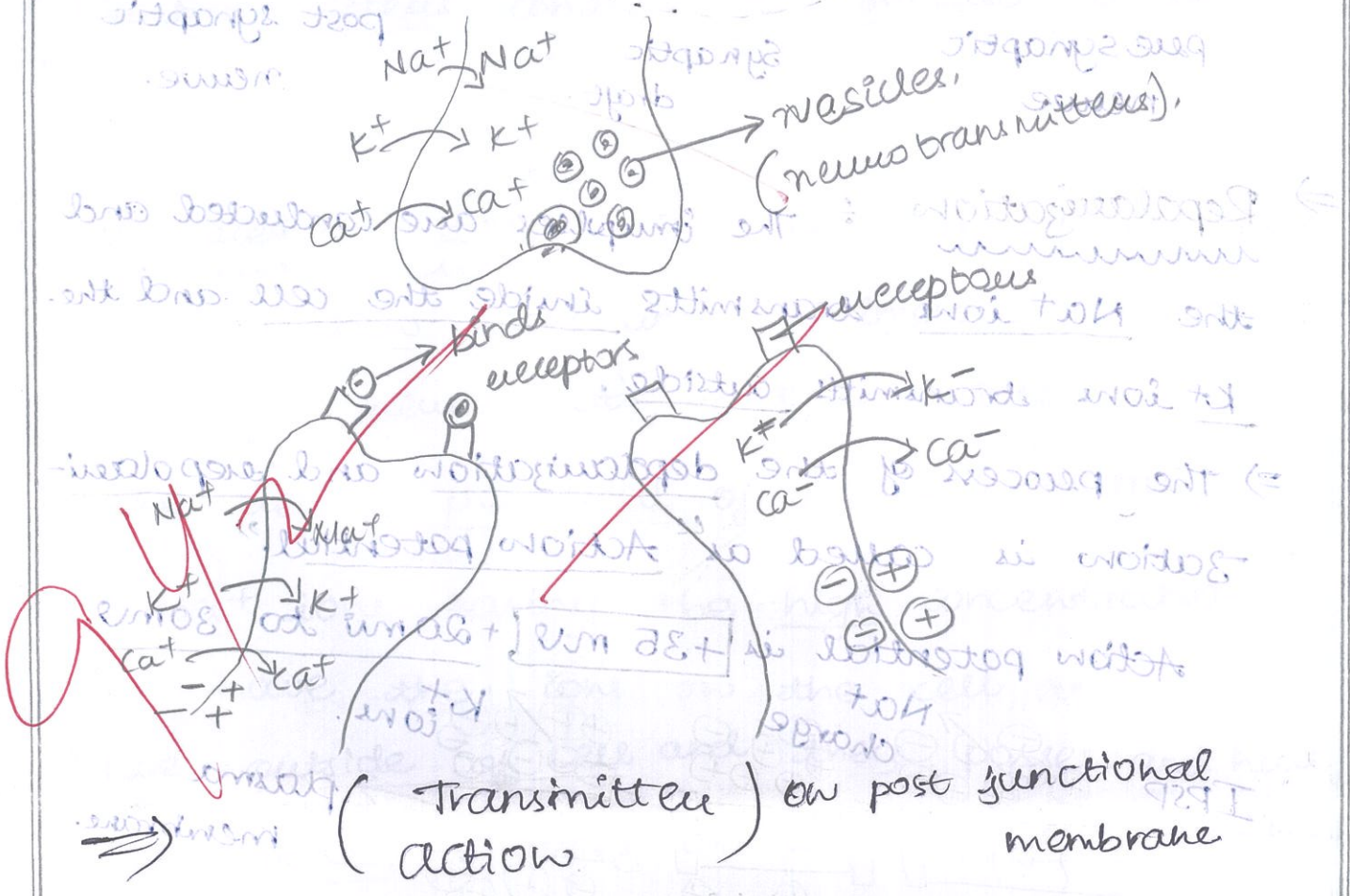
Transmittee action of post junctional membrane :

The action of the membeane from the post synaptic neuve from the pre synaptic neuve of action potential.

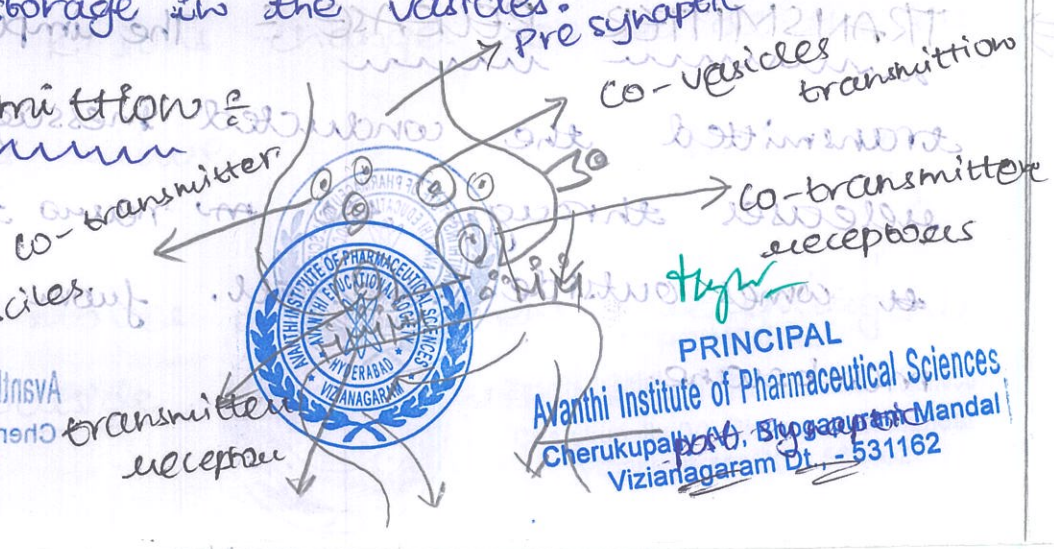


EPSP
(Excitatory post synaptic potential)

IPSP
(Inhibitory post synaptic potential).

⇒ Transmittee release : The impulse release take place through the receptoes they binds and the transmittee storage in the vesicles.

Co-Transmittion :



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Q1. ANSWER ANY TWO OF THE FOLLOWING :-

3. (a.) Drug :- The "drug heub" is greek word of drug. Drug is according to (WHO) that product that physciological and pathological states that explores and determines of the products to modiefy the recipient.

(b.) Toxicology :- That states the deals with the activity of the drug and poisionous study of posionous and treatment of poisionous

(c.) Pharmacy :- the branch of science which deals with the identification, percparation and collection and despensing of drugs.
=) standaudization
=) Purification of drugs.

(D.) Chronobiotic :- It is used to the set of the "circadiam rhytam" to modiefy them as ("biological clock")

(E.) Chronopharmacology :- It deals with the treatment and study of "circadiam" rhythm" therapatically.. deals with the therapy in the "night sleepless" (Jet lag)

Eg :- chronotherapy :- Therapy of the treatment to set and modify the changes in circadium rythem (or) biological clock (2)

(4) ANTI-EPILEPTIC AGENTS :- the anti-epileptic agents are used to control the sissors treatment.

2) To stop the epilepsis.

⇒ Barbiturates ⇒ Phenobarbiturates, metobarbiturates,

⇒ Deoxybarbiturates ⇒ pyrimedoin.

⇒ Hydantoin ⇒ phenotain, fosphenotain.

⇒ Iminostilbean ⇒ oxycadiazepine, carbmazepine

⇒ Succinamide ⇒ Ethoxysuccinamide.

⇒ benzoxydiazepines ⇒ diazepam, chlorodiazopeam,

~~⇒ Etc~~

21T51R0002

9/10

Avanthi Institute of Pharmaceutical Sciences

II B. Pharmacy II Sem I MID Examinations

Subject: Pharmacology-I

Time: 20mins **OBJECTIVE** Marks: 10M

1. The fraction of drug that reaches the systemic circulation is called (b)

a) Biotransformation b) Bioavailability c) Bioequivalence d) Biopharmaceutics

2. Arrange the stages of general anaesthesia (b)

a) Stage of Delirium-Stage of Analgesia- stage of Surgical anesthesia-stage of Medullary paralaysis

b) stage of analgesia- stage of delirium- stage of surgical anesthesia- stage of medullary paralysis

c) stage of analgesia- stage of delirium-stage of medullary paralysis-stage of surgical anesthesia

d) stage of delirium-stage of analgesia-stage of medullary paralysis-stage of surgical anesthesia

3. One of the following drug is clonidine congener& central α_2 adrenergic agonist (d)

a) Diazepam b) Chlorzoxazone c) Methocarbamol d) Tizanidine

4. The drug which has both antiepileptic& sedative-hypnotic activity (a)

a) Phenobarbitone b) Carbamazepine c) Vigabatrin d) Phenytoin

5. The major adverse effect observed with Phenytoin (d)

a) Gum hyper atrophy- Idiosyncrasy b) Nystagmus-Acne c)Osteomalacia-hypoclacemia d) All of the above

6.The drug that mainly acts on modifying calcium currents (d)

a) Phenobarbitone b) Ethoxysuccimide c) Valproic acid d) Diazepam

7. The process of secretion of substances from cells is known as (c)

a) Endocytosis b) Chemotaxis c) exocytosis d) Necrosis

8. The uptake of glucose by cells is a process occurs by (c)

a) Active transport b)Passive transport c) Facilitated diffusion d) Carrier mediated transport

9.The inhibitory neurotransmitters are (a)

a) GABA,Glycine b) Glutamate, Aspartate c) dopamine, 5HT

10. The father of pharmacology (c)

a) Rudolf buchheim b) Francois magendie c) oswald schiedebeerg d) samuel hahnemann

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Avanthi Institute of Pharmaceutical Sciences

II B. Pharmacy II Sem I MID Examinations

Subject: Pharmacology-I

Time: 90mins **SUBJECTIVE** Marks: 20M

I Answer any two **2x10=20M**

1. a) Classify & Explain pre- anesthetics (5M)

   b) Classify centrally acting muscle relaxants (5M)

2. Classify General Anesthetics and explain its Mechanism of action any one of the drug (5M)

3. a) Drug b) Toxicology c) Pharmacy d) Chronobiotics e) Chronopharmacology

4. Classify anti-epileptic agents.

II Answer any one of the following **1X10= 10M**

4. Define biotransformation and write about the factors affecting rate of the absorption.

5. Explain about neurohumoral transmission in detail.

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(4)

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ESTD : 2005

SUBJECTIVE TEST

JNTUK Reg. No. : 21T51R0085 Date :

Student Name : S. Jyamilaanta Year : II year Sem : II Sem Imid

Branch : B. Pharm / Pharm D. / Pharm D. (P.B) / M. Pharm

Specialization : B. pharmacy Time :

Subject Name : Pharmacology Total Marks : 12

Marks Secured : 12/20 Invigilators Signature :

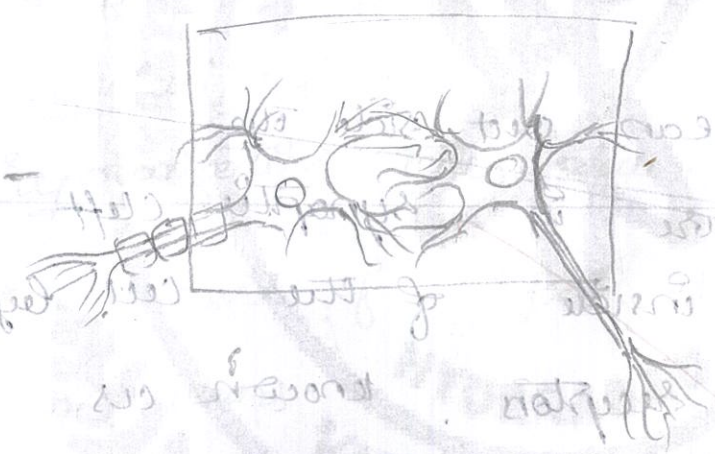
II

5) Neurohumoral Transmission

Transfer or Transmission of a message of information from one nerve to another nerve.

sensory nerve to motor nerve.

to the effector organ.



Neurohumoral transmission takes place in 5 steps They are.

1) Impulse conduction
2) Nerve terminals
3) Pre synaptic duction
4) Post synaptic duction
5) Termination synaptic action.

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1. Impulse conduction

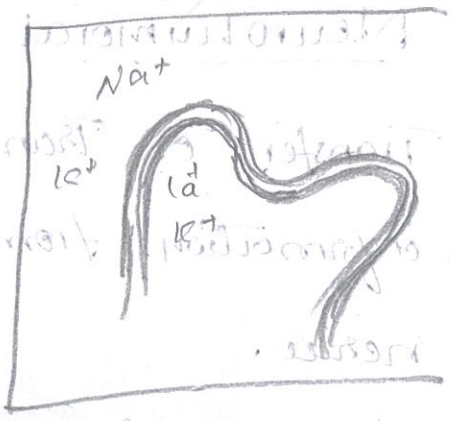
- Transfer of message of impulse by the chemical substance

Polarization

→ Polarization mean:

take an cell consits of plasma membrane

in side & out side of the membrane contains ions



Depolarization

depolarization means in side the ions comes out of the plasma membrane is called.

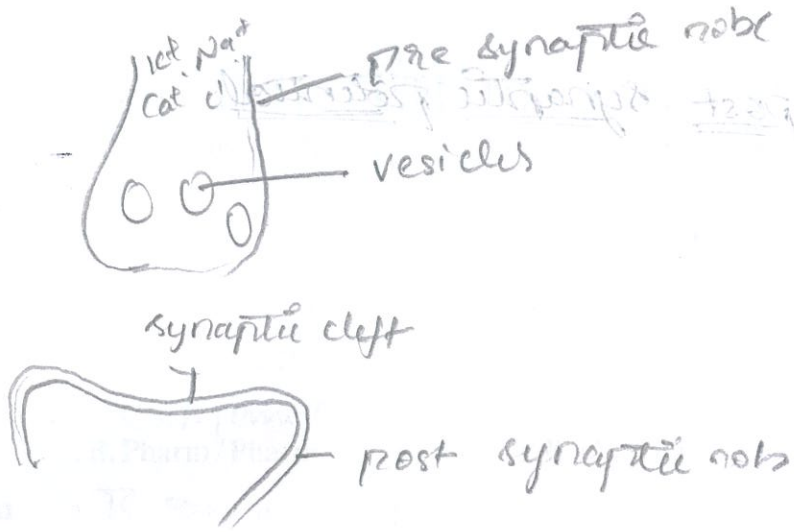
depolarization

Repolarisation

repolarisation mean out side the ions which are in synaptic cleft goes to the inside of the cell by or through the receptors known as repolarisation.

2) Termination Action / Nerve terminals

- Release of chemicals from the synaptic nop which contains the Nerve vesicles. through the Nerve vesicles. chemicals can be released.



Presynaptic function action

In this presynaptic function.

release of chemical substance from the vesicles takes place

synaptic nobe consists small pose.

through the nobe ions goes out of the nobe and went to the synaptic cleft.

depolarization

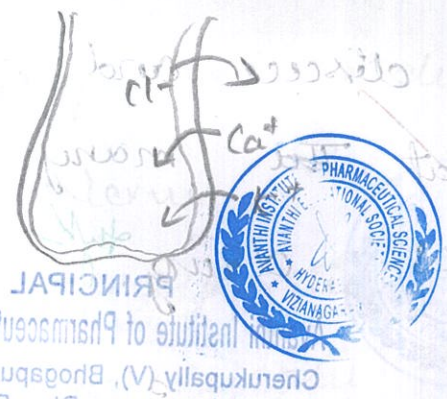
Repolarization takes place.

It consists of Epsp and Ipsp

Epsp means

Excreatory post synaptic potential

means Data

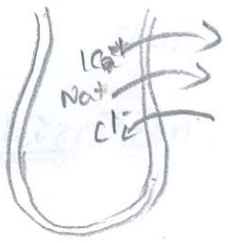


Release of ions from the synaptic nobe.

takes the actions

IPSP

Inhibitory post synaptic potential



Repolarization

depolarization takes place

Post synaptic function action

the function of the

EPSP is

→ muscle contraction

→ nerve transmission

→ secreation of glands

IPSP

It resists the depolarization

Termination synaptic action

→ It degrads the [illegible] of neuty

→ Stops the proces of depolarization

3] Drug : cure the disease and

diagnosis and treat the many

diseases in medicines drug

Toxicology : Tox mean poison

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Pharmacy

collection and dispensing, compounding of medicine ~~is called~~. is called pharmacy.

Chrono biotics

→ Chronobiotics is used to modify the circadian system

Chronopharmacology

→ Chronopharmacology is a type of science used to minimise the circadian system and optimum therapeutic system.

21A5A0085

10/10

Avanthi Institute of Pharmaceutical Sciences

II B. Pharmacy II Sem I MID Examinations

Subject: Pharmacology-I

Time: 20mins **OBJECTIVE** Marks: 10M

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8. The uptake of glucose by cells is a process occurs by (d)

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10) Father of Pharmacology [c]

a) Rudolphbucheim b) francoismagendie c) oswaldschmie berg

d) Samuelhahnemann

Avanthi Institute of Pharmaceutical Sciences

II B. Pharmacy II Sem I MID Examinations

Subject: Pharmacology-I

Time: 90mins **SUBJECTIVE** Marks: 20M

I Answer any two **2x10=20M**

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ESTD : 2005

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Cherukupally (Village), Chittivalasa (SO), Bhogapuram (Mandal), Vizianagaram (Dist) -531162.
www.avanthipharma.ac.in, principal@avanthipharma.ac.in

II B Pharmacy II Sem II MID Examinations PCI, May-2023

Subject: Pharmacology-I **Branch: B Pharmacy**

Time: 120 min. **Max. Marks: 30 M** **Date of exam: 06/07/2023**

S. No	Questions	Blooms Taxonomy Level	Course Out Come	Marks
	Answer any ONE question			
1.	Define Receptor? Classify receptors and explain in brief about G protein coupled receptors?	Apply understand	CO4	10
2.	Classify Parasympathomimetic and explain in detail about any one drug?	Remember apply	CO5	10
	Answer any TWO questions			
3.	a) Classify Anti-depressants? b) Classify sympathomimetics?	Understand apply	CO3	05
4.	a) Classify Antipsychotics? b) Classify skeletal muscle relaxants(peripheral)?	Apply understand	CO4	05
5.	a. Classify Local anaesthetics? b. Classify CNS stimulants?	Remember apply	CO5	05

K. Rohini

Signature of the faculty

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II B Pharmacy II Sem II MID Examinations PCI, May-2023

Subject: Pharmacology-I **Branch: B Pharmacy**

Time: 120 min. **Max. Marks: 30** **Date of exam: 06/07/2023**

Scheme of Evaluation

1. Define Receptor? Classify receptors and explain in brief about G protein coupled receptors? **10M**
   - i. Definition & classification of receptor: 3M
   - ii. G protein coupled receptors:7M
2. Classify Parasympathomimetic and explain in detail mechanism of action of any one drug? **10M**
   - i. Classification of Parasympathomimetic: 2 M
   - ii. Mechanism of action of Parasympathomimetic drug :8M
3. a) Classify Anti-depressants? **5M**
   - i. Definition: 1M
   - ii. Classification &detail note on Anti-depressants: 1.5M

   b) Classify sympathomimetics?
   - i. Definition: 1M
   - ii. Classification &detail note on sympathomimetics: 1.5M

4. a) Classify Antipsychotics? **5M**
   - i. Definition: 1M
   - ii. Classification: 1.5M

   b) Classify skeletal muscle relaxants(peripheral)?
   - i. Definition: 1M
   - ii. Classification &detail note on muscle relaxants(peripheral): 1.5M

5. a. Classify Local anaesthetics?
   - i. Definition: 1M
   - ii. Classification &detail note on Local anesthetics: 1.5M

   b. Classify CNS stimulants?
   - i. Definition: 1M
   - ii. Classification &detail note on CNS stimulants: 1.5M

K. Rohini
Signature of the faculty

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II B Pharmacy II Sem II MID Examinations PCI, May-2023

Subject: Pharmacology-I **Branch: B Pharmacy**

Time: 20 min. **Max. Marks: 10** **Date of exam: 06/07/2023**

Objective

1) Pilocarpine is used for (c)
a. Paralytic ileus b. Urinary retention c. Glaucoma d.All of the above

2) Which is the most important drug in the treatment of organophosphate poisoning (a)
a. Atropine sulfate b. Diazepam c. Adrenaline d. Pralidoxime

3) The following is a proven human teratogen (a)
a. Warfarin sodium b. Chloroquine c. Dicyclomine d. Methyldopa

4) A receptor which is itself has enzymatic property is (a)
a.Insulin receptor b. Glucagon receptor c. Thyroxine receptor d.kinase receptor

5) Which of the following is a prodrug (b)
a. Captopril b. Enalapril c. Clonidine d. Hydralazine

6) Intradermal drug sensitivity tests can detect the presence of following type of hypersensitivity (a)
a. TypeI b. Type II c. TypeIII d. Type IV

7) The cardiac muscarinic receptors (b)
a. M_1 subtype b. M_2 subtype c. M_3 subtype d. None of the above

8) The following secretions is not secreted by Acetylcholine (c)
a. Pancreatic juice b. Tear c. Bile d. Sweat

9) Select the longer acting beta blocker (b)
a. Carvedilol b. Levobunolol c. Betaxolol d. Timolol

10) The most effective antidote for belladonna poisoning (b)
a. Neostigmine b. physostigmine c. Pilocarpine d. Methacholine

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AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES

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(Approved by AICTE, PCi & Govt.of A.P. Affiliated to JNTUK, Kakinada)

ESTD : 2005

SUBJECTIVE TEST

JNTUK Reg. No. : 21T51R0016 Date : 06/07/23

Student Name : chigurupalasa Karthik Year : Sem : II - II

Branch : B. Pharm / Pharm D. / Pharm D. (P.B) / M. Pharm

Specialization : B. pharmacy Second year Time :

Subject Name : pharmacology Total Marks :

Marks Secured : 24/30 Invigilators Signature : V. Devi

Answering the following questions

Receptor :-

Explaining about the General anaesthetisa

General anaesthetisa :- general anaesthetisa it is a processes of the making the receptors of the body uncon sesous. and loss of the sensation and sending the chemical transmitter to the CNS which sends the sti mulations and responses to the Central Nervous system of the body

General anaesthetisa it is the process of making the body unconsesouness which were help ful for the surgories of the particular receptor of the body and General anaesthetisa are divided in to the 2 types solid dosage form and the liquid dosage forms

General anaesthetisa are classifed in to the 5 different groups and the groups are the stage I , stage II , stage III , stage IV , stage V. groups and anaesthetisa groups are the stage of the

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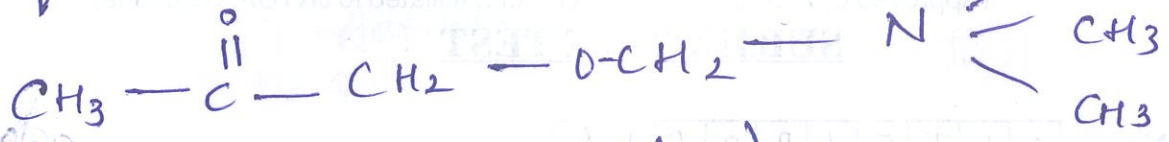
Chemical reactions

loss of Sensation



(acetolipine ethane 2 methaylane)

Acetycholine

* And the classifying the drug, stages of anesthesia the General anbesthia are divided in to the 5 groups and Classification of the drugs. mostly available General anbesthia drugs in the barbiturates form most through most outer part skin

And the parental local canal. and antiepliphebics drugs.

→ Barbituates and anti inflamatesory drugs and barbiturates which cure local and the anti dipressents.

pilocarpine is used of for the Glaucoma.

* it is used for the surgiories and the pain full killer

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G- protein binding :-

There are large form of cell membrane in the receptor which binding to the effector. through one ~~one~~ or more GTP activated protein and it causes the effectutation.

The molecules having the 7-α helical molecules spaning hydrophilic amino acid which consists of 3 extracellular and 3 intra cellular Groups the; interacellular muscular and the mucar a layer of the Membrane the protein binding to the receptor the drug mechanism of the action on the Gα q-protein binding

Gpx and the α type of the receptors are divited in to the 5 different groud.

q - Glucoprotein the Receptor which were binding to the drug.

Gi — Responsible formationylase activation activation of the Ca^{2+} channel

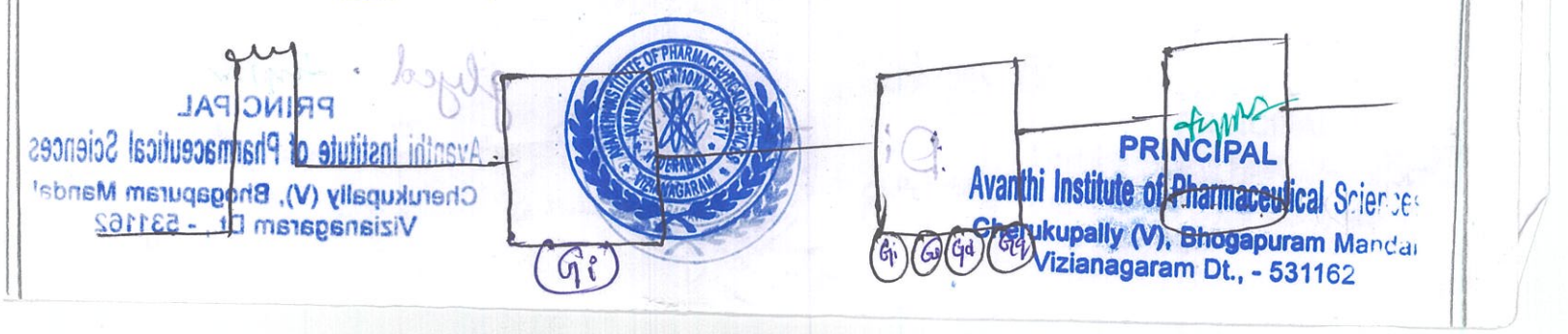
qs — Responsible for the Ca^{2+} channel Inhalation

Go - Responsible for the CAMP

Gt — Responsible for the Ca^{+} channel.

Gq — Responsible for the phrophylase.

AMP pathway



CAPM — pathway

Activation of G_s

Activation of G_q

DAG

PIP

pkc — protein c activation

<u>Channel</u> <u>regulation</u>

Activation of G_s, G_i, G_o.

Donot required secondary channel

Activation of drug ⟶ open ion channel ⟶

Secondary of ions

G_s it is to present in the myocardium

G_i, G_o are present in heart smooth muscles.

reduces the inotrool, transmitter of muscle and relaxation of the smooth muscle.

<u>IP_3</u> — <u>DAC</u> pathway :-

Activation of G_q

PIP_3 — phospho ins latakes inole 4 3 bisphosphate

IP_3 — ino 1, 43 bis phospha.

DAG — Di [illegible] glyed.

21T51R0016

V.Devi

Antti depressants :-

Selective , Sertonine, repenatake inhalation;

fluxamine , flutoin , Seritonine, Citalopean

ecitolopam.

Typical Anti depreesants :-

Imiprimine , Desprimin , Decopin, Glopiramine

Selectme Sertonic nor epinepein repautaen :-

nenalofoxine, Disvenalofaxine , Duclamine.

Antagonist :

Tarinoflauxin , nil

5HT2 Angonists :-

Taradazone , Nalfaadazone , ~~mono~~

monooxidase retake inhibitors

Isocarboxizide, clarogyline , molobemide.

Antitypical Anti depresent :-

milnalesia , mirtazepine

Mechanism G-protein binding :-

Continue

Drug acting with receptor → current flow through loop → Converted ATP to GTP → open ion channels

← Bracket ... of ... metric

2. Skeletal muscle relaxants

1) peripherally acting muscle relaxants.

i) Neuromuscular blockers

(A) Non-depolarizing blockers

long acting : d-tubocurarine

Inter mediate acting - Atracurium

Short acting : mivacurium

(B) Depolarizing blockers :

Directly acting agents : Dantrolene Sodium

c) Centrally acting agents muscle relaxants :

Nephrons congeners : nephrexin

Benzodiazepines : Diazepam

GABA : baclofen

α_2 agonist : Tizanidine

MOA of anti tuber drugs :

isoniazid

↓

Catalase peroxidase

↓

Cleave Covalent bond

↓

Inhibits with enzyme

↓

Mycolic acid wall

II

1) Anti depressent drugs

Selective Serotonin reuptake Inhibitors :

Duloxetin, venlafaxine, fluoxetine, sertraline

5 HT

Nefazodone

Selective — Non — epinephrine reuptake Inhibitors

venlafaxine

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Vizianagaram Dt., - 531162

V. Devi

10/16

Avanthi Institute of Pharmaceutical Sciences

II B. Pharmacy II Sem II MID Examinations

Subject:Pharmacology -I

Time: 20mins **OBJECTIVE** Marks: 10M

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a.Paralytic ileus b. Urinary retention c.Glaucoma d.All of the above

2) Which is the most important drug in the treatment of organophosphate poisoning (a)

a. Atropine sulfate b. Diazepam c. Adrenaline d. Pralidoxime

3) The following is a proven human teratogen (a)

a. Warfarin sodium b. Chloroquine c.Dicyclomine d. Methyldopa

4) A receptor which is itself has enzymatic property is (d)

a.Insulin receptor b. Glucagon receptor c. Thyroxine receptor d.kinase receptor

5) Which of the following is a prodrug (b)

a. Captopril b.Enalapril c.Clonidine d. Hydralazine

6) Intradermal drug sensitivity tests can detect the presence of following type of hypersensitivity (a)

a. TypeI b.Type II c. TypeIII d. Type IV

7) The cardiac muscuranic receptors (b)

a. M_1 subtype b. M_2 subtype c. M_3 subtype d. None of the above

8) The following secretions is not secreted by Acetylcholine (c)

a.Pancreatic juice b. Tear c. Bile d. Sweat

9) Select the longer acting beta blocker (b)

a. Carvedilol b. Levobunolol c.Betaxolol d. Timolol

10) The most effective antidote for belladonna poisoning (b)

a. Neostigmine b.physostigmine c.Pilocarpine d.Methacholine

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Vizianagaram Dt., - 531162

AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES

Cherukupally (V), Near Tagarapuvalasa Bridge, Vizianagaram (Dist.) A.P. - 531162.
(Approved by AICTE, PCi & Govt.of A.P. Affiliated to JNTUK, Kakinada)

ESTD : 2005

SUBJECTIVE TEST

JNTUK Reg. No. : 21T51R0089 Date : 06/07/22

Student Name : Siyyadri. Pushpalatha Year : Sem : M1D-II

Branch : B. Pharm / Pharm D. / Pharm D. (P.B) / M. Pharm

Specialization : B.pharmacy Time : 2hour

Subject Name : pharmacology-I Total Marks :

Marks Secured : 21/30 Invigilators Signature : V.Devi

1. Answer the following Questions :- (1X10 = 10M)

1.Ans:- **Receptor :-** Receptor is a compound that present in our body at every cell. that Receptor used for Binding with drug to Perform the function

Drug + Receptor → Drug Action Complex

classification of Receptors :-

* The classification of Receptors are divided Into Six types.

i) A

ii) B

iii) C

iv) D

v) P

vi) Q

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∴ A :-

⇒ In the Action the drug was increased suddenly and decreased suddenly.

⇒ It is the Acetal compound that not used to the body.

⇒ It is toxic complex.

⇒ while using of medication this process can be cured.

Effects :

* It may be toxic
* It is Allergic containing
* It Causes Illness.

∴ B :-

⇒ In the ARD the drug was increased suddaly

⇒ But with the using of medication we can't abel to cured.

⇒ It Causes Alergy and Illness.

⇒ It is toxic

⇒ It is Botonic.

Effects :-

* It may be toxic
* It Cases Alergic, Constipation, etc.

∴ C :-

⇒ It is continuous process.

⇒ It is caused after the taking of the medication continue

⇒ It is dangerous.

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Effects:-

* Taking the medications daily.
* It used for the cancer etc diseases.

Eg: AIDS.

iv, D:-

→ It is the process that is Diseases.

---

types of Receptors:-

* Ion channel Receptors
* G-protein coupled receptors
* Enzyme-linked receptors

G-protein-coupled receptors:-

G-protein Couplet Receptors contains their submits. α, β and γ Receptors the G-protein is seperated in the plasma membrane. when it binds with G-protein couplet Receptors It activates and generates the Secondary messengers. The Secondary messanger is also known as effector pathway. The Secondary messenger are activated by two pathways.

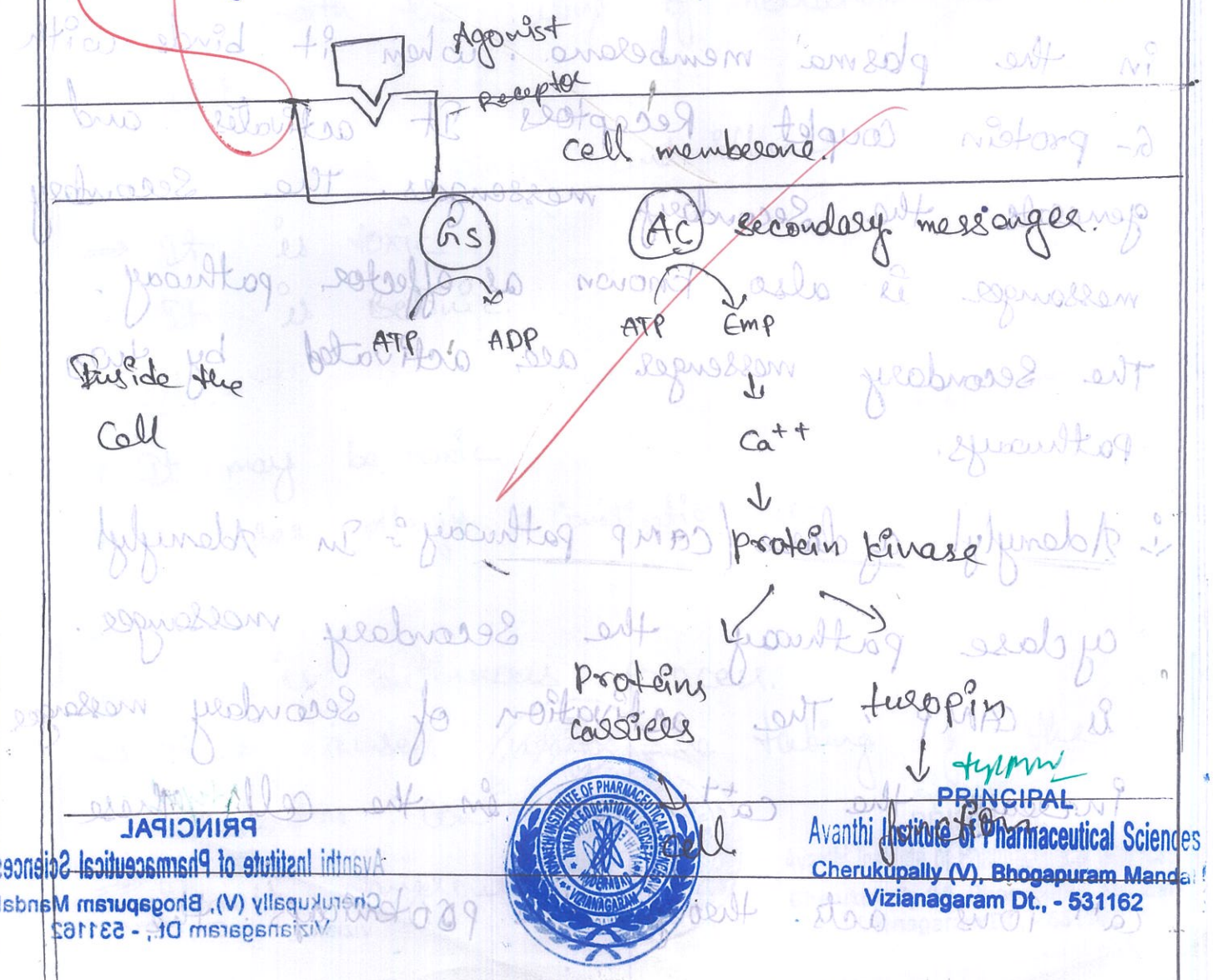
i. Adenylyl cyclase / cAMP pathway:- In Adenylyl cyclase pathway the Secondary messanger is cAMP. The activation of Secondary messanger increase the Ca^{++} in the cell it type

Ca^{++} ions acts through the protein

phosphorylase the protens, cassens and other molecules and these process causes the cell structure.

2) phospholiphase C/ IP_3, DAG pathway:-

In phospholiphase c pathway the stimulation of secondary messanger IP_3, DAG in the cell membrane phosphoIonositol ~~pathway~~ phosphate (PIP_3). the IP_3 ~~or~~ increases Ca^{++} ions in the cell. the calcium Ions used bas the seasection. The phospholiphase used for the metabolises of prokins and acts as for the cell functions.



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G-protein coupled receptors 2) Adenylyl cyclase.

G_s - Guanine Stimulation pathway:

G_s - Stimulator action

G_i = Inhibitory action

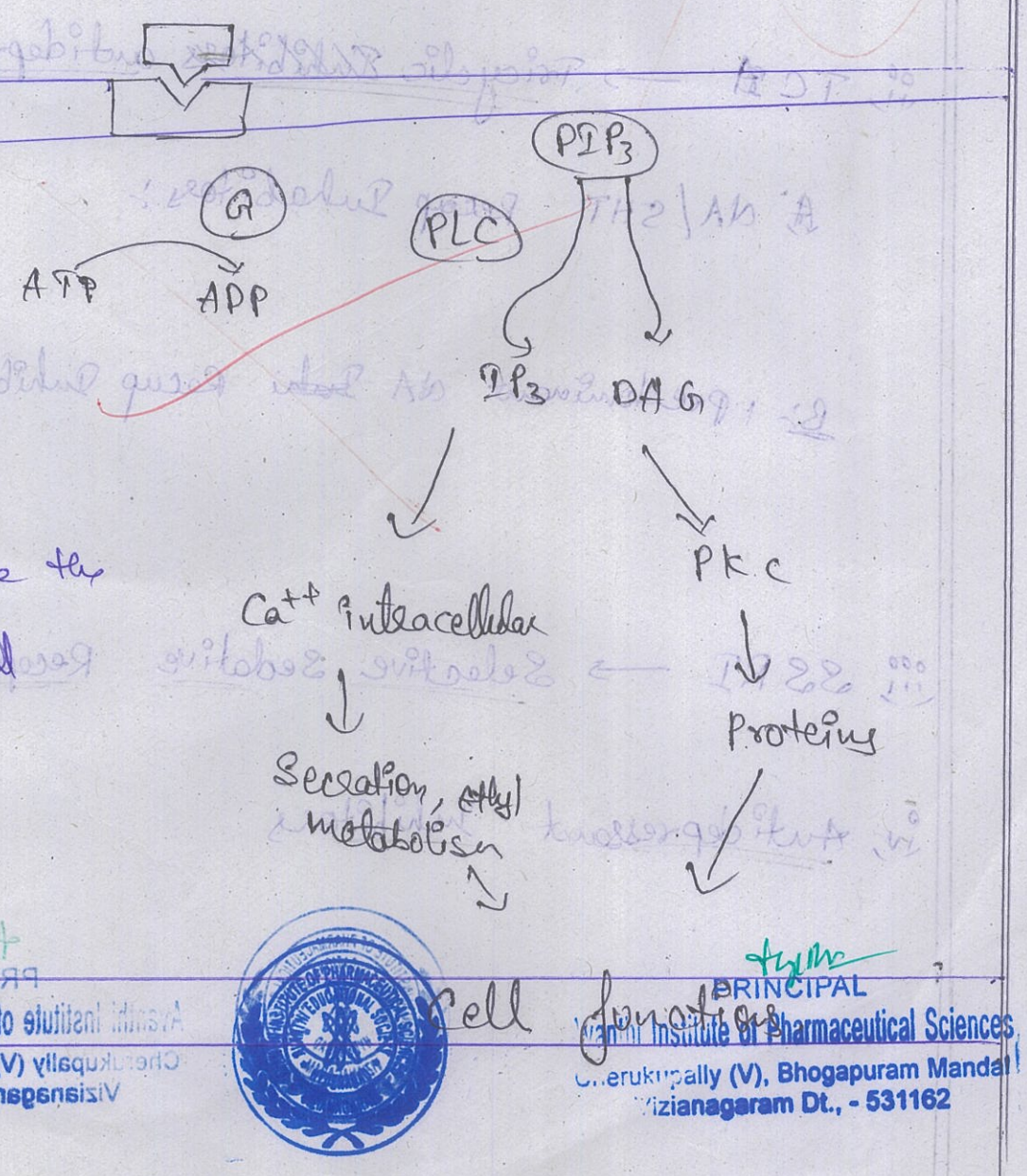
G_e, G_{13} also

phospholipase C and IP_3, DAG pathway:-

→ The stimulation of secondary messages increases the Ca^{++} ions in the cell.

⇒ The calcium ions used for the secretion, energy metabolism

phospholipase C / IP_3 & DAG pathway.



II:- Answer the following Questions (2×5=10M)

3, Ans Antidepressants :-

→ The Antidepressants was the causual causing disease by the contains illness, mood swings, etc.

→ Antidepressants was caused by the low Containt the amount of Amides in our Body (NA, 5HT, dopamine, etc)

classification of Antidepressants :-

i, Reversible inhabitors of MAO : (RIMA)

ii, TCA → Tricyclic Inhibitors antidepressants

A, dA/SHT Recap Inhabitors :-

B:- Predominant dA Recap Inhibitors.

iii, SSRI → Selective Sedative Receptor Inhabitors

iv, Antidepressant Inhibitors

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21TS1R0089

V. Devi

9/10

Avanthi Institute of Pharmaceutical Sciences

II B. Pharmacy II Sem II MID Examinations

Subject:Pharmacology -I

Time: 20mins **OBJECTIVE** Marks: 10M

1) Pilocarpine is used for (C)

a.Paralytic ileus b. Urinary retention c.Glaucoma d.All of the above

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3) The following is a proven human teratogen (A)

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a.Insulin receptor b. Glucagon receptor c. Thyroxine receptor d.kinase receptor

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a. M_1 subtype b. M_2 subtype c. M_3 subtype d. None of the above

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a. Carvedilol b. Levobunolol c.Betaxolol d. Timolol

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a. Neostigmine b.physostigmine c.Pilocarpine d.Methacholine

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Cherukupally (Village), Chittivalasa (SO), Bhogapuram (Mandal), Vizianagaram (Dist.) -531162.
www.avanthipharma.ac.in, principal@avanthipharma.ac.in

Consolidated Internal Marks Statement

Branch : II B Pharm II Sem (Academic Year 2022-2023)

Subject : Pharmacology-II

Subject Code : BP404T

Faculty : MissK.Rohini

S No	Reg.No	I MID (25)									II MID (25)									Average of two mids
						Continuous Mode (10 M)									Continuous Mode (10 M)					
		Sub (20 M)	Obj (10 M)	Total (30 M)	T/2	Atten% (4 M)	**SA (3 M)	*TSI (3 M)	CM 1 (10 M)	Mid -I Total	Sub (20M)	Obj (10 M)	Total (30)	Total/2	Atten % (4 M)	**SA (3 M)	*TSI (3 M)	CM2 (10 M)	Mid-II Total	
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4	21T51R0004	18	9	27	14	4	2	2	8	22	15	10	25	13	4	3	3	10	23	23
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93	21T51R0094	18	9	27	14	4	1	1	6	20	17	9	26	13	4	1	2	7	20	20

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94	21T51R0095	15	9	24	12	4	2	1	7	19	14	9	23	12	4	3	3	10	22	21
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103	21T51R00A4	16	9	25	13	4	2	3	9	22	16	10	26	13	4	2	2	8	21	22
104	21T51R00A5	14	9	23	12	4	1	2	7	19	14	10	24	12	4	2	2	8	20	20
105	21T51R00A6	16	10	26	13	4	1	1	6	19	16	9	25	13	2	2	1	5	18	19
106	20T51R0069	15	9	24	12	4	1	2	7	19	15	9	24	12	4	2	2	8	20	20
107	22T55R0001	18	9	27	14	4	1	2	7	21	16	9	25	13	4	2	2	8	21	21
108	20T51R0017	17	9	26	13	4	1	2	7	20	15	9	24	12	4	2	3	9	21	21

***TSI: Teacher student interaction**

****SA: Student Activities**

K. Rohini

Staff

Exam in-charge

Principal

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ESTD : 2005

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Cherukupally (Village), Chittivalasa (SO), Bhogapuram (Mandal), Vizianagaram (Dist.) -531162.
www.avanthipharma.ac.in, principal@avanthipharma.ac.in

Display of Internal Marks during Academic Year 2022-2023
Branch: II B Pharm II Sem

S No	Reg. No	*Pharmaceutical Organic Chemistry-III(BP401T)	*Medicinal Chemistry-I (BP402T)	*Physical Pharmaceutics -II (BP403T)	*Pharmacology-I (BP404T)	*Pharmacognosy & Phytochemistry-I (BP405T)	*Medicinal Chemistry I (BP406P)	*Physical Pharmaceutics -II (BP407P)	*Pharmacology -I (BP408P)	*Pharmacognosy Phytochemistry - I (BP409P)
1	21T51R0001	23	24	20	24	22	14	14	14	14
2	21T51R0002	20	24	21	23	22	13	14	14	13
3	21T51R0003	22	24	23	23	23	14	14	13	13
4	21T51R0004	21	23	21	23	22	13	14	13	13
5	21T51R0005	16	23	23	23	23	13	14	14	13
6	21T51R0006	23	23	24	22	23	14	14	14	13
7	21T51R0007	23	24	23	23	23	14	13	14	13
8	21T51R0008	22	24	24	23	23	14	14	13	13
9	21T51R0009	23	24	21	23	22	13	14	13	13
10	21T51R0010	23	23	21	23	22	14	13	13	13
11	21T51R0011	15	23	23	22	23	14	15	14	14
12	21T51R0012	23	24	21	23	22	14	15	13	13
13	21T51R0013	20	23	23	22	23	14	14	14	14
14	21T51R0014	20	22	24	20	22	14	15	14	13

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15	21T51R0015	10	10	22	10	16	5	5	9	14
16	21T51R0016	16	22	22	21	21	14	15	14	13
17	21T51R0017	18	23	24	21	22	14	14	14	14
18	21T51R0018	20	23	21	22	22	14	14	13	13
19	21T51R0019	19	23	22	22	22	14	14	14	13
20	21T51R0020	19	23	21	22	21	14	14	13	13
21	21T51R0021	19	23	22	21	22	14	14	13	13
22	21T51R0022	21	24	20	22	21	14	14	14	13
23	21T51R0023	16	23	20	21	21	14	14	14	14
24	21T51R0024	20	23	24	22	23	13	14	14	13
25	21T51R0025	20	23	22	21	22	13	14	13	13
26	21T51R0026	20	23	20	20	20	13	14	13	13
27	21T51R0027	20	23	23	22	22	14	14	13	13
28	21T51R0028	22	24	21	22	22	14	14	14	13
29	21T51R0029	19	23	20	21	21	14	14	13	13
30	21T51R0030	24	23	23	22	22	14	15	13	13
31	21T51R0031	22	23	24	22	23	14	14	13	13
32	21T51R0032	24	23	21	21	21	14	14	13	13
33	21T51R0033	22	23	24	21	23	14	14	13	13
34	21T51R0034	21	23	24	21	22	14	14	13	13

35	21T51R0035	20	23	24	20	22	14	14	13	13
36	21T51R0036	23	23	24	21	22	14	15	13	13
37	21T51R0037	10	23	20	20	20	9	14	13	13
38	21T51R0038	23	24	21	21	21	14	14	13	13
39	21T51R0039	23	23	23	21	22	14	14	14	13
40	21T51R0040	21	23	21	22	21	14	14	14	13
41	21T51R0041	20	23	22	21	22	14	14	14	13
42	21T51R0042	20	23	20	22	21	14	13	13	13
43	21T51R0043	19	23	23	21	22	14	14	14	13
44	21T51R0044	19	23	22	21	21	14	14	13	13
45	21T51R0045	21	23	24	22	23	14	14	13	13
46	21T51R0046	20	23	23	21	22	14	14	13	13
47	21T51R0047	20	23	22	21	22	14	14	13	13
48	21T51R0048	21	23	22	23	22	14	14	13	13
49	21T51R0049	24	23	21	21	21	14	14	13	13
50	21T51R0050	15	16	24	21	22	14	14	13	13
51	21T51R0051	20	22	21	21	21	14	14	13	13
52	21T51R0052	21	23	20	21	21	14	14	13	13
53	21T51R0053	20	23	22	20	21	14	14	13	13
54	21T51R0054	22	23	23	22	22	14	14	13	13

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55	21T51R0055	20	22	22	20	21	14	14	13	13
56	21T51R0056	23	23	23	21	22	14	14	13	13
57	21T51R0057	21	23	22	21	21	14	14	14	14
58	21T51R0058	18	16	21	20	20	8	14	13	13
59	21T51R0059	23	24	21	21	21	14	14	13	13
60	21T51R0061	23	24	21	20	21	14	13	13	13
61	21T51R0062	23	24	21	21	21	14	15	13	13
62	21T51R0063	22	23	22	22	22	14	14	14	13
63	21T51R0064	23	23	24	21	22	13	14	13	13
64	21T51R0065	15	23	20	20	20	14	14	13	13
65	21T51R0066	22	23	21	21	21	14	15	13	13
66	21T51R0067	21	23	23	20	22	14	14	13	13
67	21T51R0068	22	23	21	21	21	14	14	13	13
68	21T51R0069	24	24	20	20	20	14	13	13	13
69	21T51R0070	15	23	21	21	21	14	14	13	13
70	21T51R0071	20	23	21	22	21	13	14	13	13
71	21T51R0072	20	10	23	20	21	14	14	13	13
72	21T51R0073	20	23	22	20	21	14	14	13	14
73	21T51R0074	22	23	21	21	21	14	14	13	13
74	21T51R0075	15	23	21	21	22	14	15	14	13

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75	21T51R0076	23	23	23	20	21	14	14	13	14
76	21T51R0077	22	23	21	20	21	14	15	13	14
77	21T51R0078	22	23	23	21	22	14	15	13	14
78	21T51R0079	24	24	21	22	21	14	14	13	13
79	21T51R0080	20	23	20	20	20	14	15	13	13
80	21T51R0081	24	23	24	20	22	14	14	13	14
81	21T51R0082	24	23	21	21	21	14	13	13	13
82	21T51R0083	21	24	22	20	21	14	14	13	13
83	21T51R0084	19	22	21	20	21	14	14	14	13
84	21T51R0085	20	23	22	21	21	9	14	13	13
85	21T51R0086	15	22	22	20	21	14	14	13	14
86	21T51R0087	19	22	24	22	23	14	15	13	14
87	21T51R0088	22	23	24	21	22	14	14	13	14
89	21T51R0090	20	22	22	21	22	14	14	14	13
90	21T51R0091	23	24	23	20	21	14	14	14	13
91	21T51R0092	20	23	10	21	16	14	5	9	5
92	21T51R0093	20	23	22	22	22	14	14	14	13
93	21T51R0094	22	23	23	20	22	14	14	13	13
94	21T51R0095	20	23	21	21	21	13	14	13	13
95	21T51R0096	20	23	21	22	21	14	15	13	13

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96	21T51R0097	14	16	22	23	22	8	14	13	14
97	21T51R0098	22	22	24	21	22	14	15	13	14
98	21T51R0099	20	23	21	20	20	14	13	14	13
99	21T51R00A0	19	23	20	21	21	14	14	13	13
100	21T51R00A1	16	17	21	20	20	14	14	13	13
101	21T51R00A2	22	23	21	21	21	14	14	13	13
102	21T51R00A3	21	23	21	20	20	14	15	13	13
103	21T51R00A4	23	23	22	22	22	14	14	14	13
104	21T51R00A5	22	24	22	20	21	14	15	13	13
105	21T51R00A6	22	23	24	19	22	8	15	13	13
106	20T51R0069	18	22	21	20	20	14	14	13	13
107	22T55R0001	22	24	20	21	21	14	14	14	13
108	20T51R0017	20	23	10	21	16	14	14	14	13

** Average marks of two internal theories& lab examinations*

K-Rohini

Staff Sign **Exam-in-charge Sign** **Principal Sign**

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ASSIGNMENT-1

Name : Ch. Deepthi

ROLLNO : 21T51R0019

class : B. pharm 2nd year

Subject : phaemacology-I

Topic : centrally acting muscle relaxants

Submitted TO : Rohini Mam.

K. Rohini

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Centrally Acting Muscle Relaxants:-

These drugs act on higher centres and cause muscle relaxation without loss of consciousness. They also have sedative properties.

Drugs:

Diazepam, Baclofen, mephenesin, Tizanidine

Mechanism of action:

Centrally acting muscle relaxants depress the spinal polysynaptic reflexes. These reflexes maintain the muscle tone. By depressing these spinal reflexes, centeally acting muscle relaxants reduce the muscle tone.

Centrally Acting relaxants

↓ depress reflexes → ↓ maintain muscle tone

↓ Spinal poly synaptic reflexes → ↓ relaxants reduce the muscle tone

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Diazepam:

Diazepam has useful antispastic activity. it can be used in relieving muscle spasm of almost any origin including local muscle trauma.

Baclofen:

Baclofen is an analog of the inhibitory neurotransmitter GABA. it is a $GABA_B$ agonist. it depress the monosynpatic and polysynpatic reflexes in the spinal cord. it relieves painful spasms including flexor and extensor spasms and may also improve bladder and bowel functions in patients with spinal lesions. Normal tendon reflexes are not affected

Baclofen is generally given orally. it should be gradually withdrawn after prolonged use because abrupt withdrawl can cause anxiety, palpitations and hallucinations And its side effects are

Drowsiness, weakness and Ataxia.

Mephenesin:

Mephenesin is not prefered due to its side effects. A number of related drugs like carisoprodol, methocarbamol, chlorzoxazone are used in acute muscle spasm caused by local trauma. All of them also cause sedation.

Tizanidine:

Tizanidine is a congener of clonidine. it is a central α_2 agonist like clonidine it increases presynaptic inhibition of motor neurons and reduces muscle spasm. it is used in the treatment of spasticity due to stroke, multiple sclerosis and amyotropic lateral sclerosis other centrally acting spasmolytic agents include riluzole, gabapentin and progabide Riluzole has both presynaptic and post synaptic effects it inhibit glutamate release in CNS.

it is well tolerated with minor adverse effects like nausea and diarrhoea. it is used to reduce spasticity in amyotrophic lateral sclerosis.

uses:

1) Orthopedic procedures like fracture reduction may be done after administering diazepam.

2) ECT Diazepam is given along with peripherally acting SMRs.

3) Tentanus diazepam is given I.V

4) spastic neurological disorders like cerebral palsy, multiple sclerosis, poliomyelitis, hemiplegia, and quadriplegia are treated with diazepam (or) baclofen.

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Assignment - 1

Name : M. Rani

Roll No : 21T51R0054

Subject : pharmacology - I

Topic : Centrally acting muscle relaxants.

course : B-pharmacy

Submitted To : Rohini Mam

K. Rohini

0.5/1

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and may also improve bladder and bowel functions in patients with spinal lesions. Normal tendon reflexes are not affected.

Baclofen is generally given orally. It should be gradually withdrawal can cause anxiety palpitations or hallucinations.

- Side effects are drowsiness, weakness or ataxia.

Mephenesin : is not preferred due to its side effects.

A number of related drugs like carisoprodol, Methocarbamol, Chlorzoxazone are used in acute muscle spasm caused by local trauma. All of them also cause sedation.

Uses of centrally Acting muscle relaxants.

- Musculoskeletal disorders like muscle strains, sprains, myalgias, cervical root syndromes, herniated disc syndromes, low backache, dislocations arthritis, fibrositis and bursitis.

Centrally Acting Muscle relaxants :

These drugs act on higher centres and cause muscle relaxation without loss of consciousness. They also have sedative properties.

Mechanism of Action :

Centrally acting muscle relaxants depress the spinal polysynaptic reflexes. By depressing these spinal reflexes, centrally acting muscle relaxants reduce the muscle tone.

Diazepam : has useful antispastic activity. It can be used to relieving muscle spasm of almost any origin including local muscle trauma. (\$.

Baclofen : is an analog of the inhibitory neurotransmitter GABA. it is a $GABA_B$ agonist. It depresses the monosynaptic and polysynaptic reflexes in the spinal cord. It relieves painful spasms. induced by tetanus and intense spasms.

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painful muscle spasms. Muscle relaxants are used with analgesics in these.

- spastic neurological disorders like cerebral palsy, multiple sclerosis, poliomyelitis, hemiplegia and quadriplegia are treated with diazepam or baclofen.
- Tetanus Diazepam is given IV.

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* ASSIGNMENT-2 *

NAME - A. Sindhuja

ROLL NO - 21T51R0008

CLASS - B. Pharm 2nd year

SUBJECT - Pharmacology - 1

TOPIC - Receptors & G-protein Coupled Receptors

SUBMITTED TO - Rohini Mam

K. Rohini

1/1

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Receptors:-

A Receptor is a macromolecular site on the cell with which an agonist binds to bring about a change

Functions of Receptors:-

The functions of Receptors are:

* Recognition & binding of the Ligand
* Propagation of the Message.

Types of Receptors:

1) Ion channels (Ionotropic receptor)
2) G-protein coupled receptors (metabotropic receptor)
3) Enzymatic Receptors (Kinase linked receptor)
4) Nuclear Receptors (Transcription factors or receptors that regulate gene transcription)

→ G-Protein Coupled Receptors

They are proteins spanning the plasma membrane. The G-proteins are bound to the inner face of the plasma membrane. The G-proteins consist of three subunits - α, β & γ. When a Ligand binds to the G-protein coupled receptor, the associated G-protein gets activated. This in turn activated

adenyl cyclase or phospholepase C to generate the respective second messengers. These second messengers system are called effector pathways. G-proteins acting through secondary messengers bring about a chain of intracellular changes. Thus G-proteins act as a link or mediator between the receptors & the effector systems. They are called G-proteins because of their interaction with the guanine nucleotides, GTP & GDP. G-proteins are of different classes like G_s, G_i, G_q, G_o & G_{13} - G_s is stimulatory & G_i is inhibitory. The second messengers include cAMP, IP_3, DAG, Ca^{++} & cGMP. Adrenergic receptors & muscarinic cholinergic receptors are examples of G-protein Coupled Receptors.

Effector pathways through which the G-protein Coupled Receptors work are

- Adenyl Cyclase / cAMP pathway
- Phospholipase C / IP_3 - DAG pathway
- Ion Channel Receptors regulation.

Adenyl Cyclase pathway:-

Stimulation of adenyl cyclase results in the formation & accumulation of cAMP in the cell. The cAMP acts

through protein kinases which phosphorylate various proteins to regulate the cell function. The response may be contraction, relaxation, lipolysis or hormone synthesis.

Phospholipase C / IP_3 - DAG pathway :

Activation of Phospholipase C results in the formation of second messengers IP_3 & DAG from the membrane phospholipids phospho ionositol pyrophosphate (PIP_2). IP_3 mobilised Ca^{++} mediates responses like secretion, contraction, metabolism & hyperpolarisation. DAG activates protein kinase C which regulates cell functions

Ion Channel Regulation :-

The activated G-proteins can directly convey the signal to some ion channels causing opening & closing of the channels. The resulting response include depolarisation & hyperpolarisation

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ASSIGNMENT-2

NAME :- M. SAILAJA

ROLL NO :- 21T51R0051

CLASS :- B. Pharm 2nd year

SUBJECT :- Pharmacology - 1

TOPIC :- Receptors & it types, - G-protein Couple receptor

SUBMITTED TO - Rohini Madam

K. Rohini

0.5/1

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Receptor:-

A receptor is a macromolecular site on the cell with which an against binds to bring about a change.

Functions of Receptors:-

The two functions of receptors are:-

- Recognition and binding of the ligand.
- propagation of the message.

Types of Receptors:-

1. Ion channels (ionotropic receptor).
2. G-protein coupled receptor (metabotropic receptor).
3. Enzymatic receptor (kinase linked receptor).
4. Nuclear receptor. (Transport factor)

G-protein coupled receptors:-

These are proteins spinning the plasma membrane. The G-proteins consist of three subunits i.e α, β, γ. This in turn activates adenyl cyclase (to generate the respective second messenger.

These second messenger system are called effector pathways. They are called G-proteins because of their interaction with guanine nucleotides, GTP and GDP, G-proteins are of different classes like G_s, G_i, G_q, G_o, and G_{13}. The second messenger include camp, IP_3, DAG, Ca^{++} and cGMP.

Effector pathways through which these G-protein coupled receptors work are:-

- Adenylcyclase / camp pathway.
- Phospholipase C/IP_3- DAG pathway.
- Ion channel regulation.

Adenylyl cyclase pathway:-

Stimulation of adenylcyclase results in the formation and accumulation of CAMP within the cell. The response may be contraction, relaxation, lipolysis or hormone synthesis

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Phospholipase C/IP_3 - DAG pathway :-

Activation of phospholipase C results in the formation of second messenger IP_3 and DAG from the membrane phospholipids phospho inositol phyrophosphate (PIP_2). DAG activates and kinase C which regulates cell function.

Iron channel regulation :-

The activated G-protins can directly convey the signal to some ion channels causing opening, closing to channels. The depolarization hyperpolarisation.

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INTERNAL LAB EXAMINATION

ASSESSMENT

II B Pharmacy II Sem Lab internal I Examinations PCI, May-2023

Name of the Subject: Pharmacology - I

Time: 180 min Max. Marks: 40 M Date of exam: 25/05/2023

I.	**Synopsis**	**10M**
	Define neurotransmission & explain brief about neurotransmitters.	
II.	**Major experiment**	**15M**
	Perform the Mydriatic or Miotic effect of the given drugs on rabbit eye and report its activity	
III.	**Minor Experiment**	**10M**
	Perform the study of different route of administration in mice	
IV.	**Viva-voce**	**5M**

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Signature of the Faculty

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(Approved by AICTE, PCi & Govt.of A.P. Affiliated to JNTUK, Kakinada)

ESTD : 2005

SUBJECTIVE TEST

JNTUK Reg. No.	:	22T55R0001	Date	:
Student Name	:	K. Niharika. Year : IInd B.ph	Sem	: Sem-2. Internal-1
Branch	:	B. Pharm / Pharm D. / Pharm D. (P.B) / M. Pharm		
Specialization	:	B. pharmacy.	Time	:
Subject Name	:	pharmacology.	Total Marks	: 8+4=12
Marks Secured	:	33/40 8/10	Invigilators Signature	:

I. Synopsis. 7+14+7+5

i. Define Neurotransmission explain in brief about neurotransmitters.

II. Major exp.

Effect of drug on Rabbit eye?

III. Minor exp.

Study of different routes of administration in mice.

IV viva voice.

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II. Major Experiment.

Aim:- To study the effect of mydriates & miotic effect on rabbit eye.

Requirements:- Rabbit ; Droper; Drug soln.

Procedure:-

put rabbit in such away that ahead will be product producing vehicle until drug soln blinking of eyes. In still the drug soln. Then study the effect after 5 min. Note the size of pupil response to light & torch.

Mechanism:-

pupil of eye is dilated by paralysis of parasympathotetic stimulation. the circular muscle fibre of iris contact & due to sympathetic stimulation. contract the radicle muscle fibre miosis can occur due to stimulation of nerve occulomotal nerve of irritation of sympathetic nerve.

Discussion :-

→ pikocarpins directly acting parasympathetic agent

→ Atrocarpin blocks the muscarnic receptors hence sympathetic system predominators.

Report:- Atropine, Epinephrine & epidrmis produces mydriatic effect physostigmine produce & miotic effect.

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Ex. 11. Minor Exp

Aims:- To study the onset of duration of action in mice / rat when give by different route of administration.

Requisements:- Animals - Mice / Rat
Drug - phenobarbitone; sodium diazepam

Equipment:-

The Onset & duration of action of a drug depend on route of administration for example when a drug is given by I.V route the effect is seen instaneously as compared to E route of administration of drug when it takes upto nearly an hour to slow the effect

Procedure:-

1) Weight the animal no them by marking
2) Dividing them into 3 drops each consisting of 3 drops to 3 mice rat
3) Administrate the drug. to animal. group through Oral route.
4) Note the time of inj & time of onset of sleep when animal is sleep placed it as a position in which animal sleep keep in black at bottom.
5) Note recovery of action & sleep duration by different route of administration of phenobarbitone

Report:- In I.V route of drug administration produce quick on set of action & short duration N> Im> Ip> Sc> oral route

5. Synopsis

Neuro transmission is regulated by several different factors: the availability & rate of synthesis of the neuro transmitter, the release of that neuro transmitter, the baseline activity of the post synaptic cell, the no. of available post synaptic receptors for the neuro transmission to bind to and subsequent

Stages:

→ Synthesis of the neuro transmitter can take place in the cell body, in the axon, or in the axon terminal.

→ storage of the neurotransmitter in storage granules, or vesicles in the axon terminal.

→ calcium enters the axon terminal during an action potential, causing release of the neuro transmitter into the synaptic cleft.

→ After it release the transmitter binds to & activates a receptor in the post snaptic membrane.

→ cotransmission is the release of several types of neurotransmitters from a single nerve terminal.

→ At the nerve terminal neuro transmitters are present within 35-50 nm membrane-encased vesicles called synaptic vesicles.

→ To release neuro transmitters, the synaptic vesicles transiently dock & fuse at the base of specialized 10-15 cm cup-shaped lipoprotein structures at the presynaptic membrane called porosomes.

→ GABA - Glycine co-release.

→ Dopamine - Glutamate co-release.

→ Acetylcholine

→ Ach - Vasoactive intestinal peptide release.

→ Ach - calcitonin gene - related peptide release.

→ Glutamate - dynorphin co-release in hi

II B Pharmacy II Sem Lab internal II Examinations PCI, May-2023

Name of the Subject: Pharmacology - I

Time: 180 min Max. Marks: 40 M Date of exam: 07/07/2023

I. Synopsis **10M**

Classify the general anaesthetics and explain about stages of anaesthesia.

II. Major experiment **15M**

Perform Anticonvulsant effect of drugs by MES & PTZ methods and report the anticonvulsant effect for the given drugs.

III. Minor Experiment **10M**

Perform the Effects of drugs on locomotor activity using actophotometer and report the locomotor activity.

IV. Viva-voce **5M**

K. Rohini

Signature of the Faculty

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Vizianagaram Dt., - 531162

AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES

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(Approved by AICTE, PCI & Govt.of A.P. Affiliated to JNTUK, Kakinada)

ESTD : 2005

SUBJECTIVE TEST

JNTUK Reg. No. : 21T51R0079 Date : 10-7-2023

Student Name : P. Sreepriya Year : 2nd Sem : Lab Internal-II Sem-2.2

Branch : B. Pharm / Pharm D. / Pharm D. (P.B) / M. Pharm

Specialization : B. pharmacy Time : 3 hrs

Subject Name : pharmacology-I Total Marks : 9+5 = 14

Marks Secured : 35/40 9/10 Invigilators Signature :

I. Synopsis :- 10 marks 8+14+8+5

① classify General Anaesthetics and explain about stages of Anaesthesia?

II major Experiment - 15 marks

Anti-convulsant effect of drug by MES and PTZ method

III minor Experiment - 10 marks

Effect of drugs on locomotor activity using acto photometer

IV Vivavoce - 5 marks

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II. major Experiment :-

Aim :- To evaluate anti-epileptic activity of the drug using maximum electro convulsive shock seizure method.

Requirements :- The electro convulsimeter, phenytoin (21 mg/kg).

principle :- The Convulsion is rat (mice) can be induced by giving high voltage current near the brain. The Screening of the anti-epileptic agent.

Procedure :

→ weigh, mark and Suicide the animals into 2 groups.
→ Administer vehicle and drug to the respective group.
→ After 30 min, place the cornea/ear electrode on the cornea and apply 50 mA for 0.2 seconds is given to all animals.
→ Immediately observe duration of tonic and clonic convulsions in each mouse.

Compare the duration of reaction time of test group with control group.

Report :-

The convulsive shock for rat is decreased by the phenytoin. when compared to vehicle, So, phenytoin show anti-convulsant activity.

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III. minor - Experiment :-

Aim :- To study about actophotometer.

principle :- most of the CNS acting drugs influence the locomotor activities in man and animals, the CNS dependent drugs such as babiturates, alcohol, reduce (a) decrease motor activity. while the stimulants activity in other words locomotor the activity can be alternate of mental activity.

To locomotor activities which operates on photoelectric like which are connected in circuit with current. when beam of light falling on photocells is cuts off could have either circular (a) square area in which animals man both rat and mice may be used for performing this experiment.

Uses :-

The uses of central nervous depressant property of the "chlorpromazine" on locomotor activity of mice using actophotometer.

Report :-

The actophotometer has been demonstrated.

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Pharm. Practice Lab - Internal - II

21T51R0079

I. Synopsis :-

① classification of general anaesthetic :-

These are mainly classified into 2-types

① Inhalation anaesthesia

② Intravenous anaesthesia.

① Inhalation anaesthesia 2-types

a) volatile liquid :- Chloroform, Halothane, Ethyl Ether.

b) Gases :- nitrous oxide.

② Intravenous anaesthesia :-

a) Ultra short acting - Methohexital Sodium, thiopental Sodium

b) non - Babiturates - propandid, propofolol.

c) Short acting :-

→ Benzodiazepines - Diazepam, Lorazepam

→ dissociative anaesthesia - Ketamine HCl

→ opoid analgesia - Fentanyl Citrate

Stages of Anaesthesia :- 4 types

Stage - I :- Stage of Analgesia :-

starts from begining of anaesthetic inhalation and lasts upto the loss of consciousness.

⇒ Reflexes and respiration remain normal.

⇒ pain is progressively abolished

Stage - II Stage of delirium :-

From loss of consciousness to begining of regular respiration

=) Apparent excitement is seen in patient may shout struggle & hold his breath etc..

=) Heart rate, & BP increases pupil dilated.

Stage - III Surgical anaesthesia

Extends from onset of regular respiration to cessation of Spontaneous breathing

=) In this stage the surgery of the patient occurs.

Stage IV medullary paralysis:-

Cessation of breathing to failure of circulation and death.

=) pupil widely dilated, muscles are totally flabby pulse is thread by (a) imperceptible and BP is very low.

II B Pharmacy II Sem Lab internal -II examinations PCI (R14)

Scheme of valuation

S. No	Evaluation Process	Marks
1	Internal laboratory exam	**10 M**
2	Day to day assessment in laboratory	**05 M**
3	Total	**15 M**

K. Rohini
Signature of the faculty

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Cherukupally (Vi), Chittivalasa (SO), Vizianagaram (Dt.) Pin - 531 162
Phone : 08933-226262, 9705169740

CERTIFICATE

Certified that this is a bonafied record of Practical work done by Mr./Miss G. Jhansi laxmi *a student of B. Pharmacy, Pharm D.M. Pharmacy, with Regd. No.* 21T51R00A6 *in the* Pharmacology *Laboratory of Department of Pharmaceutical Sciences during the year* 2022 - 2023

No. of Experiments | 1 | 0 |

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CHITTIVALASA S.A.O
Bhogapuram (M), Vizianagaram Dist.

K. Rohini
Signature Faculty Incharge

Signature of Head of Dept.

Submitted for Practical Examination held on : 02/08/2023

Examiner

K. Rohini
Examiner - 2

INDEX

Serial No.	Date:	Name of the Experiment	Page No	Marks Awarded	Remarks
1.	11-04-23	Introduction	1-7	9	4/4
2.	18-04-23	Commonly used instrument in experimental pharmacology	8-10	8	18/4
3.	25-04-23	Study of common laboratory animals	11-13	9	25/4
4.	2-05-23	CPCSEA Guidelines for laboratory animal facility.	14-22	9	2/5
5.	9-05-23	Common laboratory techniques.	23-25	8	9/5
6.	16-05-23	Study of different routes of administration mice.	26-27	8	16/5
7.	23-05-23	Effect of drug on ciliary motility of frog oesophagus	28-29	9	23/5
8.	30-05-23	Effect of drugs on rabbit eye.	30-31	8	30/5
9.	6-06-23	Effects of skeletal muscle relaxants using Rota-rod apparatus.	32-33	9	6/6

S.NO	Date	Experiment name	Page no.	Marks Awarded	Remarks
10.	13-06-23	Effect of drugs on locomotor activity using actophotometer.	34	9	W 13/6
11.	20-06-23	Anticonulsant effect of drugs by MEC and PTZ method.	35-36	8	W 20/6

Date 11-04-23

Expt. No. [illegible] Page No. 1

INTRODUCTION

Pharmacology is the science which deals with the study of drops. The used pharmacology is derived from the greek words pharmalon and logue. It broadly covers the information about the history, Source physiochemical properties physiochemical actions, mechanism of action, absorption, distribution, metabolism, Excreation and therapetic used for drugs. Drugs again are chemical substance used for the purpose of diagonosis, prevention, relief or cure is derived from the french word 'drague' meaning 'herb'.

Experimental pharmacology is relatively the youngest branch of basic medical sciences. Although this disapline was started in Europe and England in nineteeth countury it has been developed to its present status only during the last fews decades or so, Rutory Bucchium founded the first experimental pharmacology laboratory in this own house in 1849 in Germany. Oswald schimiedberg, Jereurmer, magentic, John Abel, Arther curtiney, J.H, Burn and Gaddeum mack. Significant contributions for the development of experimental pharmacology during lost one hundred

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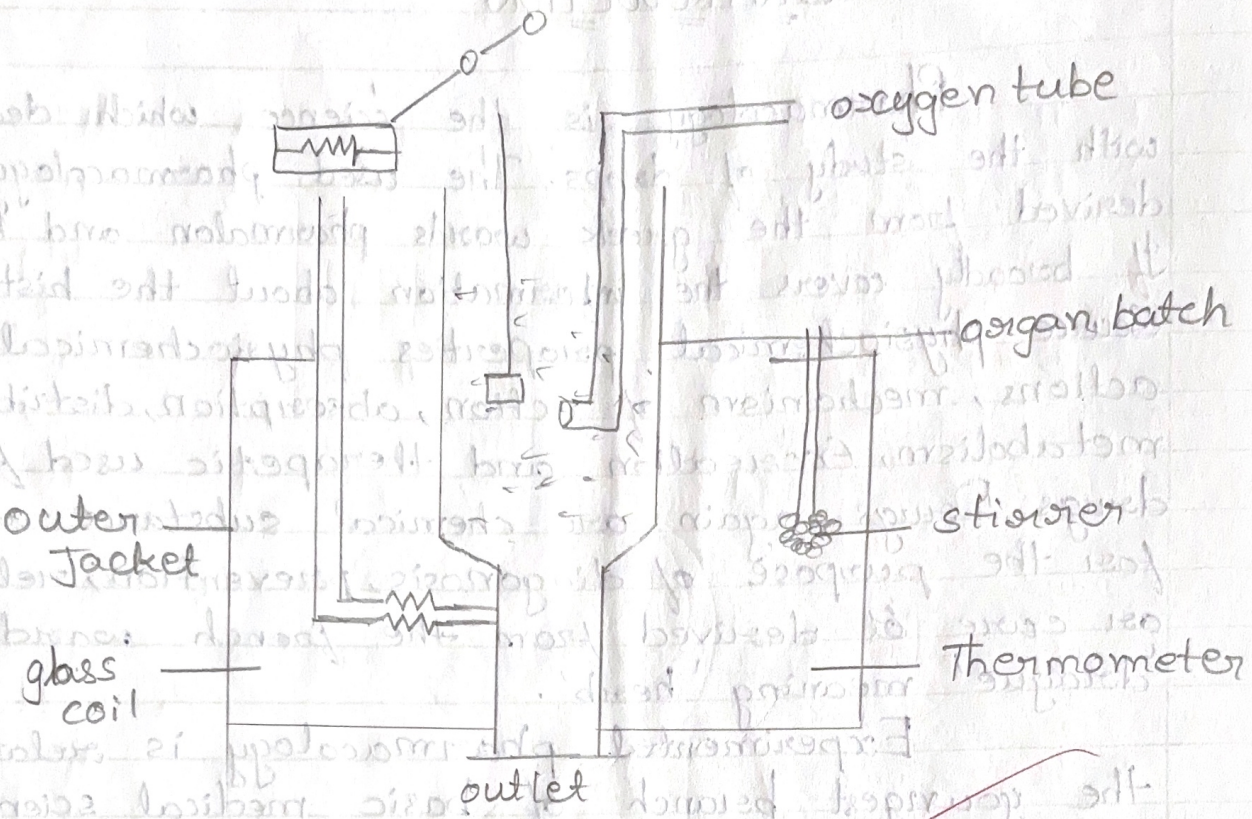
oxygen tube
organ batch
outer Jacket
stirrer
glass coil
Thermometer
outlet

Organ Bath

years. In india sir Ram Nath chapera made the begining in pharmacological research of traditional drugs. The outer out standing pharmacologist. who significantly contributing to the growth of this discipline in india are R.B. Aswra, M.N. Ghosh, U.K sheth, P.C Dandiya has tremendously drifted from aspects. The advancements in the field of electrophysiology biochemistry molecular biology and analytical chemistry have enriched and branded the horizane of Experimental pharmacology.

The main aims of experimental pharmacology are to 1) Findout a therapeutic agent suitable for human use. 2) Study the toxicity of a drug and 3) study the mechanism and site of action of drugs. Since Experiments pharmacology involves the discology of new drugs or to study the actions of existing drug it is done in two main stages.

Basic Equipments Used in Experimental pharmacology:

In spite of the treatments development in electronic devices, gazetteries and recording systems, tradionally.

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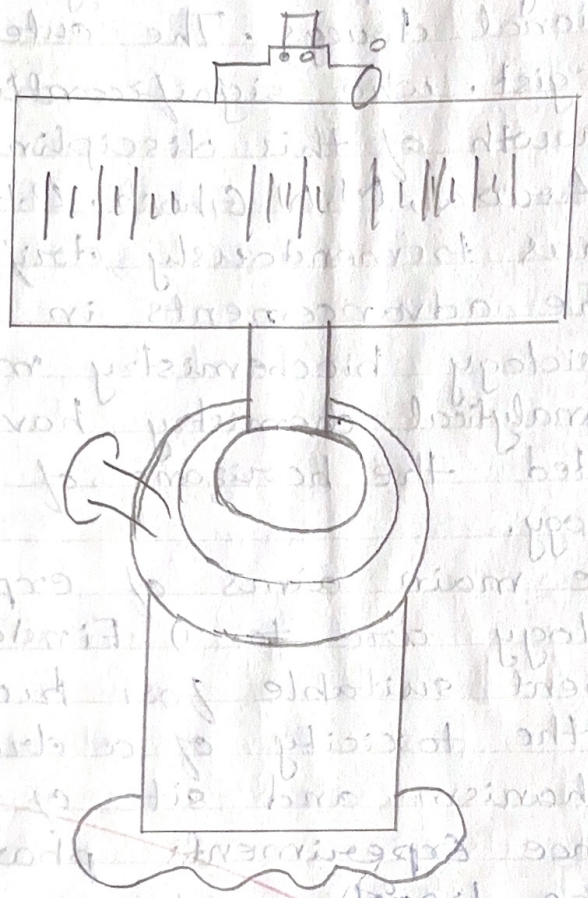

Sherrington's Rotating Drum

recording on the smoked paper ckymo graph is followed in most of teaching institutions and even in some of the reasons laboratories. The multi-channel polygraph (physio graph) recorders are now available in the country but the cost is too high to make use of them for day to day working in the pratical loss with them help of appropriate transducers physicology events such as blood pressure, heart rate, muscle contration and body temperature can be accurately recorded using polygraphs. In the following pages, However the essential conventional equipments are described

Organ bath:

The tissue both used to put the animal tissue for ~~be~~ studying the drug action is called student organ both. This was first designed by Rudolph margus in 1904. The organ bath essentially consists of a) Outer Jacket (water bath) made up of steel, glass or perper. & b) The inner organ or tissue bath made up of glass with a capasity varying from 10ml to 50ml. ii, Thermostatically controlled heating rod.

Signature: _____

Date _____

Expt. No. _____ Page No. 4

ii, Stimer to keep the water in the older jacket at uniform temperature.
iii, Oxygen or delivery glass tube which is connected to be the lower end of the organbath and the orther solution. The glass coil is usually of double, the capacity of inner organ bath to ensure warming up to the solution befor it enters the organ bath the student organ bath having two units of inner tissue student organ bath is called double unit organ bath.

Recording levels:

They are used to record the concenstration or relaxation of the isolated tissue preparation. The recording is done on smoked papers fixed on circular cylinders and run of different speed using electrical recording drums The speed of the drum is adjusted depending upon the nature of the experiment. The writing levels are light in weight rigid and are generally made up of wood light aluminium or stainless steel. The levels are of two types i, isotonic type : change in length due to

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Expt. No. _____ Page No. 5

contration is recorded while the tension on the nucleus remains the same.
Eg: Isotonic levers are simple lever, frontal writing lever.

ii, Isometric type:

Isometric recording measures increases tension of the tissue when the length of the tissue is kept constant. These are used in special circumstances such as recording muscle twitchs produced by electrical stimulation gauge transdever may be preferred a) Simple lever (side-way writting). It is simplest type of lever made up of wood, stainless steel or aluminium, a celluloid writing up (stylers) is attached at the end of the longer.

b) Frontal writing lever (writes frontally). This lever is designed in such a way that the writting points rotates freely about its amis. this helps in reducing the tension between the smoked paper and the recording tip. The conc. are reduced as straight line.

c) Starting's heart lever. This lever is used to record the contraction of the heart the difference between and other isotonic levers is that the fulemkies at one end

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beyond the point all attachment.

d) Brodies universal lever. It is a general utility lever. The other levers and essential equipments used along with organ both are gimbal, lever, auxotomic lever, different types of n-blocks, clamps and surgical instruments.

Recording procedure:

a) Adjustment for magnification:

Depending on the inherent contractibility of the tissue preparation under study the magnification of the response should be adjusted physiological action responce for example while recording the effects on guinea-pig ileum or rectus abdominus muscle it is desirable to have 5-10 fold magnification whereas for uterus preparation the magnification needed is only 4-6 times. The adjustment for magnification is done by properly adjusting for magnification is done by propely adjusting the, distance between the point of attachment to the tissue and fulcrum.

Magnification value = $\frac{\text{Distance b/w fulcrum \& contng point (A)}}{\text{Distance b/w fulcrum \& the point of attachment to the tissue (B).}}$

Signature: _____

If the distance of the longer, arm (A) is 10cm and that of the shorter arm (B) is 2cm, the magnification (A/B) will be 5.

b) Application of load (tension):

The muscle preparation has to be properly relaxed without affecting the normal tone and rhythmic activity so that efficient contractions an achieved on the following ways:

i, Select the paper length of longest and shorter arms depending on magnification for the tissue which is under study.

ii, Balance the lever by putting the weight (plastic) at end of shorter arm and mark the point of tissue attachment.

iii, At equidistance the distance between the fulerum and the point of tissue attachment from fulerum on longer arm of the lever, for the desired load required for the particular tissue.

The recording can be done directly on while paper with the help of link writting device (pen) attached to tip of liver.

Signature: 18/4/23

GUIDELINES FOR PRACTICE SCHOOL

- In the VII semester, every candidate shall undergo practice school for a period of 150 hours evenly distributed throughout the semester. The student shall opt any one of the domains for practice school declared by the program committee from time to time. At the end of the practice school, every student shall submit a printed report (in triplicate) on the practice school he/she attended (not more than 25 pages).
- Along with the exams of semester VII, the report submitted by the student, knowledge and skills acquired by the student through practice school shall be evaluated by the subject experts at college level and grade point shall be awarded.

Semester VII

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP701T	Instrumental Methods of Analysis – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP702T	Industrial Pharmacy – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP703T	Pharmacy Practice – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP704T	Novel Drug Delivery System – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP705 P	Instrumental Methods of Analysis – Practical	5	10	4 Hrs	15	35	4 Hrs	50
BP706 PS	Practice School*	25	-	-	25	125	5 Hrs	150
	Total	70	70	8Hrs	140	460	21 Hrs	600

* The subject experts at college level shall conduct examinations

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PRACTICE SCHOOL

A REVIEW ON UV SPECTROSCOPY

NAME OF THE STUDENT : E.RAMYA

ROLL NUMBER : 20T51R0027

EMAIL ID : ramya.dipothi@gmail.com

SUBMITTED BY : RAMYA

SUBMITTED TO : CHAITANYA MAM

AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCE

Cherukupally (v), chittivalasa(p.o),Bhogapuram(M)

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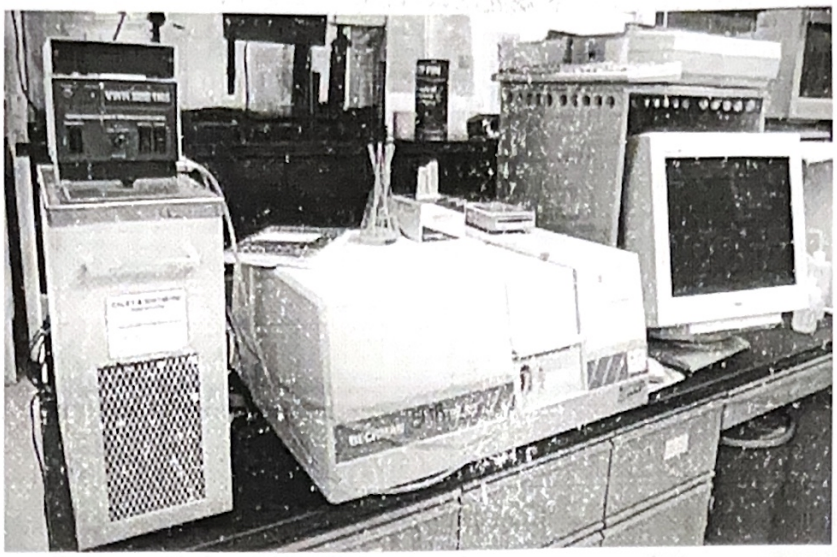
INTRODUCTION



- Ultraviolet spectroscopy is concerned with the study of absorption of uv radiations which ranges from 200 to 400nm.
- Compounds which are colorless absorb radiation in the UV region.
- In both UV as well as visible spectroscopy, only the valence electrons absorb the energy, thereby the molecule undergoes transition from Ground state to excited state. This absorption is characteristics and depends on the nature of electrons present.
- The intensity of absorption depends on the concentration and path length as given by Beer-Lambert's law.

The types of electrons present in any molecule may be conveniently classified as

1. "σ" **electrons:** These are the ones present in saturated compounds.

Such electrons do not absorb near UV. but absorb vacuum UV radiation (<200nm).

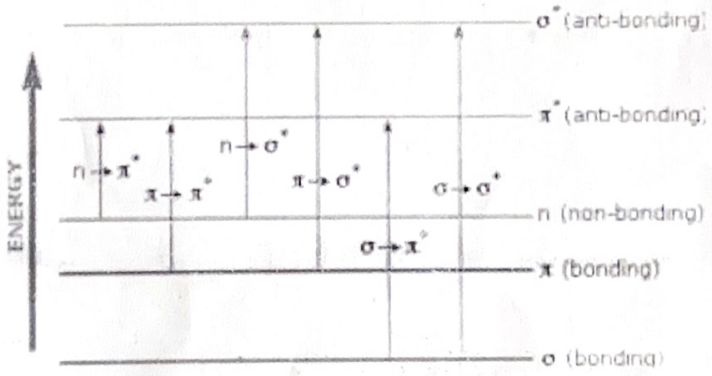
2. "π" **electrons**: These electrons are present in unsaturated compounds (eg) double or triple bonds (eg) >C=C<, -C=C-

3. "n" **electrons**: These are non bonded electrons which are not involved in any bonding (eg) lone pair of electrons like in S. O, N & Halogens (X).

PRINCIPLE

- Any molecule has either n, π or σ a or a combination of these electrons.
- These bonding (σ&π) and non-bonding (n) electrons absorb the characteristic radiation and undergoes transition from ground state to excited state.
- By the characteristic absorption peaks, the nature of the electrons present and hence the molecular structure can be elucidated.

ELECTRONIC TRANSITIONS AND EXCITATION PROCESS



- It was stated earlier that σ, n and π electrons are present in a molecule and can be excited from the ground state by the absorption of UV radiation.
- The various transitions are n$\rightarrow\pi^*$, $\pi \rightarrow \pi^*$, n$\rightarrow \sigma^*$ and $\sigma \rightarrow \sigma^*$.

- The energy required for excitation for different transitions are: n→ π^* < $\pi \rightarrow \pi^*$ < n→ σ^* <$\sigma \rightarrow \sigma^*$ Of these transitions required lowest energy and $\sigma \rightarrow \sigma^*$ requires the highest energy for excitation in the UV region.
- After absorption of UV radiations, these electronic structures ha greater or lesser polar character than in ground state. Some of them exists as biradicals or as activated structures. In general, re-distribution of electrons within the molecule may take place.
- Polar solvents shift n→ π^* and no to shorter wavelengths and n→ σ^* to longer wavelengths.

LAWS GOVERNING ABSORPTION OF RADIATION

The two laws related to the absorption of radiation are:

1. Beer's law (related to Concentration of absorbing species)
2. Lambert's law (related to thickness/path length of absorbing species)

These two laws are applicable under the following condition:

$$I = I_a + I_t$$

I = Intensity of incident light

I_a = Intensity of absorbed light

I_t = Intensity of transmitted light and No reflection/scattering of light takes place

Beer's Law

Beer's law states that 'The intensity of a beam of monochromatic light decreases exponentially with increase in the concentration of absorbing species.

Accordingly,

$$\frac{-dI}{dc} \propto I$$

[The decrease in the intensity of Incident light (I) with concentration (c) is proportional to intensity of incident light (I)]

$$\frac{-dI}{dc} = \mathrm{kI}$$

(removing and introducing the constant of proportionality 'k')

$$\frac{-dI}{I} = \mathrm{kdc}$$

$$-I_n I = kc + b$$

(On integration, b is constant of integration)

When concentration = 0, there is no absorbance, Hence I = I_0

- Substituting in Equation 1,

$$-I_n I_0 = k \times 0 + b$$

$$-I_n I_0 = b$$

Substituting the value of b, in equation 1,

$$-I_n \mathrm{I} = \mathrm{kc} - I_n I_0$$

$$I_n I_0 - I_n \mathrm{I} = \mathrm{kc}$$

$$I_n \frac{I_0}{I} = kc \qquad \text{(since log A – log B = } \log\frac{A}{B}\text{)}$$

$$\frac{I_0}{I} = e^{kc} \qquad \text{(removing natural logarithm)}$$

$$\frac{I}{I_0 I} = e^{-kc} \qquad \text{(making inverse on both sides)}$$

$\mathrm{I} = I_0 e^{-kc}$ …Equation 2 (Equation for Beer's law)

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Lambert's law

The rate of decrease of intensity (monochromatic light) with the thickness of the medium is directly proportional to the intensity of incident light.

$$\frac{-dI}{dt} \propto I$$

This equation can be simplified, similar to equation 2 to get the following equation (by replacing'c' with 't')

$$I = I_0 e^{-kt}$$

Equation 2 and 3 can be combined to get

$$I = I_0 e^{-kct}$$

$$I = I_0 10^{-kct}$$

(converting natural logarithm to base 10 & k = k×0.4343)

$$\frac{I}{I_0} = 10^{-kct}$$

$$\frac{I_0}{I} = 10^{Kct}$$

$\log\frac{I_0}{I} = Kct$ (taking log on both sides) ...Equation 4

It can be learnt that Transmittance (T) $= \frac{I}{I_0}$ and

$$\text{Absorbance (A)} = \log \frac{1}{T}$$

$$\text{Hence A} = \log \frac{1}{\frac{I}{I_0}}$$

$$A = \log \frac{I_0}{I} \quad \text{.....Equation 5}$$

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Using Equation 4 & 5, Since $A = \log \frac{I_0}{I}$ and $\log \frac{I_0}{I}$ =Kct we can infer that

$A = Kct$ (instead of K, we can use)

$A = \varepsilon ct$

(Mathematical Equation for Beers-Lambert's law)

Where A = Absorbance or optical density or extinction co-efficient

ε = Molecular extinction co- efficient

C =Concentration of drug(mmol/lit)

T = path length (normally 10mm or 1cm)

TYPES OF UV SPECTROSCOPY

Electronic absorption spectroscopy

- In electronic absorption spectroscopy, the absorption of UV radiation by a molecule results in the promotion of an electron from its ground state to an excited state.
- The energy difference between the ground and excited state corresponds to a specific wavelength, which can be measured and used to determine the electronic structure of the molecule.
- This technique is widely used to study the electronic transitions and energy levels of organic molecules.

Fluorescence spectroscopy

- It involves the emission of light by fluorophores, which

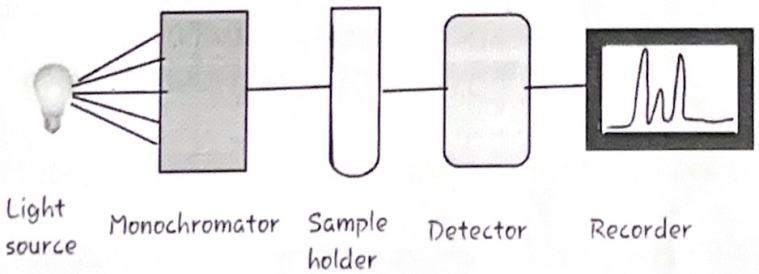
are molecules that absorb UV radiation and re-emit it as visible light.

- When a fluorophore absorbs UV light and transitions to an excited state, it subsequently relaxes back to the ground state by emitting light.
- By analyzing the emitted light, valuable information about the structure and properties of the fluorophore and its environment can be obtained.

INSTRUMENTATION

UV-visible spectrophotometer include

- Source of light
- Monochromators.
- Sample cells.
- Detector.
- Read out device.



Instrumentation

1. **Source of light**:

The best source of light is the one which is more stable, more intense and which gives range of spectrum from 180-360nm (upto 400nm). The different sources available are:

a. **Hydrogen discharge lamp**: It is more stable, robust and widely used. It gives radiation from 120-350nm. The lamp consists of hydrogen under high pressure.

b. **Deuterium lamp:** It is similar to hydrogen discharge lamp, but filled with deuterium in the place of hydrogen. It offers 3-5 times more intensity than other types. This is most widely used, but expensive.

c. **Xenon discharge lamp:** In this lamp, xenon at 10-30 atmospheric pressure is filled in and has two tungsten electrodes. The intensity is greater than hydrogen discharge lamp.

d. **Mercury arc:** This contains mercury vapour and offers bands which are sharp. The spectrum is not continuous. Hence it is not widely used.

2. Monochromators

- Grating monochromators are used.
- Filters and prism monochromators are not used because of low resolution.
- On the other hand gratings provide a band pass of 0.4 to 2nm.
- Hence they are more widely used.

- The mirrors, gratings etc are made up of quartz, since glass absorbs uv radiations from 200-300nm.
- Mirrors are front surfaced to prevent absorption of radiation.

3. Sample cells

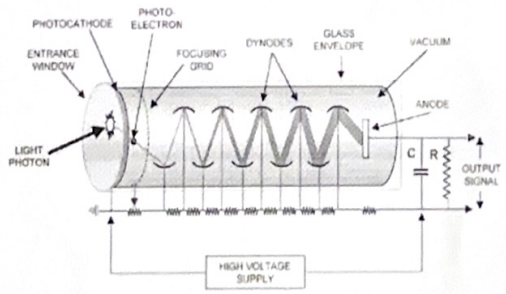
- Sample cell is made up of Quartz.
- Quartz cells only must be used in UV spectroscopy since glass cells will absorb uv radiation.
- The path length of the cells are 10mm or 1cm.

4. Solvents

Solvent plays an important role in uv spectra, since compound peak could be obscured by solvent peak. Hence the solvent for a sample is selected in such a way that the solvent neither absorbs in the region of measurement nor affects the absorption of the sample.

5. Detectors

Photomultiplier tubes are mainly used, since the cost of such uv spectrophotometers are high and more accurate measurements are to be made.



GUIDELINES FOR INDUSTRIAL TRAINING

- Every candidate shall be required to work for at least 150 hours spread over four weeks in a Pharmaceutical Industry/Hospital. It includes Production unit, Quality Control department, Quality Assurance department, Analytical laboratory, Chemical manufacturing unit, Pharmaceutical R&D, Hospital (Clinical Pharmacy), Clinical Research Organization, Community Pharmacy, etc. After the Semester – VI and before the commencement of Semester – VII, and shall submit satisfactory report of such work and certificate duly signed by the authority of training organization to the head of the institute.

PRINCIPAL
Avanthi Institute of Pharmaceutical Scien
Cherukupally (V), Bhogapuram Mand
Vizianagaram Dt., - 531162

AUROBINDO

CERTIFICATE

Date: 31/10/2022

This is to certify that **Ms. Koyya Roshini,** from Avanthi Institute of Pharmaceutical Sciences (affiliated to JNTU Kakinada), underwent Industrial training from 01st October 2022 to 31st October 2022. She was trained in "**Organic synthesis, downstream process, Analysis of Semi Synthetic Pencillin by Chemical and Instrumental Techniques (HPLC and GC).**" During the period she has shown great enthusiasm in learning and her work and efforts are appreciated.

We wish her all the best in future.

for **Aurobindo Pharma Ltd.**

R.S. 31/10/2022

R. Srinivasa Rao
Sr. Manager-Quality.

AUROBINDO PHARMA LIMITED

Unit- XI : 1/22,2/1 to 5,6 to 18, 61 to 69, IDA, Pydibhimavaram, Ranasthalam (Mandal), Srikakulam District - 532 409., A.P., INDIA Tel : ++1 8942 288 331/332/334/292 Fax : ++91 8942 288 293
Corporate Office : Galaxy, Floors: 22-24, Plot No.1, Survey No.83/1, Hyderabad Knowledge City, Raidurg Panmaktha, Ranga Reddy District, Hyderabad - 500 032.
Telagana, India. Tel : +91 40 6672 5000 / 6672 1200, Fax: + 91406707 4044.

PAN No. AABCA7366H

www.aurobindo.com

AUROBINDO

CERTIFICATE

Date: 31/10/2022

This is to certify that **Ms. Surata Sai Saranya,** from Avanthi Institute of Pharmaceutical Sciences (affiliated to JNTU Kakinada), underwent Industrial training from 01st October 2022 to 31st October 2022. She was trained in "**Organic synthesis, downstream process, Analysis of Semi Synthetic Pencillin by Chemical and Instrumental Techniques (HPLC and GC).**" During the period she has shown great enthusiasm in learning and her work and efforts are appreciated.

We wish her all the best in future.

for **Aurobindo Pharma Ltd.**

31/10/2022

R. Srinivasa Rao
Sr. Manager-Quality.

AUROBINDO PHARMA LIMITED

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PAN No. AABCA7366H

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CERTIFICATE

Date: 31/10/2022

This is to certify that **Ms. Ratnala Bhargavi,** from Avanthi Institute of Pharmaceutical Sciences (affiliated to JNTU Kakinada), underwent Industrial training from 01st October 2022 to 31st October 2022. She was trained in "**Organic synthesis, downstream process, Analysis of Semi Synthetic Pencillin by Chemical and Instrumental Techniques (HPLC and GC).**" During the period she has shown great enthusiasm in learning and her work and efforts are appreciated.

We wish her all the best in future.

for **Aurobindo Pharma Ltd.**

31/10/2022

R. Srinivasa Rao
Sr. Manager-Quality.

AUROBINDO PHARMA LIMITED

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CERTIFICATE

Date: 31/10/2022

This is to certify that **Ms. Nammi Padma,** from Avanthi Institute of Pharmaceutical Sciences (affiliated to JNTU Kakinada), underwent Industrial training from 01st October 2022 to 31st October 2022. She was trained in "**Organic synthesis, downstream process, Analysis of Semi Synthetic Pencillin by Chemical and Instrumental Techniques (HPLC and GC).**" During the period she has shown great enthusiasm in learning and her work and efforts are appreciated.

We wish her all the best in future.

for **Aurobindo Pharma Ltd.**

K.Sf
31/10/2022

R. Srinivasa Rao
Sr. Manager-Quality.

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Corporate Office : Galaxy, Floors: 22-24, Plot No.1, Survey No.83/1, Hyderabad Knowledge City, Raidurg Panmaktha, Ranga Reddy District, Hyderabad - 500 032, Telegana, India. Tel : +91 40 6672 5000 / 6672 1200, Fax: + 91406707 4044.
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CERTIFICATE

Date: 31/10/2022

This is to certify that **Ms. Telapalli Haritha,** from Avanthi Institute of Pharmaceutical Sciences (affiliated to JNTU Kakinada), underwent Industrial training from 01st October 2022 to 31st October 2022. She was trained in "**Organic synthesis, downstream process, Analysis of Semi Synthetic Pencillin by Chemical and Instrumental Techniques (HPLC and GC).**" During the period she has shown great enthusiasm in learning and her work and efforts are appreciated.

We wish her all the best in future.

for **Aurobindo Pharma Ltd.**

R. 31/10/2022

R. Srinivasa Rao

Sr. Manager-Quality.

AUROBINDO PHARMA LIMITED

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EXTERNAL THEORY EXAMINATION ASSESSMENT

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAM

UNIVERSITY EXAMINATION CENTER, VIZIANAGARAM

IV B.PHARMACY - II SEMESTER (PCI, R16, R13) REGULAR EXAMINATIONS, APRIL – 2023

TIME TABLE

TIME: 10.00 AM TO 01.00 PM

DATE & DAY	PCI REGULAR/SUPPLEMENTARY	R16 REGULATION SUPPLEMENTARY
17.04.2023 (Monday)	Biostatistics and ResearchMethodology (BP801T)	Bioassays & Toxicology (PHR16421)
19.04.2023 (Wednesday)	Social and Preventive Pharmacy (BP802T)	------
21.04.2023 (Friday)	Elective – I	------
24.04.2023 (Monday)	Elective – II	-------

NOTE (i) ANY OMISSIONS OR CLASHES IN THIS TIME TABLE MAY PLEASE BE INFORMED TO THE CONTROLLER OF EXAMINATIONS IMEDIATELY.

(ii) EVEN IF GOVERNMENT DECLARES HOLIDAY ON ANY OF THE ABOVE DATES, THE EXAMINATIONS SHALL BE CONDUCTED AS USUAL.

(iii) FOR ANY OTHER CLARIFICATION IN RESPECT OF THE ABOVE EXAMINATIONS PLEASE CONTACT CONTROLLER OF EXAMINATIONS /OR 9652300902.

DATE: 11-04-2023

Controller of Examinations (i/c)

PRINCIPAL
Avanthi Institute of Pharmaceutical Sciences
Cherukupally (V), Bhogapuram Mandal
Vizianagaram Dt., - 531162

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY-GURUJADA VIZINAGARAM
Vizianagaram-535003, Andhra Pradesh
(India)
(Established by Andhra Pradesh Act No.22 of 2021)

Appointment of Observer

Date: 09.06.2023

From
The Controller of Examinations,
J.N.T. University Gurajada-Vizianagaram,
Vizianagaram.

To
The Principal,
SIVANI COLLEGE OF PHARMACY

Sub: **Observer for B.Pharmacy III Year I Sem Examinations June-2023 during 12-06-2023to 17-06-2023 –Regd.**

*****

This is to inform you that depute one senior faculty, APPALA SWAMI PATNANA, 9573189344 from your college to AVANTHI INSTITUTE OF PHARMACEUTICALSCIENCES (College Code: T5) to act as observers for B.Pharmacy III Year I Sem Examinations conducted during 12-06-2023 to 17-06-2023. During conducting of examinations if any problem arise the observer can directly contact the officeof the Controller of Examinations.

Thanking You

Principal

Controller of Examinations

NOTE:

- The observer must clearly identify that every Hall ticket should have the photo of that particular student and itshould be online generated.
- The student who are not received online hall ticket are not eligible for University Examinations.
- Exams will be conducted as per timetable timings, strictly.
- If deputed faculty not available, principal may depute any other senior faculty (recently not deputed) asobserver and send the concern details to Controller of Examinations and Exam Center.
- Observer must and should fill the Dairy and sent it to Controller of Examinations.
- The Observer shall report the Examination Center before one hour the commencement of examination.
- For any Queries Regarding Examination, Observer can Contact to Exam Cell 8374033499

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAM

Jumbling/Clustering Centers List For III B.Pharmacy I Sem Supply Examinations, June- 2023

S.No	CC	COLLEGE NAME	CC	EXAM CENTER NAME
1	PK	VISWANADHA INSTITUTE OF PHARMACEUTICAL SCIENCES	T5	AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES
2	HH	GOKUL PHARMACY COLLEGE	6B	SWAMY VIVEKANANDA ENGINEERING COLLEGE BOBBILI
3	T5	AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES	6F	SAI GANAPATHI ENGINEERING COLLEGE
4	B7	EMMANUEL COLLEGE OF PHARMACY		
5	AC	VIGNAN INSTITUTE OF PHARMACEUTICAL TECHNOLOGY	NT	VISAKHA INSTITUTE OF ENGG AND TECH, NARVA, VISAKHAPATNAM
6	DA	SRI SIVANI COLLEGE OF PHARMACY	MT	SRI VENKATESWARA COLL OF ENGG AND TECHNOLOGY, ETCHERLA, SKLM

DATE: 09-06-2023

Controller of Examinations

AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES * AVANTHI EDUCATIONAL SOCIETY * HYDERABAD * VIZIANAGARAM *

PRINCIPAL
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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAM

Jumbling/Clustering Centers List For III B.Pharmacy II Sem Regular/Supply Examinations, MAY- 2023

S.No	CC	COLLEGE NAME	CC	EXAM CENTER NAME
1	PK	VISWANADHA INSTITUTE OF PHARMACEUTICAL SCIENCES	T5	AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES
2	HH	GOKUL PHARMACY COLLEGE	6B	SWAMI VIVEKANANDA ENGINEERING COLLEGE BOBBILI
3	T5	AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES	6F	SAI GANAPATHI ENGINEERING COLLEGE
4	B7	EMMANUEL COLLEGE OF PHARMACY		
5	AC	VIGNAN INSTITUTE OF PHARMACEUTICAL TECHNOLOGY	NT	VISAKHA INSTITUTE OF ENGG AND TECH, NARVA, VISAKHAPATNAM
6	DA	SRI SIVANI COLLEGE OF PHARMACY	MT	SRI VENKATESWARA COLL OF ENGG AND TECHNOLOGY, ETCHERLA, SKLM

DATE: 19-05-2023

Controller of Examinations

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PRINCIPAL
Avanthi Institute of Pharmaceutical Sciences
Cherukupally (V), Bhogapuram Mandal
Vizianagaram Dt., - 531162

PART - I

To be filled by Candidate

Q. Paper Set No.

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA
VIZIANAGARAM - 535 003

(Read the Instructions given on the reverse side)

Sl. No. : 200266

Q. Paper Set No.

Signature of the Controller of exams

Hall Ticket No.:

Name :

Examination :

Month-Year :

Branch :

Sub. Code :

Subject Name :

Date of Exam :

College Code & Name :

Signature of the Student with date

Signature of the Invigilator with date

Y/S

MARKS AWARDED FOR QUESTIONS
(for Examiner's award only)

Q.No.	a	b	c	d	Total
1					
2					
3					
4					
5					
6					
7					
8					
Total Marks (In Figures) :					

Total Marks

Sl. No. of Answer Book in the Bundle

JNTUGV

PART - III

To be filled by the Student

Q. Paper Set No.

Use for 2nd Valuation only

Valuation

Use for 2nd Valuation only

2

Exam :

Branch :

Sub. Code :

Sub. Name :

Control Bundle No.

MARKS IN WORDS

Tens Place | Units Place

* To be filled by the Examiner

Sign / write within the box only

Examiner's Signature

Examiner's Name

Scrutinizer's Signature

Scrutinizer's Name

Sl. No. of Ans. Book in Bundle

MARKS AWARDED FOR QUESTIONS
(for Examiner's award only)

Q.No.	a	b	c	d	Total
1					
2					
3					
4					
5					
6					
7					
8					
Total Marks (In Figures) :					

Total Marks

Sl. No. of Answer Book in the Bundle

JNTUGV

PART - II

To be filled by the Student

Q. Paper Set No.

Use for 1st Valuation only

Valuation

Use for 1st Valuation only

1

Exam :

Branch :

Sub. Code :

Sub. Name :

Control Bundle No.

MARKS IN WORDS

Tens Place | Units Place

* To be filled by the Examiner

Sign / write within the box only

Examiner's Signature

Examiner's Name

Scrutinizer's Signature

Scrutinizer's Name

Bundle Number - To be filled by the Examiner

PRINCIPAL

Avanthi Institute of Pharmaceutical Sciences
Cherukupally (V), Bhogapuram Mandal
Vizianagaram Dt., - 531162

List of Examiners for Spot Valuation of I B-Pharmacy I Sem Reg/Supple. Examinations, May - 2023

Spot Centre: University Examination Section, JNTUGV, Vizianagaram.

.No	Sub Code	Name of the Subject	NAME OF THE VALUATOR	College Code	Contact No	Qualification	Designation
1.	BP101T	HUMAN ANATOMY AND PHYSIOLOGY I	DR. M. SAVITHRI	PK	9885560877	Ph.D	Professor
2.	BP101T	HUMAN ANATOMY AND PHYSIOLOGY I	ANUSHA	DA	9705200636	M.Pharmacy	Asst.Prof
3.	BP101T	HUMAN ANATOMY AND PHYSIOLOGY I	ROHINI	T5	6300471838	M.Pharmacy	Asst.Prof
4.	BP101T	HUMAN ANATOMY AND PHYSIOLOGY I	VASANTHA	AC	9959521226	Ph.D	Assoc.Prof
5.	BP101T	HUMAN ANATOMY AND PHYSIOLOGY I	VIMALAVATHI	HH	9989897192	M.Pharmacy	Asst.Prof
6.	BP102T	PHARMACEUTICAL ANALYSIS I	MS. K. SUVARNA	PK	7416760496	M.Pharmacy	Assoc.Prof
7.	BP102T	PHARMACEUTICAL ANALYSIS I	UPENDRA RAO	DA	9866406767	M.Pharmacy	Assoc.Prof
8.	BP102T	PHARMACEUTICAL ANALYSIS I	ARUNA	T5	8499925796	M.Pharmacy	Asst.Prof
9.	BP102T	PHARMACEUTICAL ANALYSIS I	VARAPRASADA RAO	AC	9440080424	M.Pharmacy	Assoc.Prof
10.	BP102T	PHARMACEUTICAL ANALYSIS I	ESWARA RAO	HH	7702520050	M.Pharmacy	Asst.Prof
11.	BP103T	PHARMACEUTICS I	MRS.D. PAVITRA	PK	6305806054	M.Pharmacy	Asst.Prof
12.	BP103T	PHARMACEUTICS I	RAJESH	DA	9381404751	M.Pharmacy	Asst.Prof
13.	BP103T	PHARMACEUTICS I	VISHNU VANDANA	T5	9704922784	M.Pharmacy	Assoc.Prof
14.	BP103T	PHARMACEUTICS I	KAMALA KUMARI	AC	9985046607	Ph.D	Professor
15.	BP103T	PHARMACEUTICS I	RAMU	HH	9533323359	M.Pharmacy	Asst.Prof
16.	BP104T	PHARMACEUTICAL INORGANIC CHEMISTRY	CHIRANJEEVI	AC	9885467893	Ph.D	Professor
17.	BP104T	PHARMACEUTICAL INORGANIC CHEMISTRY	MS. M. SWAPNA	PK	9963323853	M.Pharmacy	Asst.Prof
18.	BP104T	PHARMACEUTICAL INORGANIC CHEMISTRY	RAMA DEVI	DA	9121840108	M.Sc	Asst.Prof
19.	BP104T	PHARMACEUTICAL INORGANIC CHEMISTRY	POORNIMA	T5	9491790008	M.Pharmacy	Asst.Prof
20.	BP104T	PHARMACEUTICAL INORGANIC CHEMISTRY	DIVYA	HH	6303284610	M.Pharmacy	Asst.Prof

The Principals of concerned colleges are requested to depute the Examiners mentioned above for the spot valuation to be conducted from 31-05-2023 at University Examination Section, JNTUGV, Vizianagaram. The Principals are requested to cooperate for smooth conduct of spot valuation and announcement of results on time.

Date: 30.05.2023

Controller of Examinations

AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES * AVANTHI EDUCATIONAL SOCIETY * HYDERABAD * VIZIANAGARAM

Director of Evaluation

PRINCIPAL
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Cherukupally (V), Bhogapuram Mandal
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List of Examiners for Spot Valuation of III B-Pharmacy II Sem Reg/Supple. Examinations, May - 2023

Spot Centre: University Examination Section, JNTUGV, Vizianagaram.

S.No	Sub Code	Name of the Subject	NAME OF THE VALUATOR	College Code	Contact No	Qualification	Designation
1.	BP601T	MEDICINAL CHEMISTRY III	MRS. T. SAMANVAI TETALI	PK	9492761669	M.Pharmacy	Asst.Prof
2.	BP601T	MEDICINAL CHEMISTRY III	NEELIMA CHETTU	DA	9492712967	M.Pharmacy	Asst.Prof
3.	BP601T	MEDICINAL CHEMISTRY III	HV SANTHOSHI ALLU	T5	9492633315	M.Pharmacy	Assoc.Prof
4.	BP601T	MEDICINAL CHEMISTRY III	VASUDHA D	AC	9505060543	PhD	Assoc.Prof
5.	BP602T	PHARMACOLOGY III	SRI VENKATESH URITI	DA	9949106729	M.Pharmacy	Assoc.Prof
6.	BP602T	PHARMACOLOGY III	MRS. R. INDU RONGALI	PK	8331815253	M.Pharmacy	Asst.Prof
7.	BP602T	PHARMACOLOGY III	CHAITANYA K R V S	AC	9398167891	M.Pharmacy	Asst.Prof
8.	BP602T	PHARMACOLOGY III	MADHAVIKUMARI MADDU	T5	7702641129	M.Pharmacy	Assoc.Prof
9.	BP603T	HERBAL DRUG TECHNOLOGY	MRS. M. BHAGYA SREE MOLLI	PK	7013884208	M.Pharmacy	Assoc.Prof
10.	BP603T	HERBAL DRUG TECHNOLOGY	RAJESH TENDELA	DA	9381404751	M.Pharmacy	Asst.Prof
11.	BP603T	HERBAL DRUG TECHNOLOGY	GANA MANJUSHA K	AC	9885574803	PhD	Assoc.Prof
12.	BP603T	HERBAL DRUG TECHNOLOGY	POORNIMA BUDDHA	T5	9491790008	M.Pharmacy	Asst.Prof

The Principals of concerned colleges are requested to depute the Examiners mentioned above for the spot valuation to be conducted from 31-05-2023 at University Examination Section, JNTUGV, Vizianagaram. The Principals are requested to cooperate for smooth conduct of spot valuation and announcement of results on time.

Date: 30.05.2023

Controller of Examinations

AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES * AVANTHI EDUCATIONAL SOCIETY * HYDERABAD * VIZIANAGARAM *

Director of Evaluation

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Vizianagaram Dt., - 531162

EXTERNAL LAB EXAMINATION ASSESSMENT

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAM
UNIVERSITY EXAMINATION SECTION
EXTERNAL LAB EXAMINERS FOR III B.PHARMACY I SEMESTER SUPPLEMENTARY EXAMINATIONS, JUNE - 2023

S.No	College Code	Name of the College	District	Examiner
1.	T5	AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES CHERUKUPALLI	VZM	HH
2.	B7	EMMANUEL COLLEGE OF PHARMACY SINGANNABANDA, BHEEMUNIPATNAM, VISAKHAPATNAM	VSKP	PK
3.	HH	GOKUL COLLEGE OF PHARMACY, PIRIDI, BOBBILI, VIZIANAGARAM	VZM	T5
4.	DA	SRI SIVANI COLLEGE OF PHARMACY CHILAKAPALEM, SRIKAKULAM	SKLM	T5
5.	AC	VIGNAN INSTITUTE OF PHARMACEUTICAL TECHNOLOGY DUVVADA GAJUWAKA	VSKP	PK
6.	PK	VISWANADHA INSTITUTE OF PHARMACEUTICAL SCIENCES SONTYAM VISAKHAPATNAM	VSKP	AC

Note: Principals of affiliated colleges are requested to make necessary arrangement to depute a senior staff member (who taught the lab subject in this semester) to act as Examiner for III B.Pharmacy I Semester Supplementary Examinations, June- 2023 from (26-06-2023 to 30-06-2023)

Controller of Examinations

AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES * AVANTHI EDUCATIONAL SOCIETY * HYDERABAD * VIZIANAGARAM

PRINCIPAL
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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAMUNIVERSITY
EXAMINATION SECTION
Revised External Lab Examiners for III B.Pharmacy II Semester Regular/Supplementary Examinations, May - 2023

S.No	College Code	Name of the College	District	Examiner
1.	T5	AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES CHERUKUPALLI	VZM	DA
2.	B7	EMMANUEL COLLEGE OF PHARMACY SINGANNABANDA, BHEEMUNIPATNAM, VISAKHAPATNAM	VSKP	HH
3.	HH	GOKUL COLLEGE OF PHARMACY, PIRIDI, BOBBILI, VIZIANAGARAM	VZM	B7
4.	DA	SRI SIVANI COLLEGE OF PHARMACY CHILAKAPALEM, SRIKAKULAM	SKLM	T5
5.	AC	VIGNAN INSTITUTE OF PHARMACEUTICAL TECHNOLOGY DUVVADA GAJUWAKA	VSKP	PK
6.	PK	VISWANADHA INSTITUTE OF PHARMACEUTICAL SCIENCES SONTYAM VISAKHAPATNAM	VSKP	AC

Note: Principals of affiliated colleges are requested to make necessary arrangement to depute a senior staff member (who taught the lab subject in this semester)to act as Examiner for III B.Pharmacy II Semester Regular/Supplementary Examinations, May- 2023 from (15-05-2023 to 20-05-2023)

Controller of Examinations

AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES * AVANTHI EDUCATIONAL SOCIETY * HYDERABAD * VIZIANAGARAM *

PRINCIPAL
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Vizianagaram Dt., - 531162

II B Pharmacy II Sem External Lab Examinations PCI, May-2023

Name of the Subject: Pharmacology - I

Time: 180 min. Max. Marks: 35 M Date of exam: 10/07/2023

Section- A

I. Synopsis **5 M**

1. Classify Opioid Analgesics & Explain Mechanism of action of Morphine.
2. Explain in detail about G-couple receptors.

II. Major Experiment **15M**

Perform the skeletal muscle relaxant activity of the given drugs using Rota-rod apparatus and report the relaxation effect.

III. Minor Experiment **10 M**

Perform the Mydriatic or Miotic effect of the given drugs on rabbit eye and report its activity.

IV. Vivo -Voce **5M**

Examiner-I

K. Rohini
Examiner-II

AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES * AVANTHI EDUCATIONAL SOCIETY * HYDERABAD * VIZIANAGARAM *

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Avanthi Institute of Pharmaceutical Sciences
Cherukupally (V), Bhogapuram Mandal
Vizianagaram Dt., - 531162

II B Pharmacy II Sem External Lab Examinations PCI, May-2023
Name of the Subject: Pharmacology - I
Time: 180 min. Max. Marks: 35 M Date of exam: 10/07/2023

Section- B

I. Synopsis **5 M**

1. Classify parasympathomimetic & explain mechanism of action of acetyl choline
2. Explain in detail about clinical trial phases

II. Major Experiment **15M**

Perform the skeletal muscle relaxant activity of the given drugs using Rota-rod apparatus and report the relaxation effect.

III. Minor Experiment **10 M**

Perform the Effect of drug on ciliary motility of frog esophagus and report its activity.

IV. Vivo -Voce **5M**

Examiner-I **Examiner-II**

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA, VIZIANAGARAM
VIZIANAGARAM - 535 003, ANDHRA PRADESH, INDIA

UNIVERSITY END EXAMINATIONS : MAIN ANSWER BOOK

Exam : _____ Year _____ Semester : Reg/Supply

Month & Year : _____

Branch : _____

Name of the Laboratory : _____

Hallticket Number										

Marks Awarded	

Signature of the Examiner-1

Signature of the Examiner-2

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Vizianagaram Dt., - 531162

EXTERNAL PROJECT ASSESSMENT

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAM

UNIVERSITY EXAMINATION CENTER, VIZIANAGARAM

IV B.Pharmacy II Semester(PCI REGULATIONS) PROJECT EXAMINERS, APRIL – 2023

S.No	CC	College Name	Name of the External Examiners
01	T5	Avanthi Institute of Pharmaceutical Sciences	Name: Dr K Rajkiran Designation: Professor Qualification: Ph.D Mobile No: 9398339254 Email: rajkiran.kolakota@gmail.com College Name:Sri Sivani College of Pharmacy, Srikakulam. Teaching Experience: 16 Years

Controller of Examinations

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Avanthi Institute of Pharmaceutical Sciences
Cherukupally (V) Bhogapuram Mandal
Vizianagaram Dt., - 531162

GUIDELINES FOR B PHARMACY PROJECT WORK

- All the students shall undertake a project under the supervision of a teacher and submit a report. The area of the project shall directly relate any one of the elective subjects opted by the student in semester VIII. The project shall be carried out in group not exceeding 5 in number. The project report shall be submitted in triplicate (typed & bound copy not less than 25 pages).
- The internal and external examiner appointed by the University shall evaluate the project at the time of the Practical examinations of other semester(s). Students shall be evaluated in groups for four hours (i.e., about half an hour for a group of five students). The projects shall be evaluated as per the criteria given below.

Evaluation of Dissertation Book:

Objective(s) of the work done	- 15 Marks
Methodology adopted	- 20 Marks
Results and Discussions	- 20 Marks
Conclusions and Outcomes	- 20 Marks
	Total 75 Marks

Evaluation of Presentation:

Presentation of work	- 25 Marks
Communication skills	- 20 Marks
Question and answer skills	-30 Marks
	Total 75 Marks

Explanation:

The 75 marks assigned to the dissertation book shall be same for all the students in a group. However, the 75 marks assigned for presentation shall be awarded based on the performance of individual students in the given criteria.

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Vizianagaram Dt., - 531162

DESIGN DEVELOPMENT AND EVALUATION OF SELF MICRO EMULSIFIED DRUG DELIVERY SYSTEM OF CLARITHROMYCIN

Submitted

In partial fulfillment of regulations for the award of the degree of

Bachelor of Pharmacy

BANKAPALLI SAI RAJITHA	19T51R0006
BEHARA DURGA SAMPATH BHAVANA	19T51R0007
BIDDIKA PRASANTH KUMAR	19T51R0008
BODAPATI KAVERI	19T51R0009
BODDU MARY MANI	19T51R0010

Under the guidance of

Mrs. SRAVANI BOYAPATI M Pharm,(Ph.D)

AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES

CHERUKUPALLY, CHITTIVALASA , BHOGAPURAM

VIZAINAGARAM – 531162

2019-2023

PRINCIPAL
Avanthi Institute of Pharmaceutical Sciences
Cherukupally (V), Bhogapuram Mandal
Vizianagaram - 531162

DESIGN DEVELOPMENT AND EVALUATION OF SELF MICRO EMULSIFIED DRUG DELIVERY SYSTEM OF CLARITHROMYCIN

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BODAPATI KAVERI	**19T51R0009**
BODDU MARY MANI	**19T51R0010**

Under the guidance of

Mrs. SRAVANI BOYAPATI M Pharm,(Ph.D)

AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES

CHERUKUPALLY, CHITTIVALASA , BHOGAPURAM

VIZAINAGARAM – 531162

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Administrative Office : Beside PEN SCHOOL, Dabagardens, Visakhapatnam - 530 020 (A.P.)
web : www.avanthienggcollege.org. e-mail : info@avanthienggcollege.org
☎ : 08933 226262
08933-226739
09866664637
Fax : 08933 226739
☎ 0891-2748231
5567320
Fax : 0891-5567321

CERTIFICATE

This is to certify that the *thesis DESGIN DEVELOPMENT AND EVALUATION OF SELF MICRO EMULSIFIED DRUG DELIVERY SYSTEM OF CLARITHROMYCIN* done for the partial fulfilment for the award of degree of degree of Bachelor of Pharmacy was carried out by **BANKAPALLI SAI RAJITHA(19T51R0006) BEHARA DURGA SAMPATH BHAVANA(19T51R0007), BIDDIKA PRASANTH KUMAR(19T51ROOO8) BODAPATI KAVERI (19T51R0009), BODDU MARY MANI(19T51R0010)** under the supervision of Mrs Sravani Boyapati,Assoc Prof and guidance **at Avanthi Institute of Pharmaceutical Sciences,during the year 2019-2023**.It is further certified that the work is original and has not been submitted in part or full any diploma or degree of this or any other university and institute.

PRINCIPAL

PLACE : Tagarapuvalasa

DATE 29-03-23

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Vizianagaram Dt., - 531162

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Fax : 08933 226739
☎ 0891-2748231
5567320
Fax : 0891-5567321

CERTIFICATE BY THE GUIDE

This is to certify that the thesis entitled " DESIGN DEVELOPMENT AND EVALUATION OF SELF MICRO EMULSIFIED DRUG DELIVERY SYSTEM OF CLARITHROMYCIN done for the partial fulfithe lment for the award of degree of Bachelor of Pharmacy has bee n carried out by B.RAJITHA, B. BHAVANA, B. PPRASANTH KUMAR, B. KAVERI, B. MARY MANI under the supervision and guidance of Mrs. Sravani Boyapati M. pharm (Ph.D) and Dr. M.BV Raju garu M. Pharm, Ph.d at Avanthi Institute of Pharmaceutical Sciences during the year 2019-2023. It is further certified that this work or any part of this has not been previously formed the basis for the award of degree, diploma, fellowship of this or any other university or institute.

Sravani.

Mrs. Sravani Boyapati M.pharm (Ph.D)
Assoc. Professor

PLACE: Tagarapuvalasa
DATE: 29-03-23

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☎ 0891-2748231
5567320
Fax : 0891-5567321

CERTIFICATE

I, Mrs. **SRAVANI BOYAPATTI, Assoc** Professor of Avanthi Institute of Pharmaceutical sciences, Cherukupally-531162 certify that the project work on ***DESIGN DEVELOPMENT AND EVALUATION OF SELF MICRO EMSULFIED DRUG DELIVERY SYSTEM OF CLARITHROMYCIN*** by **BANKAPALLI SAI RAJITHA (19T51R0006), BEHARA DURGA SAMPAT BHAVANA (19T51R0007), BIDDIKA PRASANTH KUMAR(19T51R0008), BODAPATI KAVERI (19T51R0009), BODDU MARY MANI (19T51R0010)** of IV B. Pharmacy students of 2019- 2023 is a bonafied work done under the guidance of **Mrs. SRAVANI BOYAPATI, Assoc. Prof. (M.Pharm, Ph.D)** and it is submitted to Jawaharlal Nehru Technological University, Kakinada-533003 to meet academic regulations of 2019-2023 batch for the award of **bachelor's of degree in pharmacy**.

GUIDED BY Sravani.

EXTERNAL EXAMINAR

AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES · AVANTHI EDUCATIONAL SOCIETY · HYDERABAD · VIZIANAGARAM

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Avanthi Institute of Pharmaceutical Sciences
Cherukupally (V), Bhogapuram Mandal
Vizianagaram Dt., - 531162

DECLARATION

The work *DESIGN DEVELOPMENT AND EVALUATION OF SELF MICRO EMULSIFED DRUG DELIVERY SYSTEM OF CLARITHROMYCIN* was carried out by **B. RAJITHA, B. BHAVANA, B. PRASANTH KUMAR, B.KAVERI, B. MARY MANI** at Avanthi Institute of Pharmaceutical sciences, cherukupally, Vizianagaram district, Andhra Pradesh, under the joint supervision of **Dr. M B VENKATAPATHI RAJU (M Pharm, Ph.D)**, Principal, Avanthi Institute of Pharmaceutical sciences and **Mrs. Sravani Boyapati M.pharm** (Ph.D) Associate Professor of Avanthi Institute of Pharmaceutical sciences. The extent and source of information derived from the existing literature have been indicated throughout the thesis at Avanthi Institute of Pharmaceutical Sciences. The work is original and has not been submitted in part or full for any diploma or degree of this or any other university and institute.

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Vizianagaram Dt., - 531162

ACKNOWLEDGEMENT

We take the opportunity to acknowledge all the people who helped me to successfully complete my project work.

We extend our profound sense of gratitude to ***Sri M. SRINIVASA RAO,*** *Chairman, Avanthi Institute of Pharmaceutical Sciences for providing us the basement to develop our skills by providing all the facilities which helped us to overcome all the hurdles during the course of completion of the project work.*

We sincerely thank Prof. M B VENKATAPATHI RAJU (M Pharm, Ph D) Principal. Avanthi Institute of Pharmaceutical Sciences for his timely being and support.

We express our sincere acknowledgement and thank to our project guide Associate. ***Prof. Mrs SRAVANI BOYAPATI, (M.Pharm, Ph.D.)****, Department of pharmaceutics. Avanthi Instititue of pharmaceutical sciences for her constant support and encouragement and we sincerely thank her for being with us during the hard times and helping us to bring the project into a good shape. We thank madam for her patience and ignoring our ignorance and giving us the light of knowledge to develop ourself in the field of pharmacy.*

We are grateful to all the faculty members for giving us thought provoking suggestions and helping us to explore different fields which helped us for successful completion of the project. We also thank all the non teaching staff for their timely assistance.

Last but the least we want thank our beloved parents, relatives and all our friends for giving us courage and strength to complete the project within the time and helped us to fly out in different colors.

B. SAI RAJITHA (19T51R0006)

B. BHAVANA (19T51R0007)

B. PRASANTH (19T51R0008)

B. KAVERI (19T51R0009)

B. MARY MANI (19T51R0010)

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

KAKINADA - 533 003 , ANDHRA PRADESH, INDIA

GRADE CARD

Memo. No. : N 2728554

Serial No. : 22212270412906

Examination : IV B.Pharmacy I Semester(PCI) Reg.

Hall Ticket No. : 19T51R0050

Branch : --

Month & Year of Exams : NOVEMBER 2022

Name : KOTARI SANTHOSH

Institution : AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES

Aadhar No. :

S.No.	COURSE CODE	COURSE TITLE	Grade Secured	Grade Points, Gi	Status	Credits Obtained, Ci
1	BP701T	INSTRUMENTAL METHODS OF ANALYSIS - THEORY	D	6	P	4
2	BP702T	INDUSTRIAL PHARMACYII - THEORY	D	6	P	4
3	BP703T	PHARMACY PRACTICE - THEORY	D	6	P	4
4	BP704T	NOVEL DRUG DELIVERY SYSTEM - THEORY	C	7	P	4
5	BP705P	INSTRUMENTAL METHODS OF ANALYSIS - PRACTICAL	O	10	P	2
6	BP706PS	PRACTICE SCHOOL*	A	9	P	6
Courses Registered : 6	Appeared : 6	Passed : 6	Total :	---	---	---	24

* Medium of Instructions and Examinations in English

Semester Grade Point Average (SGPA) : 7.25

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CONTROLLER OF EXAMINATIONS

Date of Issue : 23-Jan-2023

Verified by

MP : Mal Practice WH : With Held P : Pass F : Fail AB : Absent

Note : Any discrepancy must be represented within 15 days from the date mentioned above.

4102898

List of External Grievances During the academic year -2022-2023

The Examination cell is responsible for addressing any grievances pertaining to End examinations. If necessary, the cell promptly sends a letter to the university. The University then takes immediate action based on the nature of the grievance. In case a student is dissatisfied with the marks awarded to them in the End examination, they have the option to choose Revaluation, Recounting, or Challenge evaluation by paying the required fee to the university. If students opt for re-evaluation or rechecking of their answer scripts, they must submit the same to the university for necessary action. Therefore, the college has implemented a transparent, time-bound, and efficient mechanism. The Examination cell handles grievances related to errors in certificates by raising the matter with the university. The following list provides the number of students who have applied for Revaluation/Recounting and the number of students whose marks have been changed for the academic year **2022-2023.**

The total number of external grievances regarding Recounting/Re-Evaluation, Modification in Certificates during the academic year **2022-2023** is **09.**

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III B.Pharmacy II Semester (PCI) Regular/Supply. Examinations held in May - 2023					
Revaluation/Recounting Results					
				Date: 26-12-2023	
S.No	Roll No	Subcode	Sub Name	Grade	Status
1	19AC1R0016	BP602T	PHARMACOLOGY III	F	No Change
2	19DA1R0069	BP601T	MEDICINAL CHEMISTRY III	F	No Change
3	20T51R0082	BP602T	PHARMACOLOGY III	F	No Change
4	20T51R0082	BP603T	HERBAL DRUG TECHNOLOGY	D	Change
5	20T51R0085	BP603T	HERBAL DRUG TECHNOLOGY	D	Change
6	20T51R0085	BP602T	PHARMACOLOGY III	F	No Change
7	20B71R0020	BP602T	PHARMACOLOGY III	F	No Change
8	20B71R0035	BP602T	PHARMACOLOGY III	F	No Change
9	20B71R0050	BP602T	PHARMACOLOGY III	F	No Change
10	20T51R0081	BP602T	PHARMACOLOGY III	F	No Change
11	20T51R0093	BP602T	PHARMACOLOGY III	F	No Change
12	20T51R0096	BP602T	PHARMACOLOGY III	F	No Change
13	20T51R0032	BP602T	PHARMACOLOGY III	D	Change
14	20T51R0035	BP602T	PHARMACOLOGY III	D	Change
15	21B75R0002	BP602T	PHARMACOLOGY III	F	No Change
16	20T51R0056	BP603T	HERBAL DRUG TECHNOLOGY	C	Change
17	20AC1R0045	BP602T	PHARMACOLOGY III	F	No Change
18	20AC1R0072	BP602T	PHARMACOLOGY III	D	Change
19	20AC1R0096	BP602T	PHARMACOLOGY III	F	No Change
20	20AC1R00A1	BP601T	MEDICINAL CHEMISTRY III	F	No Change
21	20AC1R00A1	BP602T	PHARMACOLOGY III	F	No Change
22	20B71R0047	BP603T	HERBAL DRUG TECHNOLOGY	D	Change
23	20DA1R0006	BP602T	PHARMACOLOGY III	F	No Change
24	20DA1R0025	BP606T	QUALITY ASSURANCE	C	Change
25	20DA1R0027	BP602T	PHARMACOLOGY III	F	No Change
26	20DA1R0033	BP602T	PHARMACOLOGY III	D	Change
27	20DA1R0039	BP603T	HERBAL DRUG TECHNOLOGY	D	Change
28	20DA1R0055	BP603T	HERBAL DRUG TECHNOLOGY	C	Change
29	20PK1R0004	BP603T	HERBAL DRUG TECHNOLOGY	D	Change
30	20PK1R0028	BP601T	MEDICINAL CHEMISTRY III	D	Change
31	20PK1R0057	BP603T	HERBAL DRUG TECHNOLOGY	D	Change
32	20DA1R0010	BP603T	HERBAL DRUG TECHNOLOGY	D	Change
33	20DA1R0011	BP603T	HERBAL DRUG TECHNOLOGY	D	Change
34	20T51R0077	BP602T	PHARMACOLOGY III	F	No Change
35	18AC1R0027	BP606T	QUALITY ASSURANCE	F	No Change
36	18AC1R0038	BP606T	QUALITY ASSURANCE	D	Change

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ESTD : 2005

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Cherukupally (Village), Chittivalasa (SO), Bhogapuram (Mandal), Vizianagaram (Dist.) -531162.
www.avanthipharma.ac.in, principal@avanthipharma.ac.in

List of Internal Grievances During the academic year -2022-2023

S No	Name of the Issue /Grievances	Date of issue raised	Date of issue solved
1.	Re-issuing of hall ticket	14/11/2022	14/11/2022
2.	Re-issuing of hall ticket	12/12/2022	12/12/2022
3.	Seeking permission for ID Card	19/07/2023	19/07/2023
4.	Seeking permission for transport for exam centre	17/04/2023	17/04/2023
5.	Seeking permission for transport for exam centre	15/05/2023	15/05/2023
6.	Seeking permission for ID Card	27/09/2023	27/09/2023
7.	Re-issuing of hall ticket	03/10/2023	03/10/2023

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Cherukupally,
Date - 14-11-2022

To
The Principal,
Avanthi Institute of pharmaceutical Sciences,
Cherukupally.

Sub: Reissuing of Hall Ticket.

Respected Sir,

I T. Aravind Pursuing B. Pharm 4th year - 1st Sem bearing the 19T51R0095. I would like to inform you that my hall ticket was missing due to I was not allowed for Examination. I hope my problem would be considered and reissue my hall ticket. And I hope that I would be allowed for Examination.

Thanking you,

Your's Obediently,
T. Aravind,
19T51R0095,
4th year B. Pharmacy.
Sem - 1st

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Vizianagaram

12-12-2022

TO

The Principal,

Avanthi Institute of Pharmaceutical Sciences,

Cherukupally.

Sub :- Reissuing of Hall ticket

Respected Sir,

I. K. Devi pursuing B. Pharmacy, 3rd year 1st sem bearing that 20T51TR0044. I was missing would like to inform you that my hall ticket was missing due to I was not allowed for examination. I hope my problem would be considered & reissue my hall ticket & hope that I would be Allowed for examination.

Thanking You

Yours obediently

K. Devi

20T51R0044

3rd year B. Pharmacy

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Cherukupally (V), Bhogapuram Mandal
Vizianagaram Dt., - 531162

Vizianagaram,
Dt:- 19-07-2023.

6-5

To
The Principal,
Avanthi Institute of Pharmaceutical Sciences,
Cherukupally.

Subject: Seeking permision for ID card.

Respected Sir,

I am P. Shireesha studying B. Pharmacy 2nd year 2nd Sem bearing roll no: 21T51R0071. I would like to inform you that I have forgetten my ID card at home. So, I request you to allow me for the External Exam.

Thanking you,

Yours Obediently,
P. Shireesha,
21T51R0071.

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Vizayanagaram

Date: 17-04-2023

To,

The Principal sir,

Avanthi Institute of Pharmaceutical Sciences,

Cherukupally.

Sub: Seeking Permission for transport.

Respected sir,

I T.haritha studying 4th B.pharm Bearing roll no: 19T51R0093. I would like to Inform you that we are writting Semistar and Examination in other collages. As if too far from our home town, there is no other alternative for us to reach the Centre. So I request you to provide the transportation during Exames time

Thaking you.

Your's obediently

T.haritha

4th B Pharmacy

2nd - sem

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Vizianagaram
Date :- 15-05-2023

To,
The Principal sir,
Avanthi Institute of pharmaceutical sciences,
Cherukupally.

Sub : Seeking permission for Transport

Respected sir,

I Chitti Ganesh studying 3rd B.Pharmacy 2nd sem bearing Roll no : 20T51R0021. I would like to inform you that we are writing semester examinations in other colleges. As it too far from our home town there is no other alternative for us to reach the centre. so I request you to provide the transportation during exams time.

Thanking you,

Yours Obediently
Chitti Ganesh
20T51R0021.

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Vizianagaram Dt., - 531162

Vizianagaram,
Date:- 3-10-2023.

TO
The principal,
Avanthi institute of pharmaceutical sciences,
Cherukupally.

Sub:- Reissuing of Hall ticket.

Respected sir,

I. P. Bindu Sai pursuing P. Bindu Sai, B. Pharmacy 1st year-2nd sem bearing that 22T51R0077. I was missing would like to inform you that my hall ticket was missing due to I was not allowed for examination. I hope my problem would be considered and reissue my hallticket. And, Hope that I would be allowed for examination.

Thanking you,

Yours obediently,
P. Bindu Sai
22T51R0077,
1st year B. Pharmacy.

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VIZIANAGARAM