

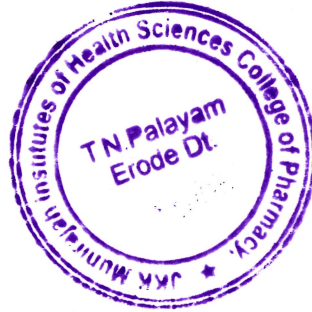


JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES COLLEGE OF PHARMACY

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Thookanaickenpalayam, Gobichettipalayam (TK), Erode (DT) - 638506, Tamil Nadu.

**MECHANISM OF INTERNAL/EXTERNAL ASSESSMENT IS TRANSPARENT
THE AND GRIEVANCE REDRESSAL SYSTEM IS TIME- BOUND AND EFFICIENT**

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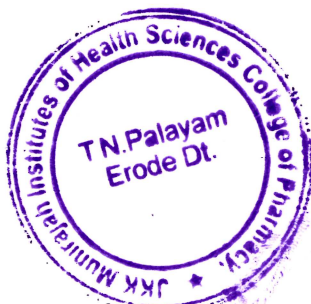
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ACADEMIC CALENDER – 2022 to 2023

MONTH							HOLIDAYS & EVENTS	NO OF WORKING DAYS
JUNE 2022							8 – WORLD BRAIN TUMOR DAY 14 – WORLD BLOOD DONOR DAY	24 DAYS
S	M	T	W	T	F	S		
			1	2	3	4		
5	6	7	8	9	10	11		
12	13	14	15	16	17	18		
19	20	21	22	23	24	25		
26	27	28	29	30				
JULY 2022							10 – BAKRID 11 – WORLD POPULATION DAY 28 – HEPATITIS DAY	24 DAYS
S	M	T	W	T	F	S		
					1	2		
3	4	5	6	7	8	9		
10	11	12	13	14	15	16		
17	18	19	20	21	22	23		
24	25	26	27	28	29	30		
31								
AUGUST 2022							9 – MUHARRAM 12 – INTERNATIONAL YOUTH DAY 15 – INDEPENDENCE DAY 19 – KRISHNA JAYANTHI 31 – VINAYAKAR CHATHURTHI	21 DAYS
S	M	T	W	T	F	S		
	1	2	3	4	5	6		
7	8	9	10	11	12	13		
14	15	16	17	18	19	20		
21	22	23	24	25	26	27		
28	29	30	31					

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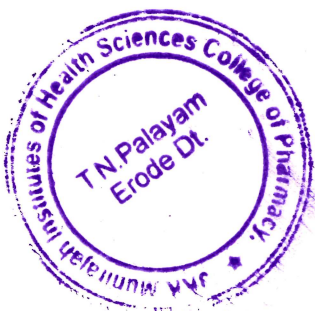


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MONTH							HOLIDAYS & EVENTS	NO OF WORKING DAYS
SEPTEMBER 2022							16 – WORLD OZONE DAY 21 – WORLD ALZHEMER’S DAY 25 – WORLD PHARMACIST DAY 29 – WORLD HEART DAY	24 DAYS
S	M	T	W	T	F	S		
				1	2	3		
4	5	6	7	8	9	10		
11	12	13	14	15	16	17		
18	19	20	21	22	23	24		
25	26	27	28	29	30			
OCTOBER 2022							2 – GANDHI JAYANTHI 4 – SARASWATHI POOJA 5 – VIJAYATHASAMI 9 – MILAD-UN-NABI 12 – WORLD ARTHRITIS DAY 15 – WORLD HNDWASHING DAY 24 – DIWALI	21 DAYS
S	M	T	W	T	F	S		
						1		
2	3	4	5	6	7	8		
9	10	11	12	13	14	15		
16	17	18	19	20	21	22		
23	24	25	26	27	28	29		
30	31							
NOVEMBER 2022							11 – NATIONAL EDUCATION DAY 13 to 19 – ANTIBIOTIC AWARENESS DAY 14 – WORLD DIABETIC DAY 25 to 30 – NATIONAL PHARMACY WEEK CELEBRATION	24 DAYS
S	M	T	W	T	F	S		
		1	2	3	4	5		
6	7	8	9	10	11	12		
13	14	15	16	17	18	19		
20	21	22	23	24	25	26		
27	28	29	30					

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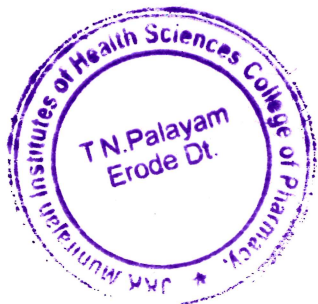


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MONTH							HOLIDAYS & EVENTS	NO OF WORKING DAYS
DECEMBER 2022							1 – WORLD AIDS DAY 25 - CHRITMAS	25 DAYS
S	M	T	W	T	F	S		
				1	2	3		
4	5	6	7	8	9	10		
11	12	13	14	15	16	17		
18	19	20	21	22	23	24		
25	26	27	28	29	30	31		
JANUARY 2023							1 – NEW YEAR 15 – PONGAL 16 – MATTU PONGAL 17 – KAANUM PONGAL 26 – REPUBLIC DAY 30 – WORLD LEPROSY DAY	21 DAYS
S	M	T	W	T	F	S		
1	2	3	4	5	6	7		
8	9	10	11	12	13	14		
15	16	17	18	19	20	21		
22	23	24	25	26	27	28		
29	30	31						
FEBRUARY 2023							4 – WORLD CANCER DAY 5 – THAI POOSAM	22 DAYS
S	M	T	W	T	F	S		
			1	2	3	4		
5	6	7	8	9	10	11		
12	13	14	15	16	17	18		
19	20	21	22	23	24	25		
26	27	28						

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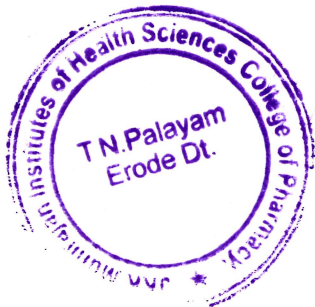


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MONTH							HOLIDAYS & EVENTS	NO OF WORKING DAYS
MARCH 2023							8 – WOMENS DAY 22 – TELUGU NEW YEAR'S DAY 24 – WORLD TUBERCULOSIS DAY	24 DAYS
S	M	T	W	T	F	S		
			1	2	3	4		
5	6	7	8	9	10	11		
12	13	14	15	16	17	18		
19	20	21	22	23	24	25		
26	27	28	29	30	31			
APRIL 2023							4 – MAHAVEER JAYANTHI 7 – GOOD FRIDAY 7 – WORLD HEALTH DAY 11 – WORLD PARKINSON'S DAY 14 – TAMIL NEW YEAR'S DAY 22 – RAMZAN	19 DAYS
S	M	T	W	T	F	S		
						1		
2	3	4	5	6	7	8		
9	10	11	12	13	14	15		
16	17	18	19	20	21	22		
23	24	25	26	27	28	29		
30								
MAY 2023							1 – LABOURS DAY 17 – WORLD HYPERTENSION DAY	24 DAYS
S	M	T	W	T	F	S		
	1	2	3	4	5	6		
7	8	9	10	11	12	13		
14	15	16	17	18	19	20		
21	22	23	24	25	26	27		
28	29	30	31					
TOTAL WORKING DAYS							273 DAYS	

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CIRCULAR

To,

The **I B. Pharm I SEM** handling Staff concerned,

I B. Pharm I SEM 1st-SESSIONAL EXAM-2023 theory examination schedule given below along with Invigilation duty mentioned against date and subject. All are informed to note the same and be more punctual in discharging due duties. No alternate arrangement will be entertained, once the schedule is finalized by fixing your signature, unless and otherwise any emergency.

I B. Pharm I SEM 1ST-SESSIONAL EXAM -2023

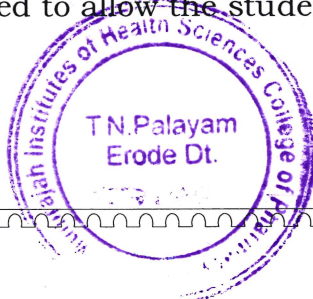
Venue: Seminar Hall


TIME: 10.00 AM TO 11:30 AM

S.NO	DATE	SUBJECTS	INVIGILATOR	LAB ATTENDER
1.	18-01-2023	Human Anatomy and Physiology I	DR S. Selvaraj	Ms. J. Deeba
2.	19-01-2023	Pharmaceutical Analysis I	DR.K.Abhenaya	Ms. M. Janaki
3.	20-01-2023	Pharmaceutics I	DR.K.K.Senthil Kumar	Ms. R. Mohanapriya
4.	21-01-2023	Pharmaceutical inorganic chemistry	DR.P.Mohanraj	Ms. M. Sangeetha
5.	23-01-2023	Communication skills (FN)	Mr.G.M.Sivakumar	Ms. V. Deepa
6.	24-01-2023	Remedial biology(AN)	Mrs.K.Saranya	Ms. J. Deeba

INSTRUCTIONS TO THE TEACHING STAFF:

1. Send the Question paper directly to the mail id (**exam@jkkmihsdp.org**).
2. The Invigilators to collect the printed Question papers for theory exam from the Office.
3. The answer papers must be attested an alphabet rubber stamped seal, for Theory and Practical examination; the rubber stamp will be collected by concerned Lab Attender.
4. If students are involved in any malpractice or notorious activity, he/she should be handed over to the under signed with maximum evidence.
5. Subject Incharges send the question paper for conducting the practical exam to the mail id (**exam@jkkmihsdp.org**).
6. Invigilators are instructed to allow the students who have clear the no due form.




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I B. Pharm I SEM IInd-SESSIONAL EXAM -2023

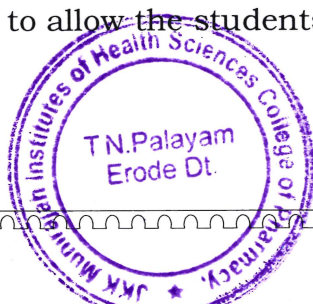
Venue: Seminar Hall

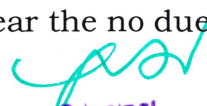
TIME: 10.00 AM TO 11:30 AM

S.NO	DATE	SUBJECTS	INVIGILATOR	LAB ATTENDER
1.	24-04-2023	Human Anatomy and Physiology I	DR.K.K.Senthil Kumar	Ms. M. Sangeetha
2.	25-04-2023	Pharmaceutical Analysis I	DR.P.Mohanraj	Ms. J. Deeba
3.	26-04-2023	Pharmaceutics I	DR S. Selvaraj	Ms. R. Mohanapriya
4.	27-04-2023	Pharmaceutical inorganic chemistry	DR.K.Abhenaya	Ms. J. Deeba
5.	28-04-2023	Communication skills (FN)	Mr.G.M.Sivakumar	Ms. V. Deepa
6.	29-04-2023	Remedial biology(AN)	Mrs.K.Saranya	Ms. M. Janaki

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Tables-X: Schemes for internal assessments and end semester examinations semester wise

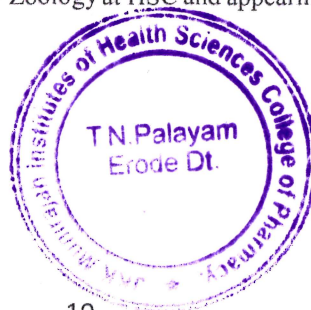
Semester I

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional 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^S/80[#]	115/125^S/130[#]	23/24^S/26[#] Hrs	185/200^S/210[#]	490/525^S/ 540[#]	31.5/33^S/ 35[#] Hrs	675/725^S/ 750[#]

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

^SApplicable ONLY for the students studied Physics / Chemistry / Botany / Zoology at HSC and appearing for Remedial Mathematics (RM)course.

* Non University Examination (NUE)



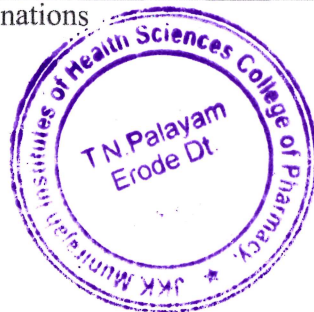
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Semester II

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

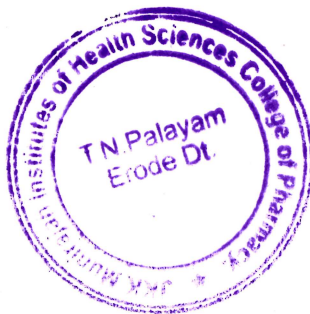
* The subject experts at college level shall conduct examinations.



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Semester III

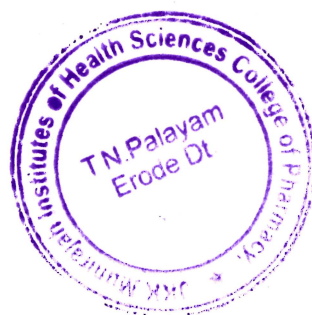
Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP301T	Pharmaceutical Organic Chemistry II – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP302T	Physical Pharmaceutics I – Theory	10	15	1 Hr	25	75	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



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Semester IV

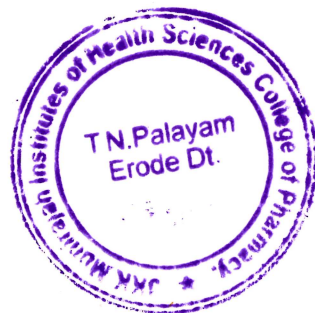
Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP401T	Pharmaceutical Organic Chemistry III- Theory	10	15	1 Hr	25	75	3 Hrs	100
BP402T	Medicinal Chemistry I – Theory	10	15	1 Hr	25	75	3 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



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Semester V

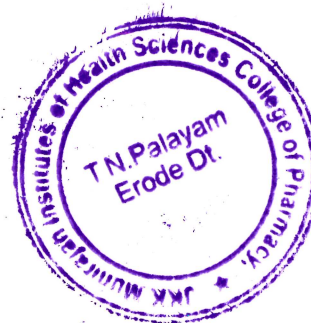
Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
BP501T	Medicinal Chemistry II – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP502T	Industrial PharmacyI– Theory	10	15	1 Hr	25	75	3 Hrs	100
BP503T	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



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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

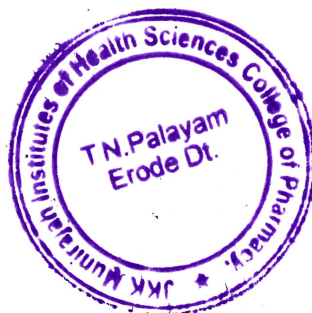


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Semester VII

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

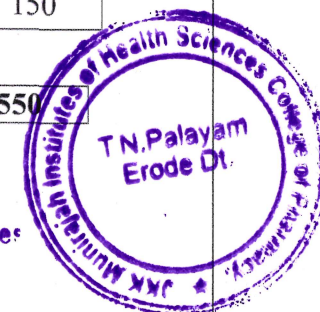


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Semester VIII

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							
Total		40	60	4 Hrs	100	450	16 Hrs	550

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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

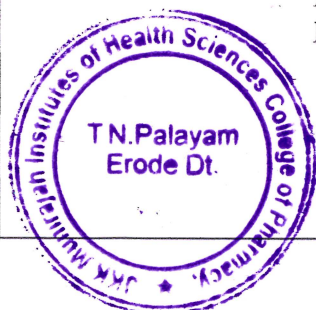
Objective Type Questions (5 x 2) = 05 x 2 = 10

(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



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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 PASS and eligible for getting grade in 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

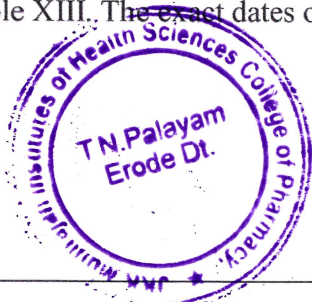
In case a student fails to secure the minimum 50% in any Theory or Practical course as specified in 12, then he/she shall reappear for the end semester examination of that course. However his/her marks of the Internal Assessment shall be carried over and he/she shall be entitled for grade obtained by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

14. Improvement of internal assessment

A student shall have the opportunity to improve his/her performance only once in 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 of end semester examinations shall be conducted as per the schedule given in table XIII. The exact dates of examinations shall be notified from time to time.



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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
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

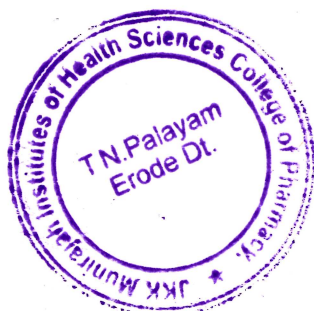
- I. Long Answers (Answer 1 out of 2) = 1 x 10 = 10
- II. Short Answers (Answer 5 out of 7) = 5 x 5 = 25

Total = 35 marks

Question paper pattern for end semester practical examinations

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

Total = 35 marks



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To,

06-01-2023

All the **I year B.Pharm Ist Semester** Students Concerned,

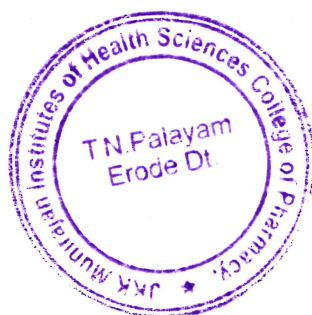
This is to inform that the **I Sessional theory and practical examination** are scheduled as given hereunder. Students are informed to appear for the Sessional examination as per guidelines given by the class teacher.


I B.PHARM I SEMESTER I-SESSIONALEXAM-2023 Time: 10.0AM to11.30AM

S.NO	DATE	SUBJECTS
1	18-01-2023	Human Anatomy And Physiology I
2	19-01-2023	Pharmaceutical Analysis I
3	20-01-2023	Pharmaceutics I
4	21-01-2023	Pharmaceutical Inorganic Chemistry
5	23-01-2023	Communication skills
6	24-01-2023	Remedial Biology/ Remedial Mathematics

NOTE

1. Timings of the examination will be informed by the class teacher/subject teacher on every day.
2. All are strictly informed to be more punctual.
3. Any kind of malpractice as informed by the class teacher will disqualify the student to continue to write examinations.
4. Manuscript, notes, bits, mobile phones and any other incriminating things should not be brought to the examination hall.
5. Practical examination also will be conducted as per the regular time table parallelly.
6. Absence in any theory or practical examination should be explained by the parents in person and will pave a way for IMPROVEMENT exam, poor performance also has to appear for improvement exam.
7. No dues to be obtained to appear for the sessional exam.




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To,

06-04-2023

All the **I year B.Pharm Ist Semester** Students Concerned,

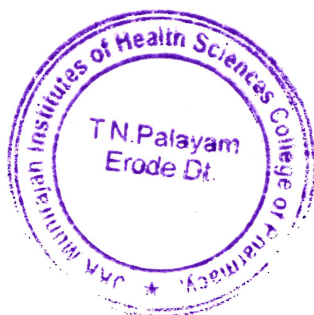
This is to inform that the **II Sessional theory and practical examination** are scheduled as given hereunder. Students are informed to appear for the Sessional examination as per guidelines given by the class teacher.


I B.PHARM I SEMESTER II-SESSIONALEXAM-2023 Time: 10.0AMto11.30AM

S.NO	DATE	SUBJECTS
1	24-04-2023	Human Anatomy And Physiology I
2	25-04-2023	Pharmaceutical Analysis I
3	26-04-2023	Pharmaceutics I
4	27-04-2023	Pharmaceutical Inorganic Chemistry
5	28-04-2023	Communication skills
6	29-04-2023	Remedial Biology/ Remedial Mathematics

NOTE

1. Timings of the examination will be informed by the class teacher/subject teacher on every day.
2. All are strictly informed to be more punctual.
3. Any kind of malpractice as informed by the class teacher will disqualify the student to continue to write examinations.
4. Manuscript, notes, bits, mobile phones and any other incriminating things should not be brought to the examination hall.
5. Practical examination also will be conducted as per the regular time table parallelly.
6. Absence in any theory or practical examination should be explained by the parents in person and will pave a way for IMPROVEMENT exam, poor performance also has to appear for improvement exam.
7. No dues to be obtained to appear for the sessional exam.




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JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES

COLLEGE OF PHARMACY

FIRST SESSIONAL THEORY EXAMINATION

CLASS: B. PHARM I YEAR – I SEM

SUBJECT: Pharmaceutical Inorganic chemistry

MAX. MARKS: 30

TIME: 1.30 HOURS

I. Elaborate on. 1x10=10 (Any one)

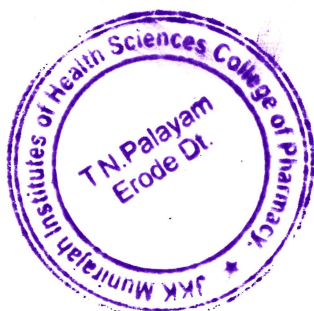
1. Write the principal and procedure of the limit test for arsenic?
2. Write the preparation, properties, assay and uses of ammonium chloride?

II. Short note on. 2x5=10 (Any two)

1. Write the principle and procedure of limit test for iron?
2. Write the classification of antimicrobial agents?
3. Describe the history of Indian Pharmacopoeia?

III. Short answer. 5x2=10 (Answer all)

1. Write the definition of antacid?
2. Write difference between light and heavy kaolin?
3. What is Pharmacopoeia?
4. Write the definition of limit test?
5. Write the molecular formula of the following
 - a. Bentonite
 - b. Epsom salt
 - c. Baking soda
 - d. Milk of magnesia



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COLLEGE OF PHARMACY**

T.N.Palayam, Gobichettipalayam (TK), Erode (DT), Tamilnadu - 638506

SECOND SESSIONAL THEORY EXAMINATION

CLASS: I B.PHARM I SEMESTER

SUBJECT: Pharmaceutical Inorganic chemistry

TIME: 01.30hrs

MARKS: 30

- I. Elaborate on. (1x10=10)**
1. Write the methods in measurement of radio activities of radio Pharmaceutical substance?
- II. Short note on. (2x5=10)**
1. Role of fluoride in anticaries agent.
 2. Write the preparation, properties, assay and uses of ferrous sulphate?
- III. Short answer. (5x2=10)**
1. Half life period
 2. Define emetic?
 3. Write the classification of expectorant
 4. Define ORS
 5. Write preparation of sodium thio sulphate



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T.

10 MARK:-

Q.

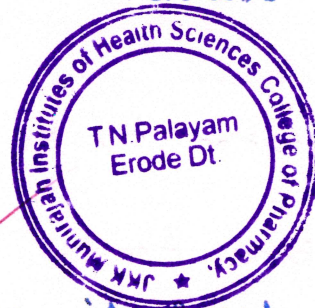
Ammonium CHLORIDE:-

Properties:-

- ⊛ Molecular Formula = 53.50
- ⊛ odourless
- ⊛ Crystalline powder
- ⊛ White in colour.
- ⊛ Cool in saline taste.
- ⊛ Systemic Acidosis.

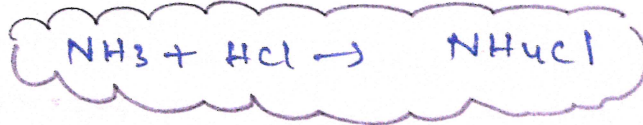
Preparation:-

⊛ Ammonia is react with hydrochloric acid and it gives the Ammonium chloride. It is the commercial preparation.



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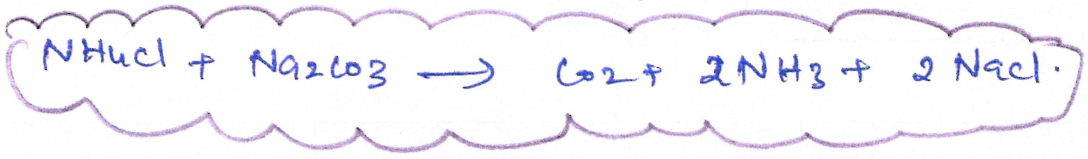
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⊗ Ammonium hydroxide in react with HCl and it gives Ammonium chloride.



CHEMICAL PROPERTIES:-

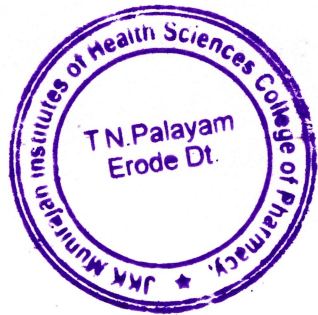


⇒ Ammonium chloride reacts with alkali metal carbonates to gives Carbon dioxide, Ammonium and salt of sodium chloride.

ASSAY:-

Assay For Ammonium chloride has 2 methods.

- ① precipitation titration method
- ② Acid base titration method.

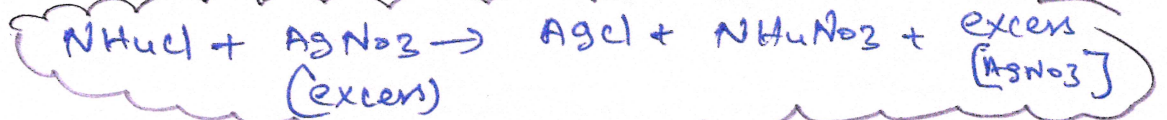


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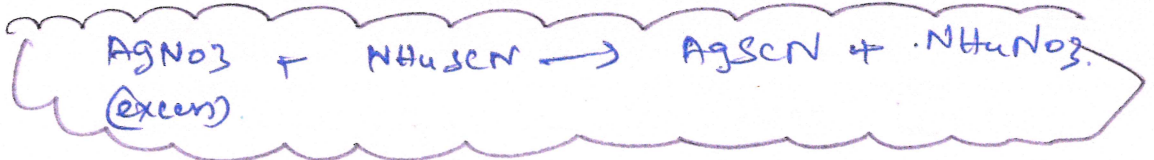
① Precipitation titration Method:-

⊛ In these method the Ammonium chloride is react with silver nitrate (excess) and gives silver chloride and excess (AgNO_3).



⊛ It is based on the Volhard's method.

⊛ Then the excess AgNO_3 reacts with Ferric iron as a indicator.

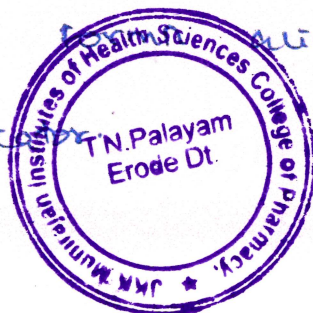


② ACID BASE TITRATION METHOD:-

⇒ Test solution:-

⇒ Take 5 ml of 0.1 M NH_4Cl in the control flask and dilute with 50 ml of water.

⇒ Then it is mixed with formaldehyde. it contains formaldehyde. And also add phenolphthalein as a indicator.



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STANDARD SOLUTION:-

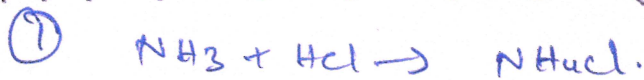
⇒ 5ml of 0.1N NaOH is

prepared:

⇒ then the NaOH is titrated with the NH₄Cl ~~is~~ ~~with~~ with the phenolphthalein indicator.

⇒ now the HCl is removed from NH₄Cl and it reacts with NaOH of standard solution.

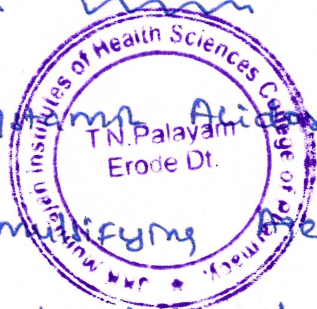
Rxn:-



② formic acid reacts with Ammonium Hydroxide to form Hexamiz acid.

USES OF Ammonium CHLORIDE.-

- ① Used as Systemic Anticancer.
- ② Used as Emulsifying Agent.
- ③ Used in thickening the shampoo



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SHORT ANSWER!:-

Antacid :-

* The drug ~~which~~ is the agent which are used to neutralize the excess of acid in the stomach is called Antacid.

* Two types.

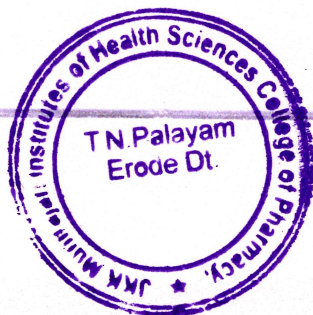
↳ ① Systemic antacid

Ex:- NaHCO_3

↳ ② Non-systemic antacid

Ex:- Magnesium containing compounds.

② Heavy Kaolin	Light Kaolin.
⊛ It is used in Anti-inflammatory and counter irritant.	⊛ It is used in Adsorbent.
⊛ It is prepared by the process of elutriation.	⊛ It is the prepared by the freezing & its impurity the process of elutriation & drying.



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3

CATHARTICS:-

↳ The drug which are used to easily defecation.

↳ It cures the Constipation.

Classification OF Cathartics:-

① Stimulant Cathartics.

Eg: Senna.

② Bulk purgatives.

Eg: Gum, Castor oil.

③ Lubricant

Eg: Oil, Magnesium Cellulose.

④ Osmotic Cathartics.

Eg: MgSO₄.

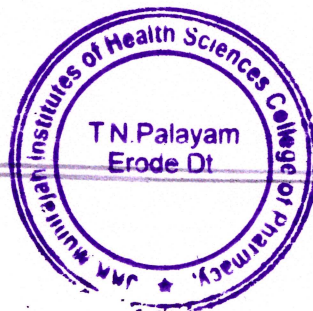
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a) Bentonite → $Al_2O_3 \cdot 4SiO_2 \cdot H_2O$

b) Epsom salt → MgSO₄

c) Baking soda → Na₂HCO₃

d) Milk of Magnesia → Mg(OH)₂



Yad

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ACHLOHYDRIA:-

↳ It is also called Hypochlorhydria.

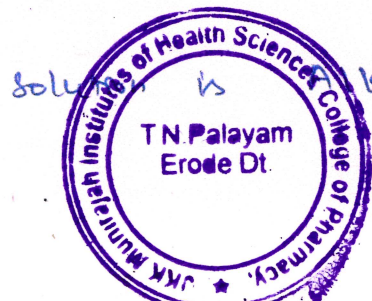
↳ It is defined as the more base [alkali] solution in the stomach of the human body. It is neutralized by the antacid.

2 mark:-

1 Limit test for iron:-

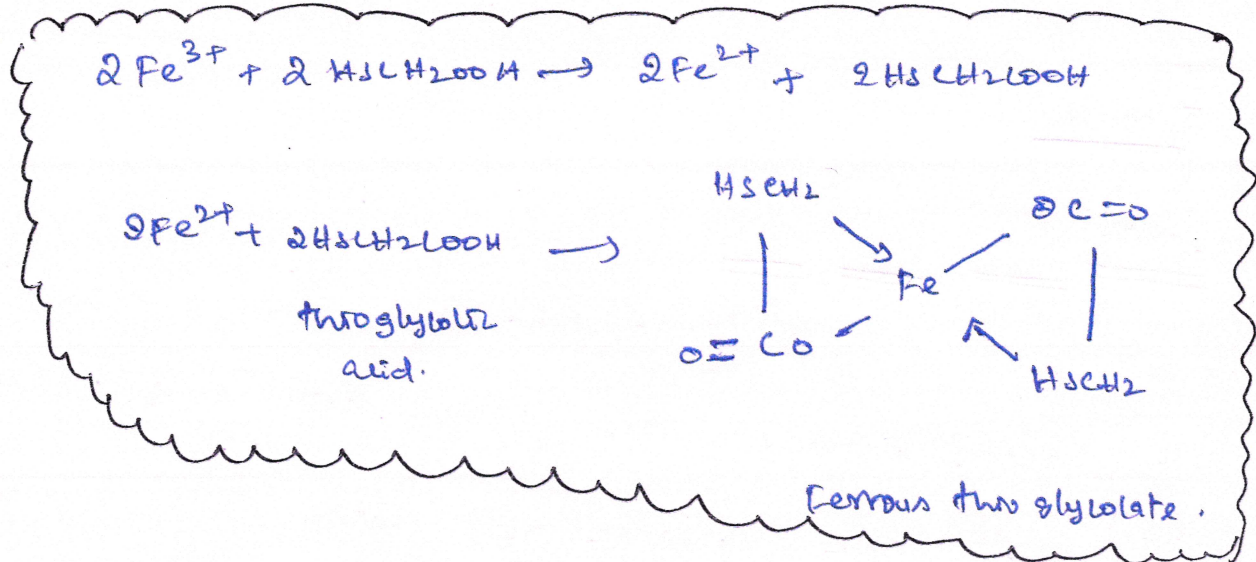
⇒ Limit test for iron is based on the reaction between the ferric iron and thioglycolic acid in the presence of citric acid by the ammonical solution. Due to thioglycolic acid the ferric iron is converted into the ferrous iron. Now the compound produced is ferrous thioglycolate. Citric acid used to for the precipitation and the ammonical solution is used to form the complex formation. Now the test solution is compared with the standard solution. If the solution is neutral it is colourless.

If the



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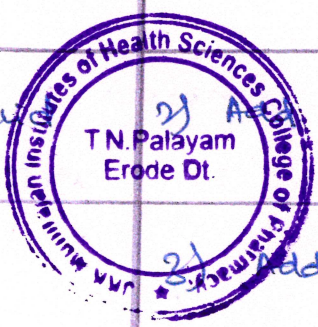
If the test solution is less intense than the standard solution it passes the limit test orders it fails. The colour is faded when it is exposed to the air. So immediately compare with the standard solution.



Procedure:-

Take two 50 ml Nessler's cylinder one for test solution and another for standard solution.

Test solution.	Standard solution.
<p>1) Iron containing sample is dissolved in distilled water.</p>	<p>1) Standard solution is prepared.</p>
<p>2) Add thioglycolic acid.</p>	<p>2) Add thioglycolic acid.</p>
<p>3) Add and mix the citric acid solution.</p>	<p>3) Add and mix the citric acid solution.</p>



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4). Add the ammolical solution.

5). Add the Ammonical solution.

2)

CLASSIFICATION OF ANTIMICROBIAL AGENTS:-

Antimicrobial agents

↳ These are the agents which are used to destroy the growing of microorganisms and Bacterias in our surrounding places.

Germiticides:-

↳ These are used to destroy the germs in our surrounding places.

↳ Like Bactericides, vermicides and infecticides are examples.

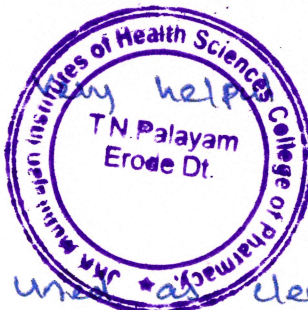
Sanitizers:-

↳ These are disinfectants used for non-living things like floor, glass, toilet etc.

↳ It is also used for humans.

↳ It is very helpful in public health care.

↳ It is used as a cleaning process.



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⇒ Antimicrobial agents used to create good health for the world.

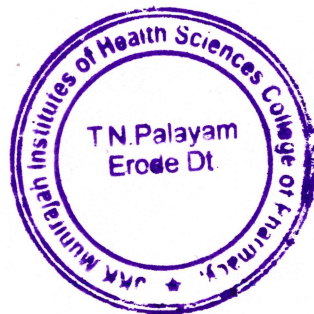
⇒ Antimicrobial agents prevent the diseases like corona.


⇒ Antimicrobial plays the very important role in the public health.

Disadvantage of Antimicrobial agents:

↳ Intake of Antimicrobial agents cause severe death.

↳ ~~Infants~~ ^{Children} are well attracted by this so very carefully to use them.




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NAME: S. LINGELIWARAN

CLASS: 1st SEM 1st B.Pharm

SUB: PHARMACEUTICAL INORGANIC CHEMISTRY

DATE: 27/4/23

25
30

IInd semester theory
Examination.

III. 2M:-

①. Anti Caries:-

* It is defined as the anti caries (or) tooth decay occurs due to acid produced due to micro organism and carbohydrate is due to the decalcification of the teeth is both accompanied as the foul odour.

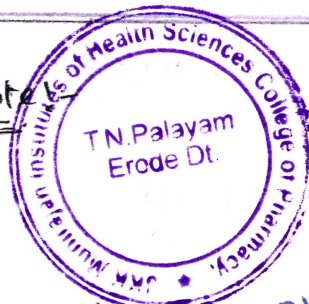
⊛ The agents or the drugs used to remove the caries is called Anticaries.

cpv

④. Poison and antidote

Poison:-

⊛ Any toxic substance or chemical substance that are harmful to our body i.e is intake through oral, inhalation is called poisoning.



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Antidote!-

⊛ The substance which given to the poison is called Antidot (or) The substance which inactivate the poison is called Antidote.

- ⊛ Example!
- * Activated charcoal.
 - * NaNO₂
 - * Sodium thiosulphate.

⑤ Intracellular Anion!- (Cl⁻).

→ Chlorine.

→ The most abundant intercellular anion in our body is chlorine.

→ It has negative charge of 1Dn.

→ Chlorine is essential to our body.

→ It takes through ~~air~~ water.

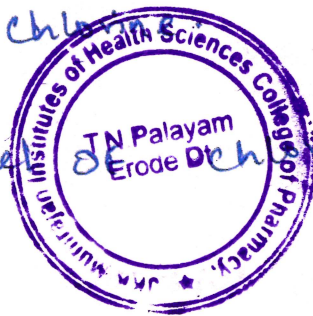
→ Water contains chlorine.

→ Below the level of chlorine cause

Hypochlorimia.

→ Above the level of chlorine cause

Hyperchlorimia.



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Sm:-

Role of Fluoride:-

⊛ Fluoride is used to treat the dental caries in the teeth.

⊛ The trace of fluoride is in the human body.

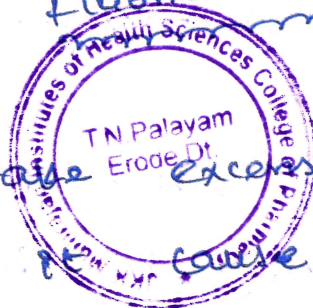
⊛ The fluoride is intake through the food and water.

⊛ Especially ground water has more fluoride content. So we preferred the water is good for health.

⊛ Fluoride is add in the municipal water for the people.

⊛ The fluoride add in the municipal water is called fluoridation.

⊛ Suppose we take excess of fluoride in our body cause the heart failure, muscle disturbance, tooth mottling occur in the enamel.



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* Compared to the inner layer of the enamel outer layer has more fluoride content in the teeth.

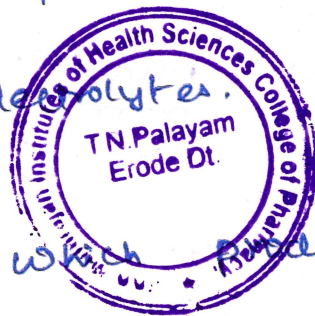
* Per day we have to take 1ppm of fluoride or less it cause disturbance to the teeth.

* Normal value of fluoride is 1ppm as per day [2-3ppm] cause problem to the enamel is called fluoritis.

* In case of NaF [sodium fluoride] we have to take 0.2 mg of fluoride.

* 2% solution fluoride is also taken through electrolytes.

* The bacteria which produce the acid which is destroy by the fluoride.



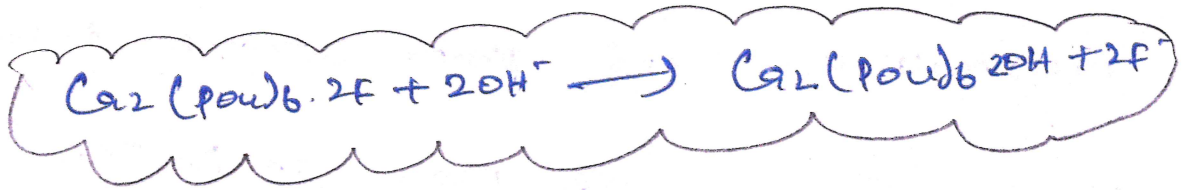
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MECHANISM:-



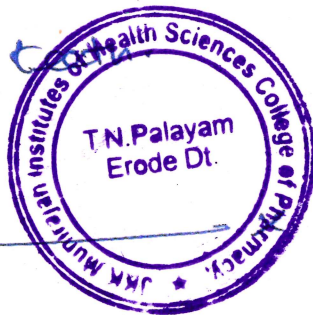
* The fluoride is replaced by the hydroxyl ion (OH⁻) in the place hydroxy apatite then it is called fluoro apatite.

Reaction:-



⊗ The bacteria which produce the ^{acid} plaque which is ^x inhibited by the addition of fluoride ^{by} externally.

⊗ Fluoride is helpful to cure dental caries in the ^{tooth} ^x



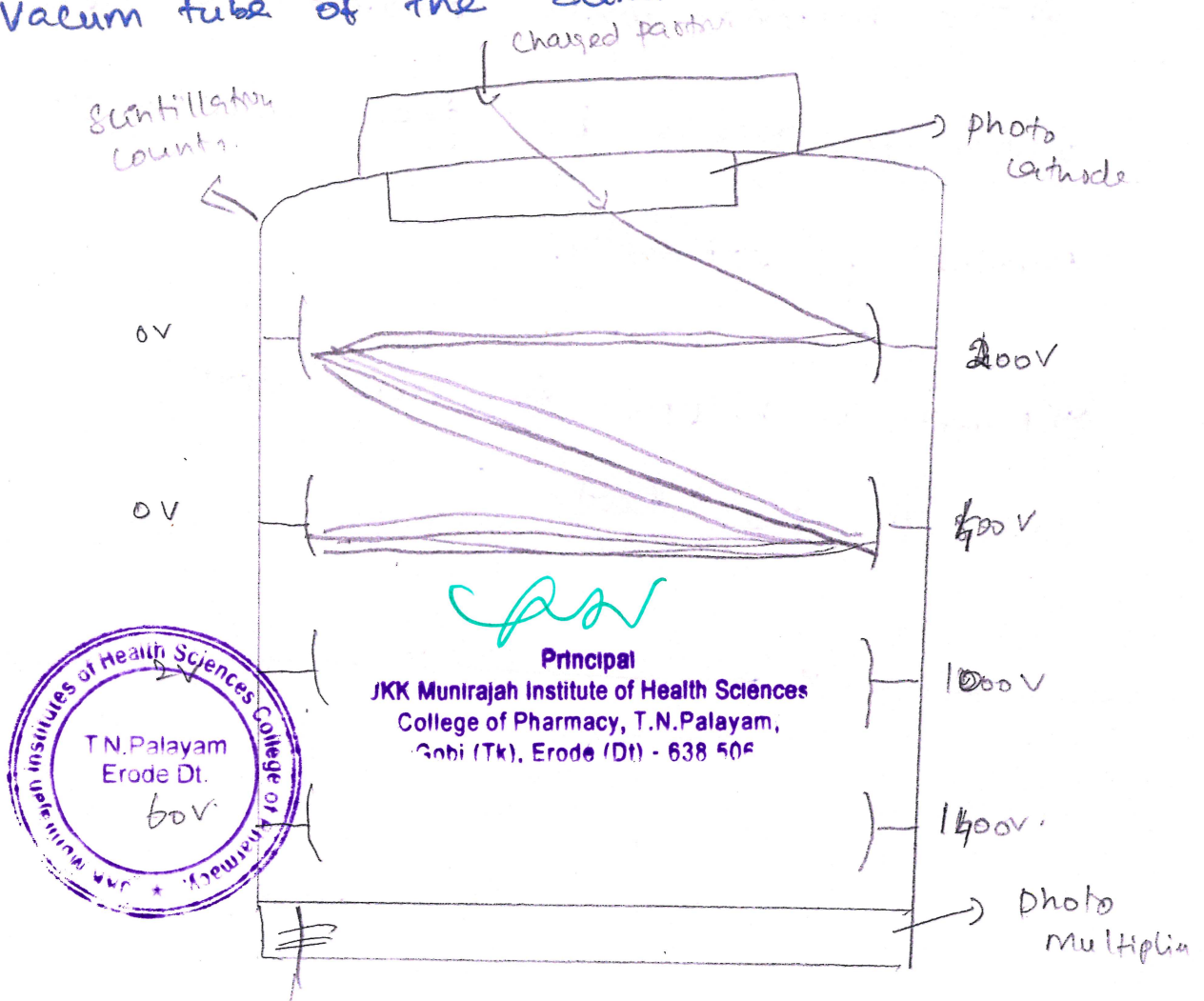
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2

SCINTILLATION COUNTER:-

* The name itself indicates that the scintillation of light which produced by when the charged particles or γ -rays strike on the scintillation counter.

* The counter is made up of the photomultiplier and photo cathode through which electrons are move in to the vacuum tube of the scintillation counter.



⊗ The scintillation counter has crystal that is used for the excitation of charged particles or γ -radiation into the electrons.



⊗ The crystal are NaI, anthracene, etc used in the scintillation counter.

⊗ When the charged particles strike the scintillation counter, the electrons are excited and pass through the photocathode.

⊗ The photocathode used to convert the excited particles into the photoelectrons which further strike on the vacuum tube.

⊗ The vacuum diodes by the increasing voltage manner

⊗ The diodes helps to rise the electrons for to detect the radiation energy.



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- ① The potential difference is $10^6 - 10^8$ time we have detect the radiation.
- ② The finally the electrons reach the final dyanode and the outflow is detected through the outflow detector.
- ③ The crystal consists of some impurities for the not absorption of radiation in the scintillation chamber.
- ④ Thallium is that impurity for the NaI.

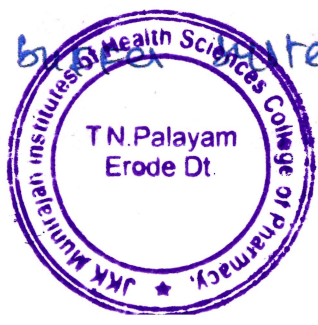
I.

lom! -

②

Mechanism of physiological acid Base Balance:-

① Our human body is made up three control system for the maintenance of the body system.



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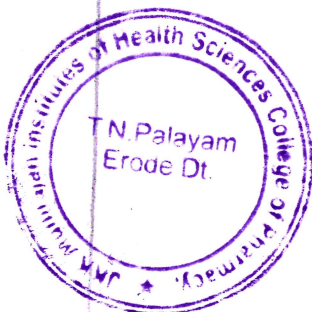
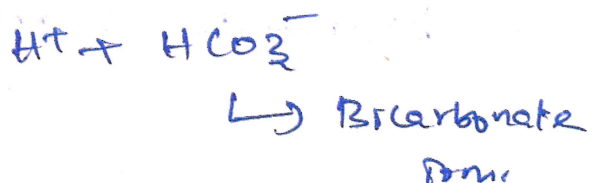
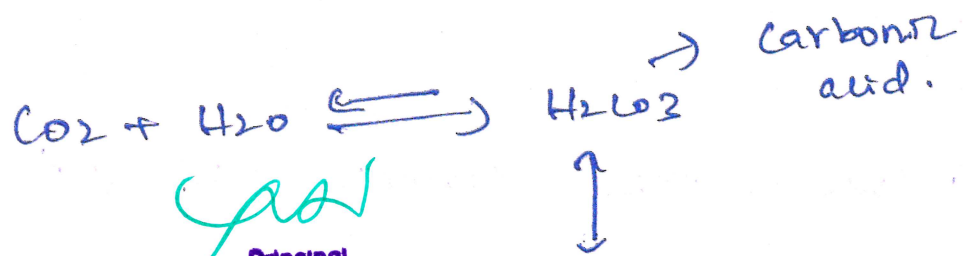
- * Carbonic acid buffer.
- * phosphate buffer.
- * protein buffer / Hb ~~sub~~ buffer.

① The weak acid and its salt [~~weak~~ ^{conjugate} salt as weak base] both together act to maintain the buffer system.

② To resist the pH changes by the strong base and acid in the weak acid and base.

③ Hence the Hydrogen ions is not introduced removed from the body and it is only removed from the body fluids.

① CARBONIC ACID BUFFER / BICARBONATE BUFFER

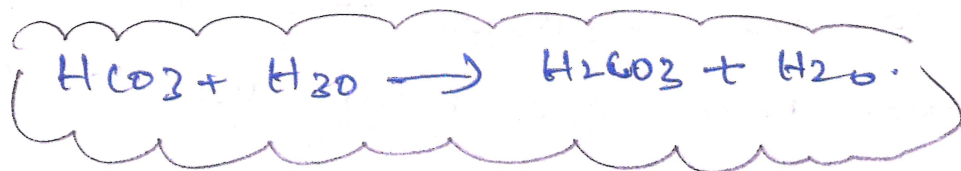


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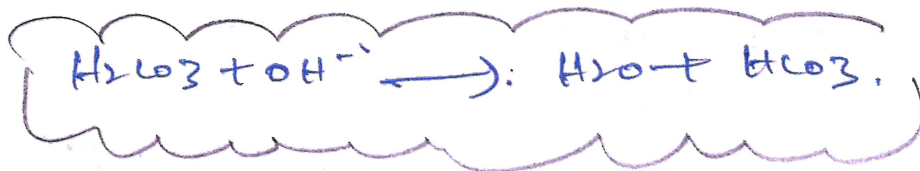
* The pH is regulate in the blood and plasma. The bicarbonate ion act as a weak base and accept the acid to convert into the carbonic acid.

* The carbonic acid is decomposed into the carbon dioxide and water. $[CO_2 \text{ and } H_2O]$.

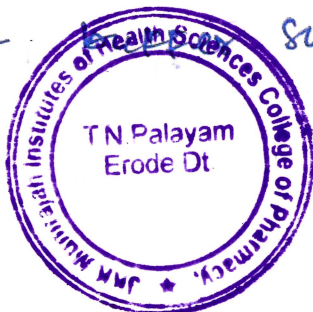
* The Bicarbonate ions accepts the acid $[H_2O^+]$.



* The carbonic acid reacts with base (OH^-) .



* This is the carbonic acid (or) bicarbonate system.



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2.

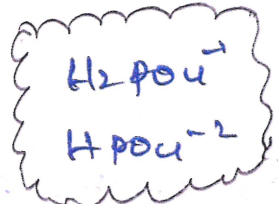
PHOSPHATE BUFFER SYSTEM



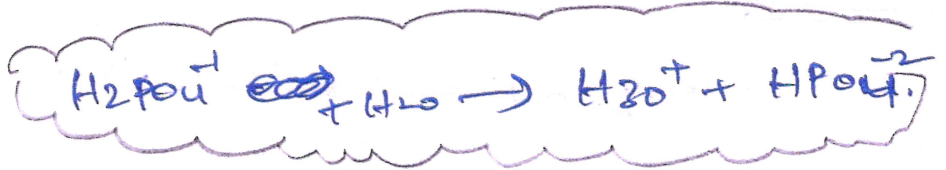
⊗ The phosphate ion is more in the intercellular body.

⊗ To regulate the pH in the blood and plasma.

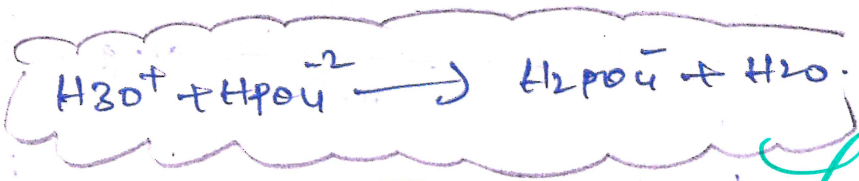
⊗ It has two forms.



In acid the monoform is converted into di form.



In alkaline medium the di form is converted into monoform.



⊗ It is the



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3).

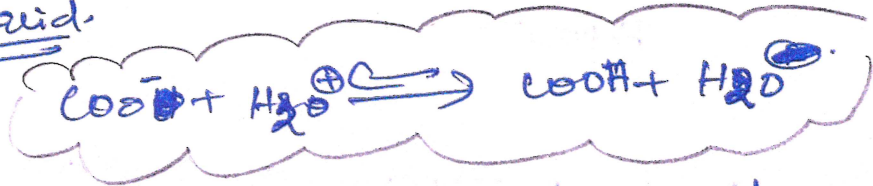
Proton Buffer System - | Hb Buffer

⊗ It has ~~base~~ both COOH^- group and NH_2^- group in this.

⊗ In acid medium the COO^- can act as acceptor.

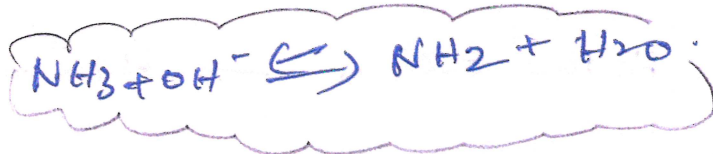
⊗ In alkaline medium, the NH_2 can act as donor.

In acid:



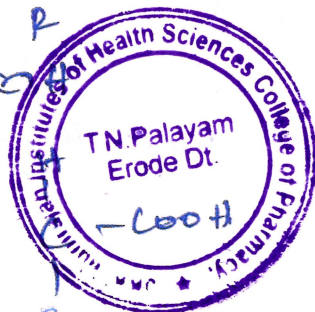
↳ It act as ~~an~~ acceptor.

In base:

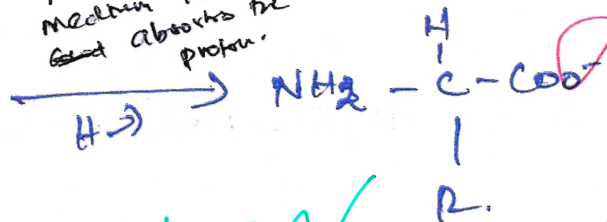


↳ It act as a donor.

In alkaline medium it release the H^+ ion.



In acid medium it ~~act~~ absorbs the proton.



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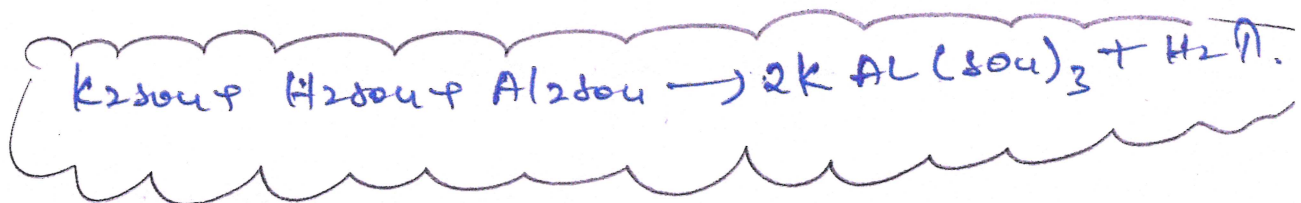
* It is called proton buffer system.

III. 2 M.L.

3. Preparation of potash Alum:-

⊕ potash alum is prepared by treating potassium sulphate and Aluminium sulphate with concentrated H_2SO_4 .

⊕ Aluminium sulphate and potassium sulphate is dilute with water and mixed together and heated and cold together to get potash Alum crystal.

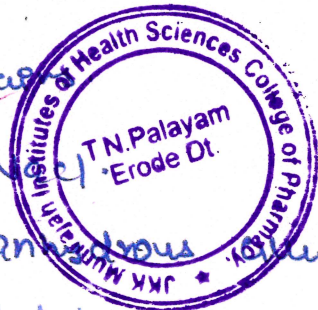


2. ORS:-

↳ Oral rehydration salt

↳ It contains

- ⊕ NaCl
- ⊕ anhydrous glucose
- * Etyl Sodium



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Polysaccharide:-

* Saccharin.

Formulated:

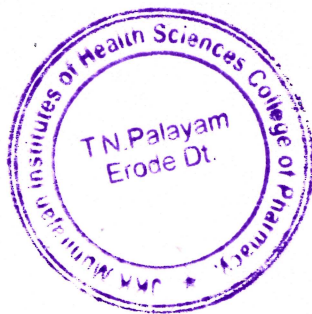
* WHO.

* UNICEF.

Component.	Formulation I	Formulation II	Formulation III
NaCl	2.0	2.3	3.0 gm.
KCl.	1.5	1.5	1.5
anhydrous Glucose	-	-	2.2
Cetyl sodium.			

⊗ It is the powder form is mixed with water to treat for the diarrhoea.

⊗ In market large no. of products are available.



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THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI
Internal Assessment(I.A) Verification Report

Course: 56 - B.Pharm.

Institution: 649-JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES, COLLEGE OF PHARMACY ERODE

Exam Session: Mar 2023

Term: FIRST SEMESTER - J-2017 (J)

Subject: 562007 - PHARMACEUTICAL INORGANIC CHEMISTRY - (T)


Exam Type: I.A

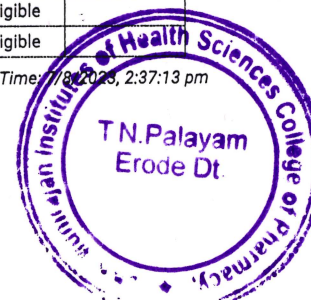
29	560022516521	DINESH S	1	21.00	96.00	4.00	Eligible	
30	560022516522	ELAMPARITHI T	1	22.00	97.00	4.00	Eligible	
31	560022516523	ESAKKI SARAVANAN K	1	22.00	98.00	4.00	Eligible	
32	560022516524	EZHILARASAN R	1	22.00	97.00	4.00	Eligible	
33	560022516525	GANESHKUMAR K	1	21.00	99.00	4.00	Eligible	
34	560022516526	GNANAPRIYA K	1	22.00	99.00	4.00	Eligible	
35	560022516527	GOKUL A	1	21.00	96.00	4.00	Eligible	
36	560022516528	GOKULNATH S	1	21.00	99.00	4.00	Eligible	
37	560022516529	GOWTHAM B	1	21.00	99.00	4.00	Eligible	
38	560022516530	HARSHINI S	1	21.00	98.00	4.00	Eligible	
39	560022516531	INDHUMATHI C	1	21.00	97.00	4.00	Eligible	
40	560022516532	JEEVA C	1	21.00	96.00	4.00	Eligible	
41	560022516533	JEGAN J	1	21.00	97.00	4.00	Eligible	
42	560022516535	JOTHIKA S	1	22.00	99.00	4.00	Eligible	
43	560022516536	KANISHKAR P R	1	23.00	98.00	4.00	Eligible	
44	560022516537	KARTHICK S	1	22.00	97.00	4.00	Eligible	
45	560022516538	LINGESHWARAN S	1	22.00	99.00	4.00	Eligible	
46	560022516539	MADHAN R	1	21.00	96.00	4.00	Eligible	
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48	560022516541	MANIKANDAN I	1	21.00	97.00	4.00	Eligible	
49	560022516542	MANMADHAN K	1	21.00	98.00	4.00	Eligible	
50	560022516543	MANO M	1	23.00	99.00	4.00	Eligible	
51	560022516544	MANOJ S	1	22.00	98.00	4.00	Eligible	
52	560022516545	MANOJKUMAR A	1	22.00	97.00	4.00	Eligible	
53	560022516546	MARUDHAMUTHU M	1	21.00	96.00	4.00	Eligible	
54	560022516547	MATHIYARASU A	1	21.00	99.00	4.00	Eligible	
55	560022516548	MATHUMITHA M	1	20.00	99.00	4.00	Eligible	
56	560022516549	MITHUNKUMAR C	1	22.00	97.00	4.00	Eligible	
57	560022516551	MOTHISH R R	1	22.00	96.00	4.00	Eligible	
58	560022516552	MUKESH S D	1	23.00	96.00	4.00	Eligible	
59	560022516553	NAVANEETHAN E	1	21.00	98.00	4.00	Eligible	

Report Taken by 649R2

Date & Time: 18/03/2023, 2:37:13 pm

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NON- SEMESTER EXAMINATIONS
AUGUST 2023 SESSION
TIME TABLE

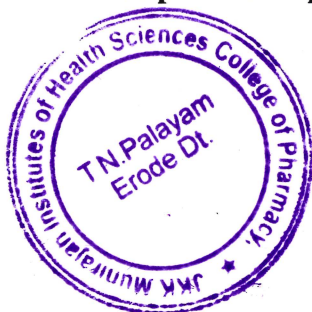
Day	Date and Time	Paper	Subjects	Q.P. Code
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PHARMACY
UNDER GRADUATE DEGREE COURSE
B.PHARM (NON - SEMESTER) EXAMINATIONS (2009-2010 Regulation)
FIRST YEAR

Tue	05-09-2023 2.00 pm to 5.00 pm	I	Pharmaceutical Inorganic Chemistry	564251
Thu	07-09-2023 2.00 pm to 5.00 pm	II	Pharmaceutical Organic Chemistry	564252
Fri	08-09-2023 2.00 pm to 5.00 pm	III	Anatomy, Physiology and Health Education	564253
Mon	11-09-2023 2.00 pm to 5.00 pm	IV	Biochemistry	564254
Tue	12-09-2023 2.00 pm to 5.00 pm	V	Biostatistics and Computer Applications	564255

SECOND YEAR

Mon	28-08-2023 2.00 pm to 5.00 pm	I	Physical Pharmaceutics	564256
Tue	29-08-2023 2.00 pm to 5.00 pm	II	Pharmaceutical Analysis and Physical Chemistry	564257
Wed	30-08-2023 2.00 pm to 5.00 pm	III	Advanced Pharmaceutical Organic Chemistry	564258
Thu	31-08-2023 2.00 pm to 5.00 pm	IV	Pharmaceutical Technology	564259
Fri	01-09-2023 2.00 pm to 5.00 pm	V	Pharmacy Practice and Pathophysiology	564260




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THIRD YEAR

Tue	05-09-2023 9.30 am to 12.30 pm	I	Pharmacognosy & Phyto-chemistry	564261
Thu	07-09-2023 9.30 am to 12.30 pm	II	Medicinal Chemistry - I	564262
Fri	08-09-2023 9.30 am to 12.30 pm	III	Pharmaceutical Dosage Forms And Cosmetic Technology	564263
Mon	11-09-2023 9.30 am to 12.30 pm	IV	Pharmacology - I	564264
Tue	12-09-2023 9.30 am to 12.30 pm	V	Hospital & Clinical Pharmacy	564265
Wed	13-09-2023 9.30 am to 12.30 pm	VI	Pharmaceutical Biotechnology	564266

FOURTH (FINAL) YEAR

Mon	28-08-2023 9.30 am to 12.30 pm	I	Formulative Pharmacy and Bio-pharmaceutics	564267
Tue	29-08-2023 9.30 am to 12.30 pm	II	Advanced Pharmacognosy	564268
Wed	30-08-2023 9.30 am to 12.30 pm	III	Pharmacology - II	564269
Thu	31-08-2023 9.30 am to 12.30 pm	IV	Modern Methods of Pharmaceutical Analysis	564270
Fri	01-09-2023 9.30 am to 12.30 pm	V	Medicinal Chemistry - II	564271
Mon	04-09-2023 9.30 am to 12.30 pm	VI	Pharmaceutical Jurisprudence and Pharmacy Business Management	564272

Sd/-
CONTROLLER OF EXAMINATIONS

B.PHARMACY SEMESTER EXAMINATIONS

MARCH 2023 SESSION

(Examination held on AUGUST 2023)

I to VIII Semester

TIME TABLE

(for all Candidates admitted upto 2022-2023)

Day Date and Time Paper Subjects Q.P. Code

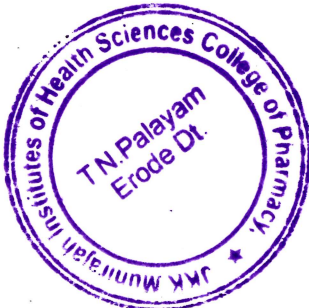
**PHARMACY
UNDER GRADUATE DEGREE COURSE
B.PHARM (SEMESTER) EXAMINATIONS (2017 Regulation)**

FIRST SEMESTER

Tue	12-09-2023 9.30 am to 12.30 pm	I	Human Anatomy and Physiology I	562001
Wed	13-09-2023 9.30 am to 12.30 pm	II	Pharmaceutical Analysis I	562003
Thu	14-09-2023 9.30 am to 12.30 pm	III	Pharmaceutics I	562005
Fri	15-09-2023 9.30 am to 12.30 pm	IV	Pharmaceutical Inorganic Chemistry	562007

Non University Exam

Mon	18-09-2023	V	Communication Skill (Theory)	562009
Tue	19-09-2023	VI	Communication Skill (Practical)	562010
Wed	20-09-2023	VII	Remedial Biology(Theory)	562011
		VIII	Remedial Biology (Practical)	562012
		IX	Remedial Mathematics (Theory)	562013



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SECOND SEMESTER

Fri	01-09-2023 9.30 am to 12.30 pm	I	Human Anatomy and Physiology II	562014
Mon	04-09-2023 9.30 am to 12.30 pm	II	Pharmaceutical Organic Chemistry I	562016
Tue	05-09-2023 9.30 am to 12.30 pm	III	Biochemistry	562018
Thu	07-09-2023 9.30 am to 12.30 pm	IV	Pathophysiology	562020

Non University Exam


Thu	21-09-2023	V	Computer Application In Pharmacy (Theory)	562021
Fri	22-09-2023	VI	Computer Application In Pharmacy (Practical)	562022
Mon	25-09-2023	VII	Environmental Sciences (Theory)	562023

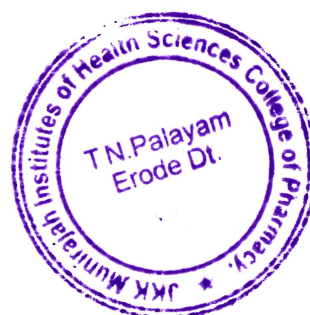
THIRD SEMESTER

Tue	12-09-2023 2.00 pm to 5.00 pm	I	Pharmaceutical Organic Chemistry II	562031
Wed	13-09-2023 2.00 pm to 5.00 pm	II	Physical Pharmaceutics I	562033
Thu	14-09-2023 2.00 pm to 5.00 pm	III	Pharmaceutical Microbiology	562035
Fri	15-09-2023 2.00 pm to 5.00 pm	IV	Pharmaceutical Engineering	562037

Non University Exam (for Lateral Entry Candidates Only)

Mon	18-09-2023	V	Communication Skill (Theory)	562009
Tue	19-09-2023	VI	Communication Skill (Practical)	562010


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FOURTH SEMESTER

Fri	01-09-2023 2.00 pm to 5.00 pm	I	Pharmaceutical Organic Chemistry III	562039
Mon	04-09-2023 2.00 pm to 5.00 pm	II	Medicinal Chemistry I	562040
Tue	05-09-2023 2.00 pm to 5.00 pm	III	Physical Pharmaceutics II	562042
Thu	07-09-2023 2.00 pm to 5.00 pm	IV	Pharmacology I	562044
Fri	08-09-2023 2.00 pm to 5.00 pm	V	Pharmacognosy and Phytochemistry I	562046

Non University Exam (for Lateral Entry Candidates only)


Thu	21-09-2023	VI	Computer Application In Pharmacy (Theory)	562021
Fri	22-09-2023	VII	Computer Application In Pharmacy (Practical)	562022

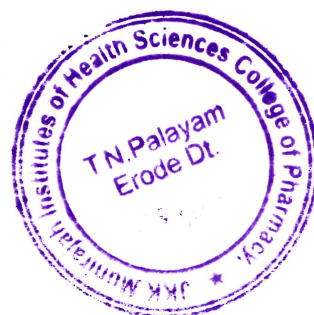
FIFTH SEMESTER

Tue	12-09-2023 9.30 am to 12.30 pm	I	Medicinal Chemistry II	562051
Wed	13-09-2023 9.30 am to 12.30 pm	II	Industrial Pharmacy I	562052
Thu	14-09-2023 9.30 am to 12.30 pm	III	Pharmacology II	562054
Fri	15-09-2023 9.30 am to 12.30 pm	IV	Pharmacognosy and Phytochemistry II	562056
Mon	18-09-2023 9.30 am to 12.30 pm	V	Pharmaceutical Jurisprudence	562058

SIXTH SEMESTER

Fri	01-09-2023 9.30 am to 12.30 pm	I	Medicinal Chemistry III	562059
Mon	04-09-2023 9.30 am to 12.30 pm	II	Pharmacology III	562061
Tue	05-09-2023 9.30 am to 12.30 pm	III	Herbal Drug Technology	562063
Thu	07-09-2023 9.30 am to 12.30 pm	IV	Biopharmaceutics and Pharmacokinetics	562065
Fri	08-09-2023 9.30 am to 12.30 pm	V	Pharmaceutical Biotechnology	562066
Mon	11-09-2023 9.30 am to 12.30 pm	VI	Quality Assurance	562067


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SEVENTH SEMESTER

Tue	12-09-2023 2.00 pm to 5.00 pm	I	Instrumental Methods of Analysis	562071
Wed	13-09-2023 2.00 pm to 5.00 pm	II	Industrial Pharmacy	562073
Thu	14-09-2023 2.00 pm to 5.00 pm	III	Pharmacy Practice	562074
Fri	15-09-2023 2.00 pm to 5.00 pm	IV	Novel Drug Delivery System	562075

Non University Exam

Tue	26-09-2023	V	Practice School (Theory)	562076
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EIGHTH SEMESTER

Mon	28-08-2023 9.30 am to 12.30 pm	I	Biostatistics and Research Methodology	562077
Tue	29-08-2023 9.30 am to 12.30 pm	II	Social and Preventive Pharmacy	562078

GROUP – I ELECTIVE PAPER

Wed	30-08-2023 9.30 am to 12.30 pm	III	Quality Control and Standardization of Herbs	562082
		IV	Computer Aided Drug Design	562083
		V	Cell and Molecular Biology	562084
		VI	Pharmacological Screening Methods	562086
		VII	Advanced Instrumentation Techniques	562087
		VIII	Pharmaceutical Product Development	562089

GROUP – II ELECTIVE PAPER

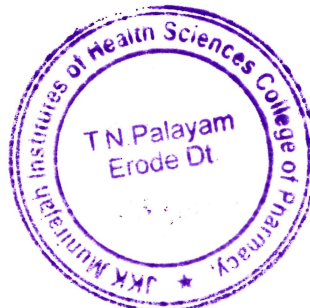
Thu	31-08-2023 9.30 am to 12.30 pm	IX	Pharma Marketing Management	562079
		X	Pharmaceutical Regulatory Science	562080
		XI	Pharmacovigilance	562081
		XII	Cosmetic Science	562085
		XIII	Dietary Supplements and Nutraceuticals	562088



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Sd/-
CONTROLLER OF EXAMINATIONS



JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES COLLEGE OF PHARMACY
TN Palayam, Gobichettipalayam, Erode.

CIRCULAR

08.03.2023

To

All the teaching and Non-teaching staff concerned,

THE TAMIL NADU DR. MGR MEDICAL UNIVERSITY THEORY EXAMINATION DUTY

The Tamilnadu Dr. MGR Medical University MARCH 2023 session theory examination as scheduled is given hereunder in respect of invigilation duty. All are informed to note the same and be more dedicated and punctual in discharging due duties. Please don't solicit alternate arrangements unless and otherwise for any unforeseen emergencies

IV-B. PHARMACY (VIII SEM) EXAMINATION MARCH 2023

Forenoon Session Time: 9.30 AM to 12.30 PM

SEMINAR HALL

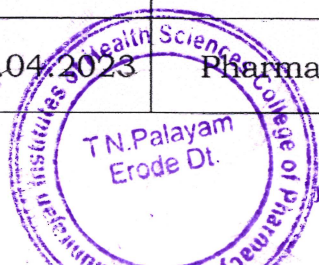
S.No	Date & Session	Subject	Invigilator	Signature
1	15.03.2023	Biostatistics and Research Methodology	DR. J. Priya	J. Priya
			DR. K. Abhenaya	K. Abhenaya
			Dr. I. Balaji	I. Balaji
2	16.03.2023	Social and Preventive Pharmacy	DR. S. Selvaraj	S. Selvaraj
			Mr. K. Gobinath	K. Gobinath
			Ms. S. Vanitha	S. Vanitha
3	17.03.2023	Quality Control and Standardization of Herbals	DR. K. K. Senthilkumar	K. K. Senthilkumar
			Mr. C. Govindaraj	C. Govindaraj
			Mrs. K. Amudhavalli	K. Amudhavalli
4	20.03.2023	Cosmetic science	Mr. G. M. Sivakumar	G. M. Sivakumar
			Ms. K. Kanagapriya	K. Kanagapriya
			DR. S. Navaneethakrishnan	S. Navaneethakrishnan

IV-B. PHARMACY (VII SEM) EXAMINATION MARCH 2023

After Noon Session Time: 02.00 PM to 05.00 PM



SEMINAR HALL

S.No	Date & Session	Subject	Invigilator	Signature
1	30.03.2023	Instrumental Methods of Analysis	DR. K. Abhenaya	K. Abhenaya
2	31.03.2023	Industrial Pharmacy	Ms. K. Kanagapriya	K. Kanagapriya
3	03.04.2023	Pharmacy Practice	Mr. C. Govindaraj	C. Govindaraj



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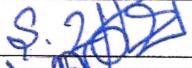

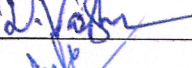
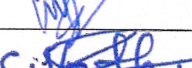

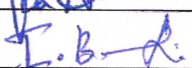
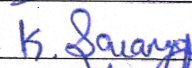
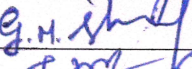
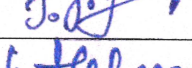
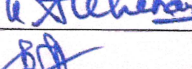
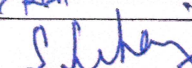
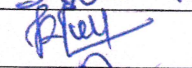

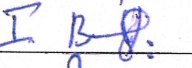
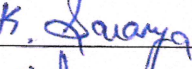



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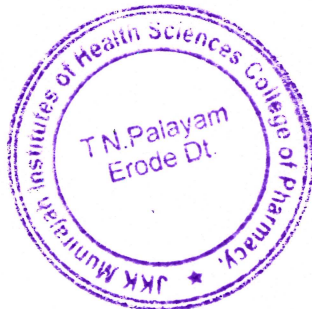
4	05.04.2023	Novel Drug Delivery System	Ms. K. Kanagapriya	
5	17.04.2023	Practice School (Theory)	DR. K. K. Senthilkumar	

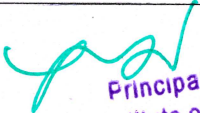
III-B. PHARMACY (VI SEM) EXAMINATION MARCH - 2023

Forenoon Session Time: 9.30 AM to 12.30 PM

SEMINAR HALL

S.No	Date & Session	Subject	Invigilator	Signature
1	21.03.2023	Medicinal Chemistry III	Dr. S. Yogakrishnan	
			Mr. K. Gobinath	
			Mrs. D. Vasumathi	
2	23.03.2023	Pharmacology III	DR. K. K. Senthilkumar	
			Ms. S. Vanitha	
			Mrs. K. Amudhavalli	
3	24.03.2023	Herbal Drug Technology	DR. I. Balaji	
			Mrs. K. Saranya	
			Mr. G. M. Sivakumar	
4	27.03.2023	Biopharmaceutics & Pharmacokinetics	DR. J. Priya	
			DR. K. Abhenaya	
			Ms. K. Kanagapriya	
5	28.03.2023	Pharmaceutical Biotechnology	Dr. S. Selvaraj	
			Ms. K. Kanagapriya	
			Mr. K. Gobinath	
6	29.03.2023	Quality Assurance	DR. I. Balaji	
			Ms. K. Saranya	
			Mr. C. Govindaraj	




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II-B. PHARMACY (II SEM) EXAMINATION MARCH - 2023

Forenoon Session Time: 9.30 AM to 12.30 PM

SEMINAR HALL

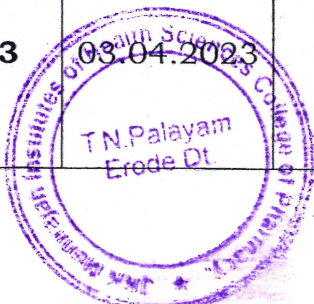
S. No	Date & Session	Subject	Invigilator	Signature
1	21.03.2023	Human Anatomy & Physiology II	Ms. K. Kanagapriya	
2	23.03.2023	Pharmaceutical Organic Chemistry	Mr. C. Govindaraj	
3	24.03.2023	Biochemistry	DR. S. Navaneethakrishnan	
4	27.03.2023	Pathophysiology	Ms. S. Vanitha	
5	13.04.2023	Computer Applications in Pharmacy Theory	Ms. S. Loganayaki	
6	15.04.2023	Computer Applications in Pharmacy Practical	Ms. S. Loganayaki	
7	17.04.2023	Environmental Sciences	Mr. K. Gobinath	

I-B. PHARMACY (I SEM) EXAMINATION MARCH - 2023

Forenoon Session Time: 9.30 AM to 12.30 PM

SEMINAR HALL

S.No	Date & Session	Subject	Invigilator	Signature
1	30.03.2023	Human Anatomy & Physiology I	Dr. P. Mohanraj	
			Dr. S. Selvaraj	
			Mr. K. Gobinath	
			Mrs. S. Vasumathi	
			DR. S. Yogakrishnan	
2	31.03.2023	Pharmaceutical Analysis I	DR. I. Balaji	
			Mr. C. Govindaraj	
			DR. S. Navaneethakrishnan	
			Ms. S. Vanitha	
			Mr. G. M. Sivakumar	
3	03.04.2023	Pharmaceutics I	DR. J. Priya	
			DR. K. Abhenaya	
			Mrs. K. Amudhavalli	
			DR. S. Yogakrishnan	



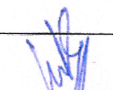
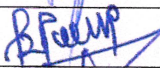
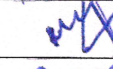
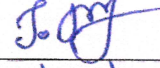
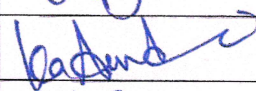
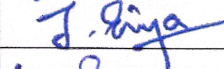
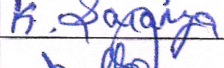
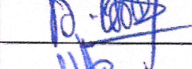
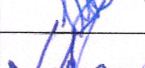
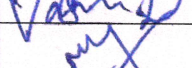
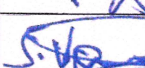
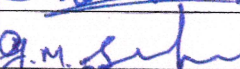
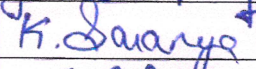
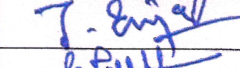
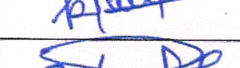
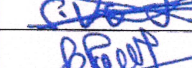
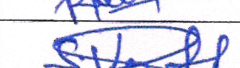


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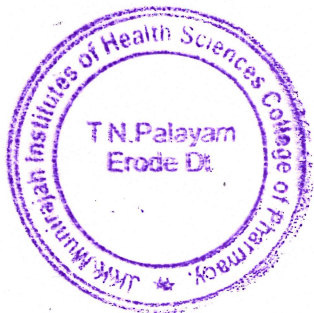
JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES COLLEGE OF PHARMACY
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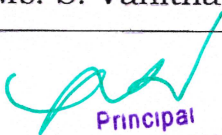
II-B. PHARMACY (IIIrd SEM) EXAMINATION MARCH - 2023

After Noon Session Time: 02.00 PM to 05.00 PM

SEMINAR HALL

S. No	Date & Session	Subject	Invigilator	Signature
1	30.03.2023	Pharmaceutical Organic Chemistry II	DR. K. K. Senthilkumar	
			Ms. K. Kanagapriya	
			Ms. M. Revathi	
			DR. J. Priya	
2	31.03.2023	Physical Pharmaceutics I	Mrs. K. Amudhavalli	
			Mrs. J. Eniyakanchana	
			Mrs. K. Saranya	
			Mr. K. Gobinath	
3	03.04.2023	Pharmaceutical Microbiology	DR. K. K. Senthilkumar	
			Mrs. D. Vasumathi	
			Ms. M. Revathi	
4	05.04.2023	Pharmaceutical Engineering	Ms. K. Vanitha	
			Mr. G. M. Sivakumar	
			Mrs. K. Saranya	
			Mrs. J. Eniyakanchana	
5	10.04.2023	Communication Skill Theory	Ms. K. Kanagapriya	
			Ms. S. Vanitha	
6	11.04.2023	Communication Skill Practical	Ms. K. Kanagapriya	
			Ms. S. Vanitha	




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III-B. PHARMACY (V SEM) EXAMINATION MARCH 2023

Forenoon Session Time: 9.30 AM to 12.30 PM

SEMINAR HALL

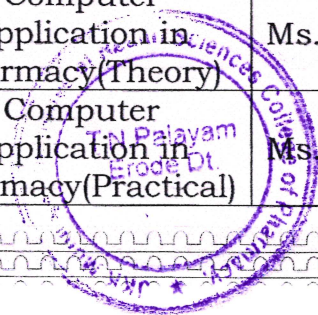
S.No	Date & Session	Subject	Invigilator	Signature
1	30.03.2023	Medicinal Chemistry II	Mrs. J. Eniyakanchana	
2	31.03.2023	Industrial Pharmacy I	DR. K. K. Senthilkumar	
3	03.04.2023	Pharmacology II	Dr. S. Selvaraj	
4	05.04.2023	Pharmacognosy & Phytochemistry II	Ms. M. Revathi	
5	06.04.2023	Pharmaceutical Jurisprudence	DR. I. Balaji	

II-B. PHARMACY (IV SEM) EXAMINATION MARCH - 2023

After Noon Session Time: 02.00 PM to 05.00 PM

SEMINAR HALL

S.No	Date & Session	Subject	Invigilator	Signature
1	21.03.2023	Pharmaceutical Organic Chemistry III	Ms. M. Revathi	
2	23.03.2023	Medicinal Chemistry I	DR. S. Gandhimathi	
3	24.03.2023	Physical Pharmaceutics II	Mrs. K. Amudhavalli	
4	27.03.2023	Pharmacology I	DR. S. Yogakrishnan	
5	28.03.2023	Pharmacognosy & Phytochemistry I	Mrs. D. Vasumathi	
6	13.04.2023	Computer Application in Pharmacy(Theory)	Ms. Loganayaki	
7	15.04.2023	Computer Application in Pharmacy(Practical)	Ms. Loganayaki	

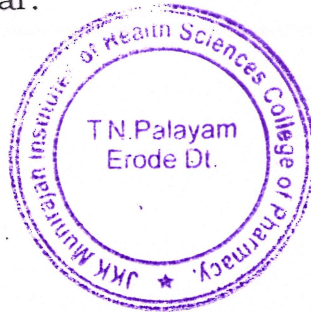


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TN Palayam, Gobichettipalayam, Erode.

4	05.04.2023	Pharmaceutical Inorganic Chemistry	Dr. S. Selvaraj	<i>S. Selvaraj</i>
			Dr. P. Mohanraj	<i>P. Mohanraj</i>
			DR. Navaneethakrishnan	<i>Navaneethakrishnan</i>
			DR. I. Balaji	<i>I. Balaji</i>
5	10.04.2023	Communication Skill Theory	Ms. K. Kanagapriya	<i>K. Kanagapriya</i>
			Ms. S. Vanitha	<i>S. Vanitha</i>
6	11.04.2023	Communication Skill Practical	Ms. K. Kanagapriya	<i>K. Kanagapriya</i>
			Ms. S. Vanitha	<i>S. Vanitha</i>
7	12.04.2023	Remedial Biology / Maths - Theory/Practical	Ms. Rajeshwari M K Mrs. J. Eriyakanchana	<i>J. Eriyakanchana</i>

- Water, Snacks, Stationary and all required arrangement to be done by Mr. J. Gowriprasanth and Mr. T.P. Manikandan using attenders.
- Entire House Keeping arrangements to be completed by Mr. J. Gowriprasanth through lower grade staff.
- Covid -19 Preparatory and maintenance arrangements by Mr. C. Govindaraj / Mr. G. M. Sivakumar.
- Trained staff are requested to coordinate with Mr. C. Govindaraj/ Mr. G. M. Sivakumar.



(Signature)
Principal
JKK Munirajah Institute of Health Sciences
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Gobi (Tk), Erode (Dt) - 638 506

JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES COLLEGE OF PHARMACY

Approved by AICTE & Pharmacy Council of India - New Delhi, Affiliated to The Tamilnadu Dr. M.G.R Medical University, Chennai)

T.N.Palayam(PO), Gobichettipalayam(TK),Erode(DT)-638506.

Dr. J. K. K. MUNIRAJAH, M.Tech.,(Bolton)
Chairman & Managing Trustee

DR. P.Perumal.,M.Pharm.,Ph.D.,FIC.,
Professor & Principal

Ref No: JKKMIHSCP/UNIV/0115U23

DATE: 15.09.2023

To

The Deputy Controller of Examinations (Pharmacy),
The Tamilnadu Dr. MGR Medical University,
No. 69 Anna Salai, Guindy,
Chennai – 600032.

Sub: Theory examinations **MARCH- 2023 F/N** Session – **JKK Munirajah
Institute of Health Sciences College of Pharmacy - Centre 649** –
Submission of Answer Books & particulars – B.Pharm
I Semester- Reg.

Sir,

With respect to the cited subject, the theory examination answer books of
B.Pharm I Semester held on **15.09.2023 F/N** for the subject
PHARMACEUTICAL INORGANIC CHEMISTRY (562007) in this JKK Munirajah
Institute of Health Sciences College of Pharmacy center are submitted herewith.
Kindly acknowledge the same.

Thanking you,

Yours truly

(Signature) (S. KANMAN)

UNIVERSITY EXAMINATIONS
COLLEGE CODE No : 649

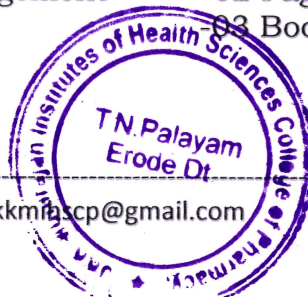
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COLLEGE OF PHARMACY T.N.PALAYAM,
Gobi (Tk), Erode (Dt) - 638 506

Encl:

- | | |
|--------------------------------------|---------------------|
| 1. Answer books bundle No 1 | - (25 Answer Books) |
| 2. Answer books bundle No 2 | - (25 Answer Books) |
| 3. Answer books bundle No 3 | - (25 Answer Books) |
| 4. Answer books bundle No 4 | - (20 Answer Books) |
| 5. Attendance Statement | - 05 Pages |
| 6. Absentees Statement | - 01 Page |
| 7. Statement for seating arrangement | - 02 Pages |
| 8. Unused Booklets | - 03 Booklets |

(Signature)
Principal

JKK Munirajah Institute of Health Sciences
College of Pharmacy, T.N.Palayam.
Gobi (Tk), Erode (Dt) - 638 506



THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

69, ANNA SALAI, GUINDY, CHENNAI- 600 032.

ATTENDANCE SHEET

Month & Year of Exam :

MAR 2023

Course : 56.B.Pharm. FIRST SEMESTER

Exam Center : 649.JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES, COLLEGE OF PHARMACY, ERODE

Subject / Paper : 562007 - PHARMACEUTICAL INORGANIC CHEMISTRY - (T)

Date & Session of Exam : 15-09-2023 F

S.No	Register No.	Name of the Student	Signature of the Student
1	560021516548	MADHESH G	— ABSENT —
2	560021516555	MOHANRAJ G	— ABSENT —
3	560021516574	SANJEEVI T	T. Sanjeevi
4	560021516575	SARANYA G	Sarany G.
5	560021516585	SIVAPRAKASH M	Sivaprakash M.
6	560021516589	SWETHA S	Swetha S.
7	560021516594	VALLARASU M	Vallarasu M.
8	560021516596	VASANTH R	Vasanth R.
9	560022516501	ABDUL RAHIM K	Abdul Rahim K.
10	560022516502	ABINAYA M	Abinaya M.
11	560022516503	AGALYA A	A. Agalya.
12	560022516504	AHAMED SHAMEEM M	Ahamed Shameem M.
13	560022516505	AJASH MITHEEN A	Ajash Mitheen A.
14	560022516506	ANISH ROJA K	Anish Roja K.
15	560022516507	ARAVINTH K	Aravinth K.
16	560022516508	ARAVINTH P	Aravinth P.
17	560022516509	ARUN M	Arun M.
18	560022516510	ARUNIMA R KUMAR	Arunima R Kumar.
19	560022516511	AYYANAR M	Ayyanar M.
20	560022516512	BHARANI M	Bharani M.

(Signature)
 (K. KANAGIAPRIYA)
 Signature of the Invigilator

(Signature)
 (S. KANNAN)
 Signature of the Chief Superintendent

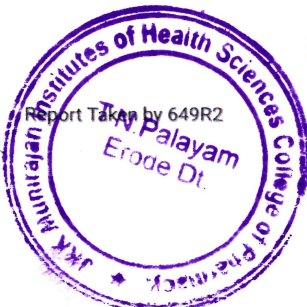
NOTE:

- Candidates who are NOT present may be noted as absent against their register nos.
- Separate format may be used by each invigilator.

(Signature)
 Principal

JKK Munirajah Institute of Health Sciences
 College of Pharmacy, T.N. Palayam,
 Gobi (Tk), Erode (Dt), Tamil Nadu - 649 406

CHIEF SUPERINTENDENT
 UNIVERSITY EXAMINATIONS
 COLLEGE CODE No : 649
 JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES
 COLLEGE OF PHARMACY, T.N. PALAYAM,
 GOBI (TK), ERODE (DT), TAMIL NADU



Date: 15/09/2023, 9:33:34 am

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

69, ANNA SALAI, GUINDY, CHENNAI- 600 032.

ATTENDANCE SHEET

Month & Year of Exam :

MAR 2023

Course : 56.B.Pharm. FIRST SEMESTER

Exam Center : 649.JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES, COLLEGE OF PHARMACY, ERODE

Subject / Paper : 562007 - PHARMACEUTICAL INORGANIC CHEMISTRY - (T)

Date & Session of Exam : 15-09-2023 F

S.No	Register No.	Name of the Student	Signature of the Student
21	560022516513	BIRUNDHA E	E. Birundha
22	560022516514	BOOBALAN S	B. Boobalan
23	560022516515	BOOMIKA E	B. Boomika
24	560022516516	CHANDRU M	M. Chandru
25	560022516517	DESIKA K	K. Desika
26	560022516518	DHANUSH D	D. Dhhanush
27	560022516519	DHANUSHKUMAR K	K. Dhhanush
28	560022516520	DHARUN M	M. Dhharun
29	560022516521	DINESH S	S. Dinesh
30	560022516522	ELAMPARITHI T	T. Elamparithi
31	560022516523	ESAKKI SARAVANAN K	K. Esakki Saravanan
32	560022516524	EZHILARASAN R	R. Ezhilarasan
33	560022516525	GANESHKUMAR K	K. Ganeshkumar
34	560022516526	GNANAPRIYA K	K. Gnanapriya
35	560022516527	GOKUL A	A. Gokul
36	560022516528	GOKULNATH S	S. Gokulnath
37	560022516529	GOWTHAM B	B. Gowtham
38	560022516530	HARSHINI S	S. Harshini
39	560022516531	INDHUMATHI C	C. Indhumathi
40	560022516532	JEEVA C	C. Jeeva

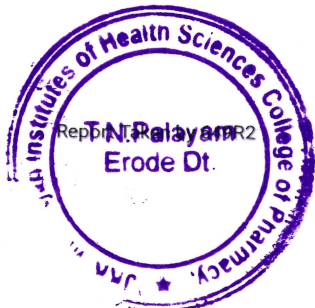
M. Nithya (M. NITHAYA)
15/09/23

Signature of the Invigilator

Signature of the Chief Superintendent

NOTE :

- Candidates who are NOT present may be noted as absent against their register nos.
- Separate format may be used by each invigilator.



Principal
JKK Munirajah Institute of Health Sciences
College of Pharmacy, T.N. Palayam,
Gobi (Tk), Erode (Dt) - 638 506

Date & Time: 24/8/2023, 9:33:34 am

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY
69, ANNA SALAI, GUINDY, CHENNAI- 600 032.

ATTENDANCE SHEET

Month & Year of Exam : MAR 2023
Course : 56.B.Pharm. FIRST SEMESTER
Exam Center : 649.JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES, COLLEGE OF PHARMACY, ERODE
Subject / Paper : 562007 - PHARMACEUTICAL INORGANIC CHEMISTRY - (T)
Date & Session of Exam : 15-09-2023 F

S.No	Register No.	Name of the Student	Signature of the Student
41	560022516533	JEGAN J	J.S
42	560022516535	JOTHIKA S	J. Jothika
43	560022516536	KANISHKAR P R	PR. Kanishkar
44	560022516537	KARTHICK S	Karthick S
45	560022516538	LINGESHWARAN S	L. Lingeswaran
46	560022516539	MADHAN R	Madhan R
47	560022516540	MAGESH S	S. Magesh
48	560022516541	MANIKANDAN I	T. Manikandan
49	560022516542	MANMADHAN K	K. Manmadhan
50	560022516543	MANO M	Mano M
51	560022516544	MANOJ S	S. Manoj
52	560022516545	MANOJKUMAR A	A. Manojkumar
53	560022516546	MARUDHAMUTHU M	M. Marudhamuthu
54	560022516547	MATHIYARASU A	A. Mathiyarasu
55	560022516548	MATHUMITHA M	M. Mathumitha
56	560022516549	MITHUNKUMAR C	C. Mithunkumar
57	560022516551	MOTHISH R R	R. Mothish
58	560022516552	MUKESH S D	S.D. Mukesh
59	560022516553	NAVANEETHAN E	E. Navaneethan
60	560022516554	NICKELSON JERNAS N	N. Nickelson

NAVANEETHAKRISHNAN S
(S. Navaneethan)

Signature of the Invigilator

Signature of the Chief Superintendent
(S. Kannan)

NOTE :

- Candidates who are NOT present may be noted as absent against their register nos
- Separate format may be used by each invigilator.



Principal
JKK Munirajah Institute of Health Sciences
College of Pharmacy, T.N. Palayam,
Gobi (Tk), Erode (Dt) - 638 506

Date & Time: 24/8/2023, 9:33:34 am

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

69, ANNA SALAI, GUINDY, CHENNAI- 600 032.

ATTENDANCE SHEET

Month & Year of Exam :

MAR 2023

Course : 56.B.Pharm. FIRST SEMESTER

Exam Center : 649.JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES, COLLEGE OF PHARMACY, ERODE

Subject / Paper : 562007 - PHARMACEUTICAL INORGANIC CHEMISTRY - (T)

Date & Session of Exam : 15-09-2023 F

S.No	Register No.	Name of the Student	Signature of the Student
61	560022516555	NIRANJANA S S	<i>N. S. @ji</i>
62	560022516557	PONAJANTHA P	<i>Ponaj</i>
63	560022516558	POORNAMIRTHA P	<i>P. Poornimitha</i>
64	560022516559	PRASANTH K	<i>K. Prasanth</i>
65	560022516560	PRAVEEN KUMAR B	<i>B. Praveen</i>
66	560022516561	PRAVEENKUMAR G	<i>— ABSENT —</i>
67	560022516562	PRAVEENKUMAR M	<i>M. Praveen</i>
68	560022516563	PREETHI K	<i>K. Preethi</i>
69	560022516564	RAGUL PRASATH C	<i>C. Ragul Prasath</i>
70	560022516565	REPEKKA I	<i>I. Repokka</i>
71	560022516566	RISHIKESAVAN M	<i>M. Rishi</i>
72	560022516567	RUBIKASRI P	<i>P. Ruby</i>
73	560022516568	SABAPATHI P	<i>P. Sabapathi</i>
74	560022516569	SACHITHA R	<i>R. Sachitha</i>
75	560022516570	SAHANA S	<i>S. Saha</i>
76	560022516571	SAKILESH M	<i>M. Sakilesh</i>
77	560022516572	SANJAI B	<i>B. Sanjai</i>
78	560022516573	SANTHOSH T	<i>T. Santhosh</i>
79	560022516574	SARAVANAN S	<i>S. Saravanan</i>
80	560022516575	SELVAPRIYA J	<i>J. Selvapriya</i>

1. *D. B. Balaji* (D. B. BALAJI)
 2. *J. Govindharaj* (GOVINDHARAJ.C)

Signature of the Invigilator

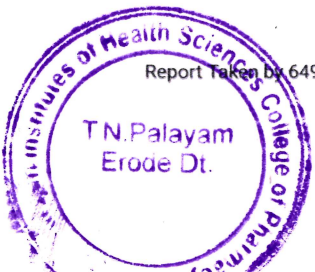
Signature of the Chief Superintendent

NOTE:

- Candidates who are NOT present may be noted as absent against their register nos.
- Separate format may be used by each invigilator.

CHIEF SUPERINTENDENT
 UNIVERSITY EXAMINATIONS
 COLLEGE CODE No : 649
 JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES
 COLLEGE OF PHARMACY, T.N.PALAYAM,
 Gobi (Tk), Erode (Dt) - 638 506

Report Taken by 649R2



[Signature]
 Principal
 JKK Munirajah Institute of Health Sciences
 College of Pharmacy, T.N. Palayam,
 Gobi (Tk), Erode (Dt) - 638 506

Date & Time: 15/9/2023, 9:33:34 am

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY
69, ANNA SALAI, GUINDY, CHENNAI- 600 032.
LIST OF ABSENTEES FOR THE THEORY EXAMINATION

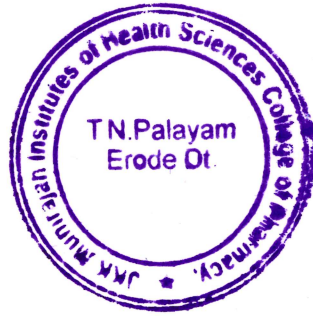
Course & Term	: 56.B.Pharm. FIRST SEMESTER	Month & Year of Exam	: Mar 2023
Exam Center	: 649.JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES, COLLEGE OF PHARMACY,ERODE		
Subject / Paper	: 562007 - PHARMACEUTICAL INORGANIC CHEMISTRY - (T)		
Date & Session of Exam	: 15-09-2023 F		

S.No	Registration No	Name of the Student
1	560021516548	MADHESH G
2	560021516555	MOHANRAJ G
3	560022516561	PRAVEENKUMAR G

[Handwritten Signature]
15/09/23

CHIEF SUPERINTENDENT
UNIVERSITY EXAMINATIONS
COLLEGE CODE No : 649

JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES
COLLEGE OF PHARMACY T.N.PALAYAM,
Gobi (Tk), Erode (Dt) - 638 506



[Handwritten Signature]

Principal
JKK Munirajah Institute of Health Sciences
College of Pharmacy, T.N. Palayam,
Gobi (Tk), Erode (Dt) - 638 506

THE TAMILNADU Dr.M.G.R. MEDICAL UNIVERSITY
 59, ANNA SALAI, GUINDY, CHENNAI - 600 032
ARRANGEMENT OF SEA'S
SEMINAR HALL

Month & Year of Exam : MARCH - 2023
 Course : 56. B. PHARM FIRST SEMESTER
 Exam Center : 649, J.K.K. MUNIRAJAH INSTITUTE OF HEALTH SCIENCES COLLEGE OF PHARMACY
 Subject/Paper : PHARMACEUTICAL INORGANIC CHEMISTRY
 Date & Session of Exam: 15.09.2023 FN

ROW I	ROW II	ROW III	ROW IV	ROW V
560021516548	560022516523	560022516524	560022516558	560022516559
560021516555	560022516522	560022516525	560022516557	560022516560
560021516574	560022516521	560022516526	560022516555	560022516561
560021516575	560022516520	560022516527	560022516554	560022516562
560021516585	560022516519	560022516528	560022516553	560022516563
560021516589	560022516518	560022516529	560022516552	560022516564
560021516594	560022516517	560022516530	560022516551	560022516565
560021516596	560022516516	560022516531	560022516549	560022516566
560022516501	560022516515	560022516532	560022516548	560022516567
560022516502	560022516514	560022516533	560022516547	560022516568
560022516503	560022516513	560022516535	560022516546	560022516569
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560022516507	560022516509	560022516539	560022516542	560022516573
-----	560022516508	560022516540	560022516541	560022516574

Station: T.N.Palayam Erode Dt.
 Date: _____
 Signature of the Chief Superintendent: *[Handwritten Signature]*
 CHIEF SUPERINTENDENT
 UNIVERSITY EXAMINATIONS
 COLLEGE CODE No : 649
 JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES
 COLLEGE OF PHARMACY
 T.N.PALAYAM - 638 506
 Gohi (Tk), Erode (Dt) - 638 506
 Principal: *[Handwritten Signature]*
 JKK Munirajah Institute of Health Sciences
 College of Pharmacy, T.N.Palayam,
 Gohi (Tk), Erode (Dt) - 638 506
 HEALTH SCIENCES COLLEGE OF PHARMACY
 T.N.Palayam-638506
 15 SEP

THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY

69, ANNA SALAI, GUINDY, CHENNAI - 600 032

ARRANGEMENT OF SEATS

HALL NO: 1

Month & Year of Exam : MARCH - 2023

Course : 56. B. PHARM FIRST SEMESTER

Exam Center : 649, J.K.K. MUNIRAJAH INSTITUTE OF HEALTH SCIENCES COLLEGE OF PHARMACY

Subject/Paper : PHARMACEUTICAL INORGANIC CHEMISTRY

Date & Session of Exam: 15.09.2023 FN

ROW I	ROW II	ROW III	ROW IV	ROW V
560022516575	560022516582	560022516583	560022516590	560022516591
560022516576	560022516581	560022516584	560022516589	560022516592
560022516577	560022516580	560022516585	560022516588	560022516593
560022516578	560022516579	560022516586	560022516587	-----

Station :

Date :



[Handwritten Signature]

Signature of the Chief Superintendent

CHIEF SUPERINTENDENT
UNIVERSITY EXAMINATIONS
COLLEGE CODE No : 649
JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES
COLLEGE OF PHARMACY, T.N.PALAYAM,
GOBI (TK), ERODE (DT) - 638 506

[Handwritten Signature]

Principal
JKK Munirajah Institute of Health Sciences
College of Pharmacy, T.N.Palayam,
Gobi (Tk), Erode (Dt) - 638 506

B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)
PCI Regulation 2017 – SEMESTER I
PAPER IV – PHARMACEUTICAL INORGANIC CHEMISTRY

Q.P. Code: 562007

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Define radioactivity. Explain the methods of measurement of radioactivity.
2. Define Antacid. Give the Preparation, Assay and uses of Ammonium chloride.
3. Discuss in detail about the sources of impurities present in Pharmaceutical substances with example.

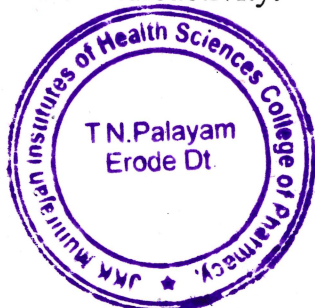
II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)


1. Add a note on History of Pharmacopoeia.
2. Give the Principle and reaction for Limit test for Iron.
3. Write a note on Oral rehydration Salt.
4. Briefly discuss about functions of Physiological ions.
5. Explain about Iodine and its preparation.
6. Give the Preparation and Assay of Copper sulfate.
7. Discuss the uses of Radioisotopes.
8. Give the Preparation and Uses of Sodium Nitrite.
9. Define and classify Antimicrobial agents with examples.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

Define the following :

1. Limit Test.
2. Isotonicity.
3. Write a note on alum.
4. Cathartics.
5. Dentifrices.
6. Achlorhydria.
7. Buffer Capacity.
8. Rebound Acidity.
9. Half life period of radioactivity.
10. Antidotes.




Principal
JKK Murirajah Institute of Health Sciences
College of Pharmacy, T.N. Palayam,
*****Sobi (Tk), Erode (Dt) - 638 506

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY
69, ANNA SALAI, GUINDY, CHENNAI- 600 032.

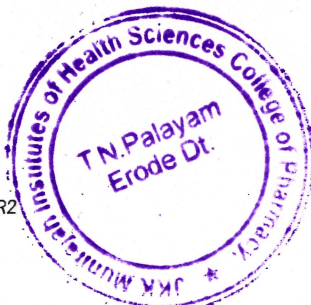
RESULT GALLEY

Exam Session : MAR 2023

Course & Term : 56 - B.Pharm. FIRST SEMESTER

Institution : 649-JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES, COLLEGE OF PHARMACY ERODE,

S. No.	Register No.	Name of the Candidate	A P P	Pattern: J.2017 (J)						
				562001 HUMAN ANATOMY AND PHYSIOLOGY I (T)	562002 HUMAN ANATOMY AND PHYSIOLOGY I (P)	562003 PHARMACEUTICAL ANALYSIS I - (T)	562004 PHARMACEUTICAL ANALYSIS I (P)	562005 PHARMACEUTICAL ICS I - (T)	562006 PHARMACEUTICAL ICS I (P)	562007 PHARMACEUTICAL INORGANIC CHEMISTRY I (T)
65	560022516523	ESAKKI SARAVANAN K	1	PASS	PASS	FAIL	PASS	PASS	PASS	PASS
66	560022516524	EZHILARASAN R	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67	560022516525	GANESHKUMAR K	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
68	560022516526	GNANAPRIYA K	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
69	560022516527	GOKUL A	1	FAIL	PASS	PASS	PASS	FAIL	PASS	PASS
	560022516528	GOKULNATH S	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
71	560022516529	GOWTHAM B	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	560022516530	HARSHINI S	1	FAIL	PASS	PASS	PASS	PASS	PASS	PASS
73	560022516531	INDHUMATHI C	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	560022516532	JEEVA C	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	560022516533	JEGAN J	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	560022516535	JOTHIKA S	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	560022516536	KANISHKAR P R	1	PASS	PASS	FAIL	PASS	PASS	PASS	PASS
78	560022516537	KARTHICK S	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	560022516538	LINGESHWARAN S	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	560022516539	MADHAN R	1	PASS	PASS	PASS	PASS	FAIL	PASS	FAIL
81	560022516540	MAGESH S	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	560022516541	MANIKANDAN I	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	560022516542	MANMADHAN K	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	560022516543	MANO M	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	560022516544	MANOJ S	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
	560022516545	MANOJKUMAR A	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87	560022516546	MARUDHAMUTHU M	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
88	560022516547	MATHIYARASU A	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
89	560022516548	MATHUMITHA M	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
90	560022516549	MITHUNKUMAR C	1	FAIL	PASS	FAIL	PASS	FAIL	PASS	FAIL
91	560022516551	MOTHISH R R	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
92	560022516552	MUKESH S D	1	PASS	PASS	FAIL	PASS	PASS	PASS	FAIL
93	560022516553	NAVANEETHAN E	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
94	560022516554	NICKELSON JERNAS N	1	PASS	PASS	FAIL	PASS	PASS	PASS	PASS
95	560022516555	NIRANJANA S S	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
96	560022516557	PONAJANTHA P	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS



Report Taken by 649R2

Date & Time: 30/11/2023, 10:43:48 am

Page 3 of 10

[Signature]
Principal
JKK Munirajah Institute of Health Sciences
College of Pharmacy, T.N. Palayam,
Gobi (Tk), Erode (Dt) - 638 506

JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES COLLEGE OF PHARMACY

Approved by AICTE & Pharmacy Council of India - New Delhi, Affiliated to The Tamilnadu Dr. M.G.R Medical University, Chennai)

T.N.Palayam(PO), Gobichettipalayam(TK),Erode(DT)-638506.

Dr. J. K. K. MUNIRAJAH, M.Tech.,(Bolton)
Chairman & Managing Trustee

DR. P.Perumal.,M.Pharm.,Ph.D.,FIC.,
Professor & Principal

Ref No: JKKMIHSCP/UNIV/0105P23

DATE: 05.05.2023

To

The Deputy Controller of Examinations (Pharmacy),
The Tamilnadu Dr. MGR Medical University,
No. 69 Anna Salai, Guindy,
Chennai - 600032.

Sub: Theory examinations **APRIL 2023 F/N** Session - **JKK Munirajah
Institute of Health Sciences College of Pharmacy - Centre 649** -
Submission of Answer Books & particulars - Pharm.D
II Year- Reg.

Sir,

With respect to the cited subject, the theory examination answer books of
Pharm.D II Year held on **05.05.2023 F/N** for the subject **PHARMACOLOGY I
(383810)** in this JKK Munirajah Institute of Health Sciences College of Pharmacy
center are submitted herewith. Kindly acknowledge the same.

Thanking you,

Yours truly

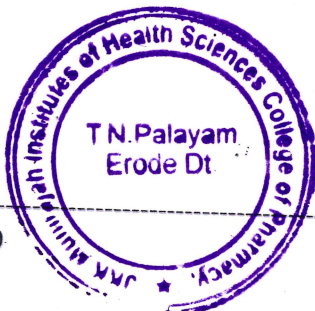
(Signature) (S. Karan)

CHIEF SUPERINTENDENT
UNIVERSITY EXAMINATIONS
COLLEGE CODE No : 649

JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES
COLLEGE OF PHARMACY, T.N.PALAYAM,
T.N.PALAYAM (PO), GOBICHETTIPALAYAM (TK),
ERODE (DT) - 638 506

Encl:

1. Answer books bundle No 1
 2. Attendance Statement
 3. Absentees Statement
 4. Statement for seating arrangement
 5. Unused Booklets
- (17 Answer Books)
-01 Page
-01 Page
-01 Page
-01 Booklet



Principal

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College of Pharmacy, T.N.Palayam,
Erode (Dt) - 638 506

04285-262220

jjkmihsdp@gmail.com

www.jkkmihsdp.org

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

69, ANNA SALAI, GUINDY, CHENNAI- 600 032.

ATTENDANCE SHEET

Month & Year of Exam :

APR 2023

Course : 38.Pharm D SECOND YEAR

Exam Center : 649.JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES, COLLEGE OF PHARMACY, ERODE

Subject / Paper : 383810 - PHARMACOLOGY-I

Date & Session of Exam : 05-05-2023 F

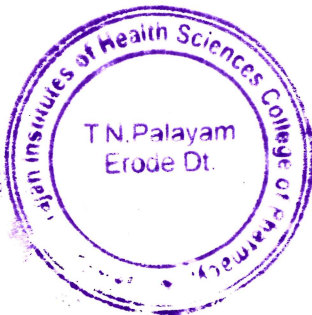
S.No	Register No.	Name of the Student	Signature of the Student
1	380020516501	ARAVINDHAN C	<i>C. Aravindhan</i>
2	380020516502	ARUNKUMAR M	<i>A. Arunkumar</i>
3	380020516503	DINESHIYA D	<i>D. Dineshiya</i>
4	380020516504	GURU MOORTHIN	<i>N. Guru Moorthin</i>
5	380020516505	ILAVARASAN D M	<i>D. M. Ilavarasan</i>
6	380020516506	JANAT SELVIA P	<i>J. Janat Selvia P</i>
7	380020516507	JERIF SAM S C	<i>J. Jerif Sam S C</i>
8	380020516508	JINJA J	<i>J. Jinja J</i>
9	380020516509	KAVIARASAN R	<i>R. Kaviarasan</i>
10	380020516511	NISHANTH KUMAR S	— ABSENT —
11	380020516512	NISHANTHI M	<i>M. Nishanthi</i>
12	380020516513	PRAGATHEESWARI M	<i>M. Pragatheeswari</i>
13	380020516514	PRAVEEN G	<i>G. Praveen</i>
14	380020516515	RITHIKA R P	<i>P. Rithika R P</i>
15	380020516516	SAMUVEL R	<i>R. Samuvel</i>
16	380020516518	SURYAPRAKASH M	<i>M. Suryaprakash</i>
17	380020516520	VENKATESH E	<i>E. Venkatesh</i>
18	380020516521	WINSHA MERLIN GOLD E	<i>E. Winsha Merlin Gold</i>

(Dr. K.K. Senthikumar)
Signature of the Invigilator

(S. Kannan)
Signature of the Chief Superintendent

NOTE :

- Candidates who are NOT present may be noted as absent against their register nos.
- Separate format may be used by each invigilator.



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CHIEF SUPERINTENDENT
UNIVERSITY EXAMINATIONS
COLLEGE CODE No : 649
JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES
COLLEGE OF PHARMACY, T.N. PALAYAM,
GOBI (TK), ERODE (DT) - 638 506

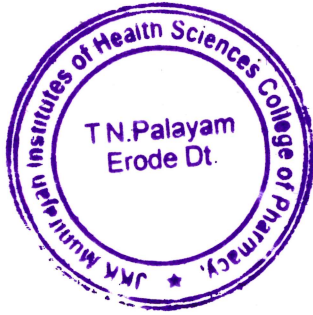
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69, ANNA SALAI, GUINDY, CHENNAI- 600 032.
LIST OF ABSENTEES FOR THE THEORY EXAMINATION

Course & Term	: 38.Pharm D SECOND YEAR	Month & Year of Exam	: Apr 2023
Exam Center	: 649.JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES, COLLEGE OF PHARMACY, ERODE		
Subject / Paper	: 383810 - PHARMACOLOGY-I		
Date & Session of Exam	: 05-05-2023 F		

S.No	Registration No	Name of the Student
1	380020516511	NISHANTH KUMAR S

A. Srinivasan
05/05/2023

CHIEF SUPERINTENDENT
UNIVERSITY EXAMINATIONS
COLLEGE CODE No : 649
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ARRANGEMENT OF SEATS

SEMINAR HALL

Month & Year of Exam : APRIL – 2023			
Course : 38. Pharm.D SECOND YEAR			
Exam Center : 649, J.K.K. MUNIRAJAH INSTITUTE OF HEALTH SCIENCES COLLEGE OF PHARMACY			
Subject/Paper : PHARMACOLOGY I			
Date & Session of Exam: 05.05.2023 FN			
ROW I	ROW II	ROW III	ROW IV
380020516521	380020516512	380020516511	380020516501
380020516520	380020516513	380020516509	380020516502
380020516518	380020516514	380020516508	380020516503
----	380020516515	380020516507	380020516504
----	380020516516	380020516506	380020516505

Station

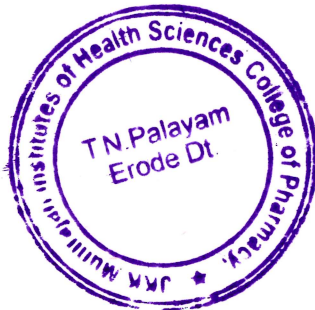
Date



Signature of the Chief Superintendent

CHIEF SUPERINTENDENT
UNIVERSITY EXAMINATIONS
COLLEGE CODE No : 649

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[PHARMD 0423]

APRIL 2023

Sub. Code: 3810

PHARM. 'D' DEGREE EXAMINATION
SECOND YEAR (2009-2010 Regulation)
PAPER IV – PHARMACOLOGY – I

Q.P. Code: 383810

Time : Three hours

Answer ALL Questions

Maximum : 70 Marks

I. Elaborate on:

(4 x 10 = 40)


1. a) Classify NSAIDs.
b) Write the mechanism of action, pharmacological actions and the therapeutic uses of aspirin.
2. What is Epilepsy? Write the classification of antiepileptics. Describe one antiepileptic drug with Mechanism of action, adverse effects and pharmacological action.
3. a) Classify sedative and hypnotics.
b) Explain the mechanism of action, pharmacological actions, adverse effects and therapeutic uses of barbiturates.
4. a) Classify Anti-Parkinson's drugs.
b) Write the central effects of L-Dopa and write the adverse effects of L-dopa at the initiation of therapy and after prolonged therapy.

II. Write notes on:

(6 x 5 = 30)

1. Write on different routes of drug administration.
2. Define a) Clearance b) Plasma half-life c) First order kinetics.
3. Classify the different receptors and explain G Protein coupled receptors.
4. Define mucolytics? Give examples.
5. What is myasthenia gravis? Write note on anti-myasthenic drugs and their adverse effects.
6. Give a brief note on Pre-anaesthetic medication.




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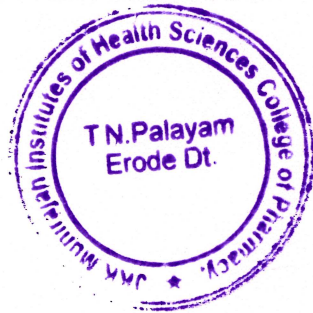
RESULT GALLEY

Exam Session : APR 2023

Course & Term : 38 - Pharm D SECOND YEAR

Institution : 649-JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES, COLLEGE OF PHARMACY ERODE,

S. No.	Register No.	Name of the Candidate	A P P	Pattern: 5.2017-2018					
				383807 PATHOPHYSIOLOGY	383808 PHARMACEUTICAL MICROBIOLOGY	383809 PHARMACOLOGY AND PHYTOPHARMACEUTICALS	383810 PHARMACOLOGY-I	383811 COMMUNITY PHARMACY	383812 PHARMACOTHERAPEUTICS -I
1	380020516501	ARAVINDHAN C	1	PASS	PASS	PASS	PASS	PASS	PASS
2	380020516502	ARUNKUMAR M	1	PASS	PASS	PASS	PASS	PASS	PASS
3	380020516503	DINESHIYA D	1	PASS	PASS	PASS	PASS	PASS	PASS
4	380020516504	GURU MOORTHIN	1	PASS	PASS	PASS	PASS	PASS	PASS
5	380020516505	ILAVARASANDM	1	PASS	PASS	PASS	PASS	PASS	PASS
6	380020516506	JANATSELVIA P	1	PASS	PASS	PASS	PASS	PASS	PASS
7	380020516507	JERIF SAM SC	1	PASS	PASS	PASS	PASS	PASS	PASS
8	380020516508	JINJA J	1	PASS	PASS	PASS	PASS	PASS	PASS
9	380020516509	KAVIARASAN R	1	PASS	PASS	PASS	PASS	PASS	PASS
10	380020516511	NISHANTH KUMAR S	1	ABSENT	ABSENT	ABSENT	ABSENT	ABSENT	ABSENT
11	380020516512	NISHANTHI M	1	PASS	PASS	PASS	PASS	PASS	PASS
12	380020516513	PRAGATHEESWARI M	1	PASS	PASS	PASS	PASS	PASS	PASS
13	380020516514	PRAVEEN G	1	PASS	PASS	PASS	PASS	PASS	PASS
14	380020516515	RITHIKAR P	1	PASS	PASS	PASS	PASS	PASS	PASS
15	380020516516	SAMUVEL R	1	PASS	PASS	PASS	PASS	PASS	PASS
16	380020516518	SURYAPRAKASH M	1	PASS	PASS	PASS	PASS	PASS	PASS
17	380020516520	VENKATESH E	1	PASS	PASS	PASS	PASS	PASS	PASS
18	380020516521	WINSHA MERLIN GOLDE	1	PASS	PASS	PASS	PASS	PASS	PASS



[Signature]
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T.N Palayam, Gobichettipalayam (Tk), Erode (Dt)

CIRCULAR

To,

The **I M.Pharm I SEM** handling Staff concerned,

I M.Pharm I SEM 1st-SESSIONAL EXAM-2023 theory examination schedule given below along with Invigilation duty mentioned against date and subject. All are informed to note the same and be more punctual in discharging due duties. No alternate arrangement will be entertained, once the schedule is finalized by fixing your signature, unless and otherwise any emergency.

I M. Pharm I SEM 1ST-SESSIONAL EXAM -2023

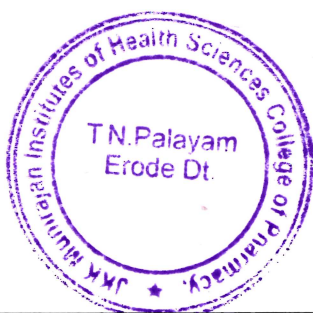
Venue: Seminar Hall


TIME: 2 PM TO 3:30 PM

S.NO	DATE	SUBJECTS	INVIGILATOR	LAB ATTENDER
1.	13-03-2023	Modern Pharmaceutical Analytical Techniques	DR S. Selvaraj	Ms. J. Deeba
2.	14-03-2023	Drug Delivery System	Mr.S.Kannan	Ms. M. Janaki
3.	15-03-2023	Modern Pharmaceutics	DR.K.K.Senthil Kumar	Ms. R. Mohanapriya
4.	16-03-2023	Regulatory Affair	Mr.K.Raja	Ms. M. Sangeetha

INSTRUCTIONS TO THE TEACHING STAFF:

1. Send the Question paper directly to the mail id (**exam@jkkmihsdp.org**).
2. The Invigilators to collect the printed Question papers for theory exam from the Office.
3. The answer papers must be attested an alphabet rubber stamped seal, for Theory and Practical examination; the rubber stamp will be collected by concerned Lab Attender.
4. If students are involved in any malpractice or notorious activity, he/she should be handed over to the under signed with maximum evidence.
5. Subject Incharges send the question paper for conducting the practical exam to the mail id (**exam@jkkmihsdp.org**).
6. Invigilators are instructed to allow the students who have clear the no due form.




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T.N Palayam, Gobichettipalayam (Tk), Erode (Dt)**

CIRCULAR

To,

The **I M.Pharm I SEM** handling Staff concerned,

I M.Pharm I SEM IInd-SESSIONAL EXAM-2023 theory examination schedule given below along with Invigilation duty mentioned against date and subject. All are informed to note the same and be more punctual in discharging due duties. No alternate arrangement will be entertained, once the schedule is finalized by fixing your signature, unless and otherwise any emergency.

I M. Pharm I SEM IInd-SESSIONAL EXAM -2023

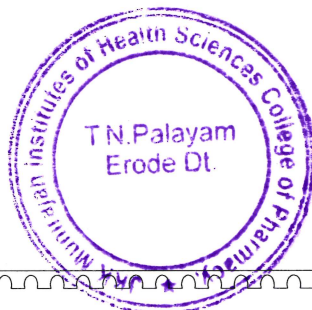
Venue: Seminar Hall

TIME: 2 PM TO 3:30 PM

S.NO	DATE	SUBJECTS	INVIGILATOR	LAB ATTENDER
1.	24-07-2023	Modern Pharmaceutical Analytical Techniques	DR S. Selvaraj	Ms. M. Sangeetha
2.	25-07-2023	Drug Delivery System	Mr.S.Kannan	Ms. J. Deeba
3.	26-07-2023	Modern Pharmaceutics	DR.K.K.Senthil Kumar	Ms. R. Mohanapriya
4.	27-07-2023	Regulatory Affair	Mr.K.Raja	Ms. V. Deepa

INSTRUCTIONS TO THE TEACHING STAFF:

1. Send the Question paper directly to the mail id (**exam@jkkmihsdp.org**).
2. The Invigilators to collect the printed Question papers for theory exam from the Office.
3. The answer papers must be attested an alphabet rubber stamped seal, for Theory and Practical examination; the rubber stamp will be collected by concerned Lab Attender.
4. If students are involved in any malpractice or notorious activity, he/she should be handed over to the under signed with maximum evidence.
5. Subject Incharges send the question paper for conducting the practical exam to the mail id (**exam@jkkmihsdp.org**).
6. Invigilators are instructed to allow the students who have clear the no due form.





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Table - 2: Course of study for M. Pharm. (Pharmaceutics)

Course Code	Course	Credit Hours	Credit Points	Hrs./week	Marks
Semester I					
MPH101T	Modern Pharmaceutical Analytical Techniques	4	4	4	100
MPH102T	Drug Delivery System	4	4	4	100
MPH103T	Modern Pharmaceutics	4	4	4	100
MPH104T	Regulatory Affair	4	4	4	100
MPH105P	Pharmaceutics Practical I	12	6	12	150
-	Seminar/Assignment	7	4	7	100
Total		35	26	35	650
Semester II					
MPH201T	Molecular Pharmaceutics (Nano Tech and Targeted DDS)	4	4	4	100
MPH202T	Advanced Biopharmaceutics & Pharmacokinetics	4	4	4	100
MPH203T	Computer Aided Drug Delivery System	4	4	4	100
MPH204T	Cosmetic and Cosmeceuticals	4	4	4	100
MPH205P	Pharmaceutics Practical II	12	6	12	150
-	Seminar/Assignment	7	4	7	100
Total		35	26	35	650



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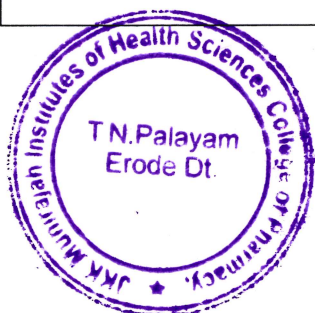
Tables - 1616 : Schemes for internal assessments and end semester
(Pharmaceutics- MPH)

Course Code	Course	Internal Assessment				End Semester Exams		Total Marks
		Continu- ous Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
SEMESTER I								
MPH 101T	Modern Pharmaceutical Analytical Techniques	10	15	1 Hr	25	75	3 Hrs	100
MPH 102T	Drug Delivery System	10	15	1 Hr	25	75	3 Hrs	100
MPH 103T	Modern Pharmaceutics	10	15	1 Hr	25	75	3 Hrs	100
MPH 104T	Regulatory Affair	10	15	1 Hr	25	75	3 Hrs	100
MPH 105P	Pharmaceutics Practical I	20	30	6 Hrs	50	100	6 Hrs	150
-	Seminar /Assignment	-	-	-	-	-	-	100
Total								650
SEMESTER II								
MPH 201T	Molecular Pharmaceutics(Nano Tech and Targeted DDS)	10	15	1 Hr	25	75	3 Hrs	100
MPH 202T	Advanced Biopharmaceutics & Pharmacokinetics	10	15	1 Hr	25	75	3 Hrs	100
MPH 203T	Computer Aided Drug Delivery System	10	15	1 Hr	25	75	3 Hrs	100
MPH	Cosmetic	10	15	1 Hr	25	75	3 Hrs	100

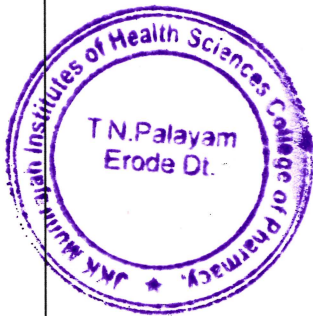
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204T	and Cosmeceutic als							
MPH 205P	Pharmaceuti cs Practical I	20	30	6 Hrs	50	100	6 Hrs	150
-	Seminar /Assignment	-	-	-	-	-	-	100
Total								650

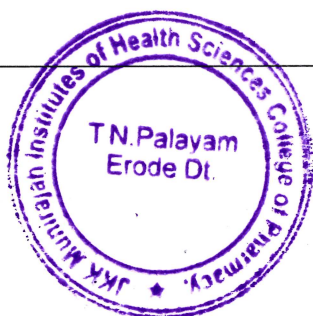


Upal

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(Pharmaceutical Chemistry-MPC)

Course Code	Course	Internal Assessment				End Semester Exams		Total Marks
		Continuos Mode	Sessional Exams		Total	Marks	Duration	
			Marks	Duration				
SEMESTER I								
MPC101T	Modern Pharmaceutical Analytical Techniques	10	15	1 Hr	25	75	3 Hrs	100
MPC102T	Advanced Organic Chemistry -I	10	15	1 Hr	25	75	3 Hrs	100
MPC103T	Advanced Medicinal chemistry	10	15	1 Hr	25	75	3 Hrs	100
MPC104T	Chemistry of Natural Products	10	15	1 Hr	25	75	3 Hrs	100
MPC105P	Pharmaceutical Chemistry Practical I	20	30	6 Hrs	50	100	6 Hrs	150
	Seminar /Assignment	-	-	-	-	-	-	100
Total								650
SEMESTER II								
MPC201T	Advanced Spectral Analysis	10	15	1 Hr	25	75	3 Hrs	100
MPC202T	Advanced Organic Chemistry -II	10	15	1 Hr	25	75	3 Hrs	100
MPC203T	Computer Aided Drug Design	10	15	1 Hr	25	75	3 Hrs	100
MPC204T	Pharmaceutical Process Chemistry	10	15	1 Hr	25	75	3 Hrs	100
MPC205P	Pharmaceutic	20	30	6 Hrs	50	100	6	150



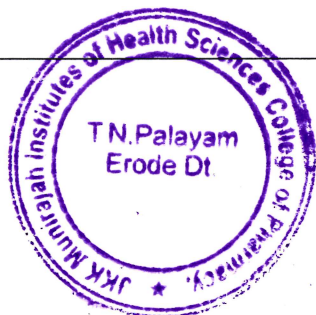
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	al Chemistry Practical II						Hrs	
	Seminar /Assignment	-	-	-	-	-	-	100
Total								650

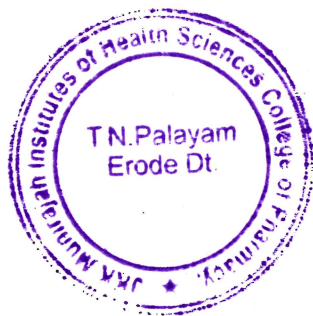
Tables - 19: Schemes for internal assessments and end semester examinations
(Pharmaceutical Analysis-MPA)

Course Code	Course	Internal Assessment				End Semester Exams			Total Marks
		Continu- ous Mode	Sessional Exams		Tot al	Mark s	Dura- tion		
			Mark s	Durati on					
SEMESTER I									
MPA101T	Modern Pharmaceuti- cal Analysis	10	15	1 Hr	25	75	3 Hrs	100	
MPA102T	Advanced Pharmaceuti- cal Analysis	10	15	1 Hr	25	75	3 Hrs	100	
MPA103T	Pharmaceuti- cal Validation	10	15	1 Hr	25	75	3 Hrs	100	
MPA104T	Food Analysis	10	15	1 Hr	25	75	3 Hrs	100	
MPA105P	Pharmaceuti- cal Analysis- I	20	30	6 Hrs	50	100	6 Hrs	150	
	Seminar /Assignment	-	-	-	-	-	-	100	
Total								650	
SEMESTER II									
MPA201T	Advanced Instrumental Analysis	10	15	1 Hr	25	75	3 Hrs	100	
MPA202T	Modern Bio- Analytical Techniques	10	15	1 Hr	25	75	3 Hrs	100	
MPA203T	Quality Control and Quality	10	15	1 Hr	25	75	3 Hrs	100	




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	Assurance							
MPA204T	Herbal and Cosmetic analysis	10	15	1 Hr	25	75	3 Hrs	100
MPA205P	Pharmaceuti cal Analysis- II	20	30	6 Hrs	50	100	6 Hrs	150
	Seminar /Assignment	-	-	-	-	-	-	100
Total								650



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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 - 27: Scheme for awarding internal assessment: Continuous mode

Theory	
Criteria	Maximum Marks
Attendance (Refer Table - 28)	8
Student - Teacher interaction	2
Total	10
Practical	
Attendance (Refer Table - 28)	10
Based on Practical Records, Regular viva voce, etc.	10
Total	20

Table - 28: Guidelines for the allotment of marks for attendance

Percentage of Attendance	Theory	Practical
95 - 100	8	10
90 - 94	6	7.5
85 - 89	4	5
80 - 84	2	2.5
Less than 80	0	0

11.2.1. Sessional Exams

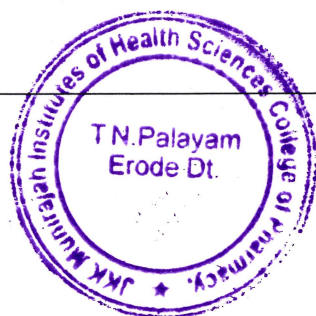
Two sessional exams shall be conducted for each theory / practical course as per the schedule fixed by the college(s). The scheme of question paper for theory and practical sessional examinations is given in the table. The average marks of two sessional exams shall be computed for internal assessment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

12. Promotion and award of grades

A student shall be declared PASS and eligible for getting grade in a course of M.Pharm. programme if he/she secures at least 50% marks in that particular course including internal assessment.

13. Carry forward of marks

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



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14. Improvement of internal assessment

A student shall have the opportunity to improve his/her performance only once in 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. Reexamination of end semester examinations

Reexamination of end semester examination shall be conducted as per the schedule given in table 29. The exact dates of examinations shall be notified from time to time.

Table – 29: Tentative schedule of end semester examinations

Semester	For Regular Candidates	For Failed Candidates
I and III	November / December	May / June
II and IV	May / June	November / December

16. Allowed to keep terms (ATKT):

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

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

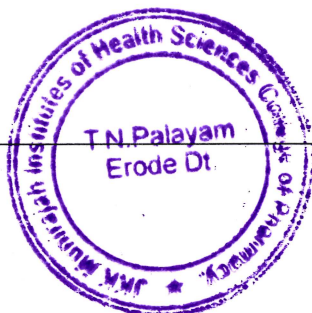
A student shall be eligible to get his/her CGPA upon successful completion of the courses of I to IV semesters within the stipulated time period as per the norms.

Note: Grade AB should be considered as failed and treated as one head for deciding ATKT. 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 – 30.





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Table – 30: 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 AB and 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 obtained in 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 and C₄ and the student's grade points in these courses are G₁, G₂, G₃ and G₄, respectively, and then students' SGPA is equal to:

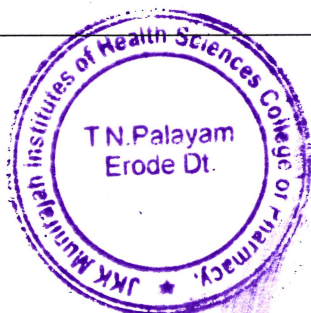
$$SGPA = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4G_4}{C_1 + C_2 + C_3 + C_4}$$

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 ABS grade awarded in that semester. For example if a learner has a F or ABS grade in course 4, the SGPA shall then be computed as:

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

19. Cumulative Grade Point Average (CGPA)

The CGPA is calculated with the SGPA of all the IV semesters to two decimal points and is indicated in final grade report card/final transcript showing the grades of all IV semesters and their courses. The CGPA shall reflect the failed status in case of F grade(s), till the course(s) is/are passed. When the course(s) is/are passed by obtaining a pass grade on subsequent examination(s) the CGPA



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shall only reflect the new grade and not the fail grades earned earlier. The CGPA is calculated as:

$$\text{CGPA} = \frac{C_1S_1 + C_2S_2 + C_3S_3 + C_4S_4}{C_1 + C_2 + C_3 + C_4}$$

where C_1, C_2, C_3, \dots is the total number of credits for semester I, II, III, ... and S_1, S_2, S_3, \dots 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 project under the supervision of a teacher in Semester III to IV and submit a report. 4 copies of the project report shall be submitted (typed & bound copy not less than 75 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). The projects shall be evaluated as per the criteria given below.

Evaluation of Dissertation Book:

Objective(s) of the work done	50 Marks
Methodology adopted	150 Marks
Results and Discussions	250 Marks
Conclusions and Outcomes	50 Marks

Total	500 Marks
-------	-----------

Evaluation of Presentation:

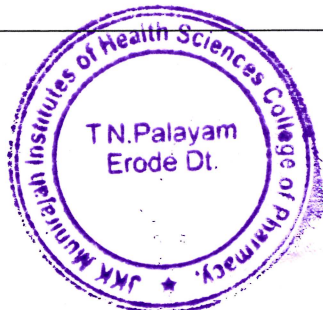
Presentation of work	100 Marks
Communication skills	50 Marks
Question and answer skills	100 Marks

Total	250 Marks
-------	-----------



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22. 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 M.Pharm program shall not be eligible for award of ranks. Moreover, the candidates should have completed the M. Pharm program in minimum prescribed number of years, (two years) for the award of Ranks.

23. Award of degree

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

24. Duration for completion of the program of study

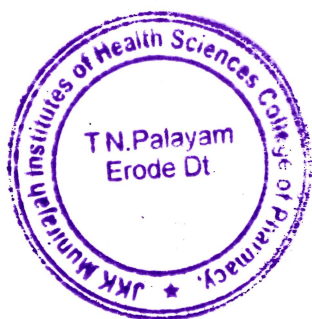
The duration for the completion of the program shall be fixed as double the actual duration of the program and the students have to pass within the said period, otherwise they have to get fresh Registration.

25. Revaluation I Retotaling of answer papers

There is no provision for revaluation of the answer papers in any examination. However, the candidates can apply for retotaling by paying prescribed fee.

26. 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.



A handwritten signature in green ink, appearing to be "JKK".

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COLLEGE OF PHARMACY
T.N Palayam, Gobichettipalayam(Tt), Erode(Dt)**

To,

01-03-2023

All the **I year M.Pharm Ist Semester** Students Concerned,

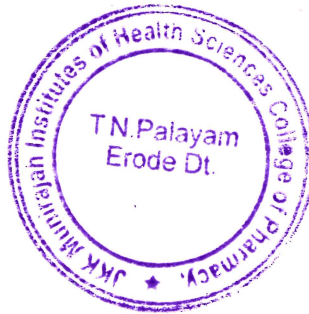
This is to inform that the **I Sessional theory and practical examination** are scheduled as given hereunder. Students are informed to appear for the Sessional examination as per guidelines given by the class teacher.


I M.PHARM I SEMESTER I-SESSIONALEXAM-2023 Time: 2PM to 3.30PM

S.NO	DATE	SUBJECTS
1	13-03-2023	Modern Pharmaceutical Analytical Techniques
2	14-03-2023	Drug Delivery System
3	15-03-2023	Modern Pharmaceutics
4	16-03-2023	Regulatory Affair

NOTE

1. Timings of the examination will be informed by the class teacher/subject teacher on every day.
2. All are strictly informed to be more punctual.
3. Any kind of malpractice as informed by the class teacher will disqualify the student to continue to write examinations.
4. Manuscript, notes, bits, mobile phones and any other incriminating things should not be brought to the examination hall.
5. Practical examination also will be conducted as per the regular time table parallelly.
6. Absence in any theory or practical examination should be explained by the parents in person and will pave a way for IMPROVEMENT exam, poor performance also has to appear for improvement exam.
7. No dues to be obtained to appear for the sessional exam.




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To,

06-07-2023

All the **I year M.Pharm Ist Semester** Students Concerned,

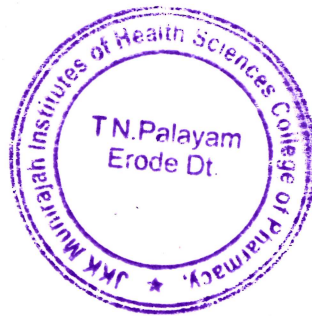
This is to inform that the **II Sessional theory and practical examination** are scheduled as given hereunder. Students are informed to appear for the Sessional examination as per guidelines given by the class teacher.


I M.PHARM I SEMESTER II-SESSIONALEXAM-2023 Time: 2PM to 3.30PM

S.NO	DATE	SUBJECTS
1	24-07-2023	Modern Pharmaceutical Analytical Techniques
2	25-07-2023	Drug Delivery System
3	26-07-2023	Modern Pharmaceutics
4	27-07-2023	Regulatory Affair

NOTE

1. Timings of the examination will be informed by the class teacher/subject teacher on every day.
2. All are strictly informed to be more punctual.
3. Any kind of malpractice as informed by the class teacher will disqualify the student to continue to write examinations.
4. Manuscript, notes, bits, mobile phones and any other incriminating things should not be brought to the examination hall.
5. Practical examination also will be conducted as per the regular time table parallelly.
6. Absence in any theory or practical examination should be explained by the parents in person and will pave a way for IMPROVEMENT exam, poor performance also has to appear for improvement exam.
7. No dues to be obtained to appear for the sessional exam.




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THEORY EXAMINATION SECOND SESSIONAL THEORY EXAMINATION

CLASS: I M.PHARM I SEMESTER-JULY 2023

SUBJECT: MODERN PHARMACEUTICS

TIME: 1.30hrs

MARKS: 30

I. Elaborate on.

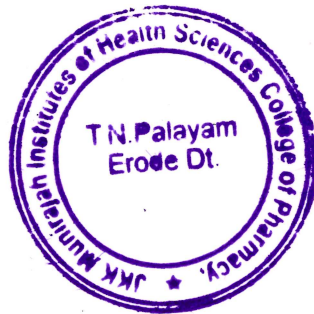
(1x10=10)


Discuss the objectives and policies of cGMP. Write the GMP requirements, equipments, and their maintenance for solid dosage form products.

II. Write notes on.

(4x5=20)

1. Anova test.
2. Give the planning to prepare budget and its control.
3. Factorial designs.
4. Inventory management and sales forecasting.




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FIRST SESSIONAL THEORY EXAMINATION

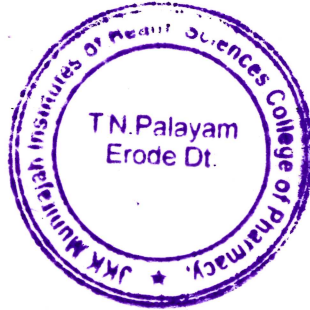
CLASS: I M.PHARM I SEMESTER-MAR2023


SUBJECT: MODERN PHARMACEUTICS

TIME:1.30hrs

MARKS:30

- I. Elaborate on. (1x10=10)**
Define optimization. Explain elaborately about factorial designs and its application in pharmaceutical formulation.
- II. Write notes on. (4x5=20)**
1. Types of validation.
 2. Accelerated stability testing.
 3. Describe the spectroscopic techniques of analyses of drug-excipient interaction.
 4. Write the importance of preformulation studies.




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CLASS : 1ST YEAR M PHARM 1ST SEMESTER
 SUBJECT : MODERN PHARMACEUTICS
 TIME : 1.30 hrs
 MARK : 30

NAME : NADIMARASHEED.K

28

28 / 30

14 / 15

I ELaborate on.

(1x10 = 10)

Define optimization. explain elaborately about factorial designs and its application in pharmaceutical formulation.

ANSWER:-

The term optimize is defined as "to make perfect". It is used in pharmacy relative to formulation and processing. Involved in formulating drug products in various forms. It is the process of finding the best way of using the existing resources while taking into the account of all the factors that influences decisions in any experiment.

Final product not only meets the requirements from the bio-availability but also from the practical mass production criteria. pharmaceutical scientist - to understand theoretical formulation. Target processing parameters - ranges from each excipients & processing factors.

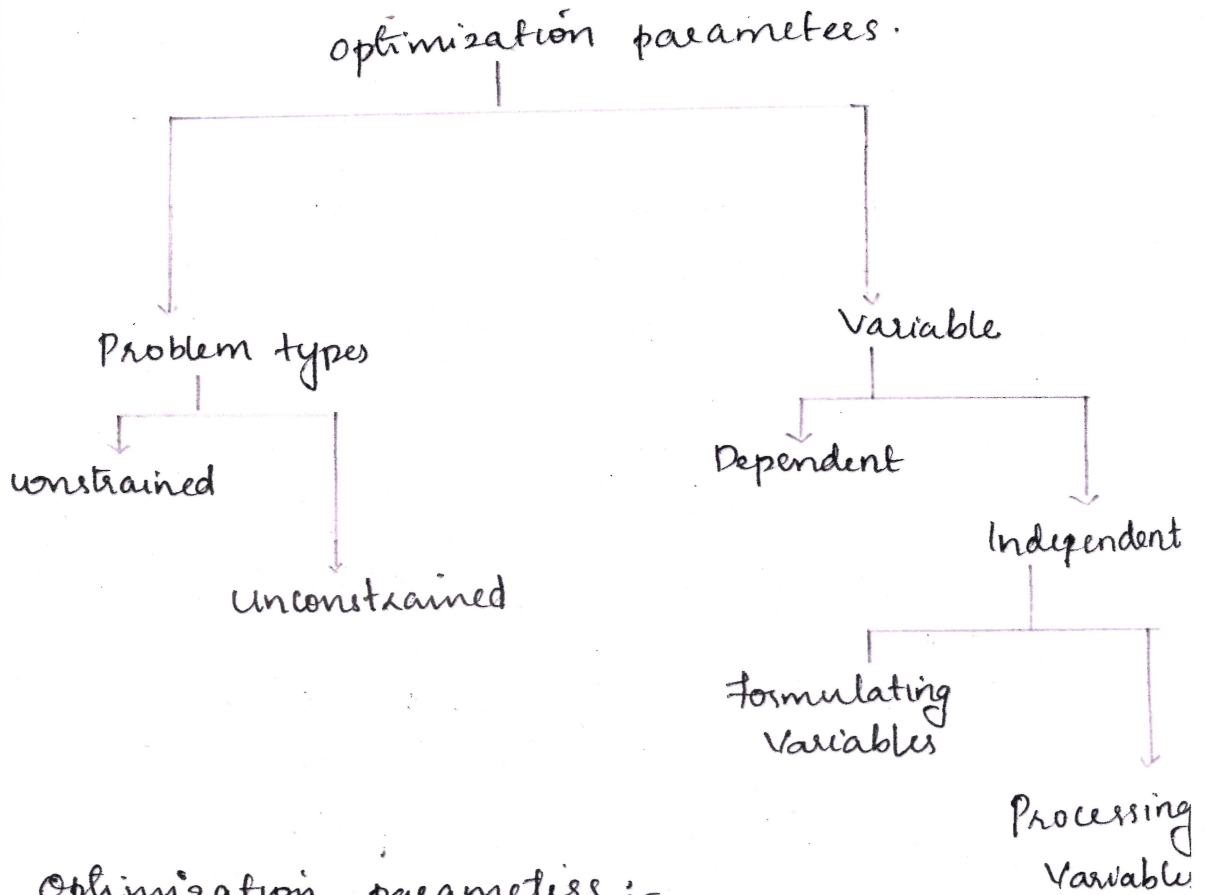
In development projects, one generally experiments by a series of logical steps, carefully controlling the variables & changing one at a time, until a satisfactory system is obtained. it is not a screening technique.



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Optimization is necessary because :-

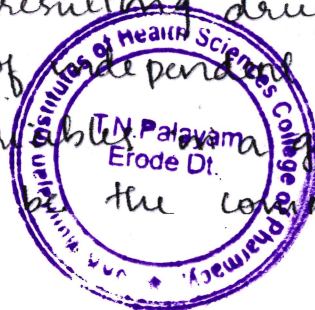
- it reduce the cost.
- it provides safety and reduce the error
- It provides innovation and efficacy
- it saves the time.




Optimization parameters :-

Independent variables or primary variables :
Formulation and process variables directly under control of the formulator. These includes ingredients
Mixing time.

Dependent or secondary variables :
These variables are responses of the in progress materials or the resulting drug delivery system. It is the result of independent variables.
If greater the variables or a given system then greater will be the complicated system.

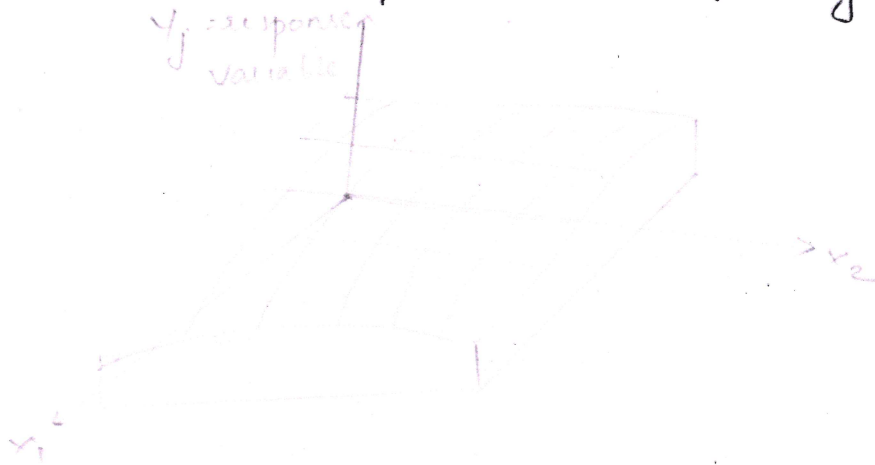



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is summarizing within a given response and independent variables.

Once we know this relationship for a given response, then will able to define a response surface.

- Relationship between independent variables and response define response surface.
- Representing > 2 become graphically impossible
- Higher the variables, higher are the complications hence it is to optimize each & everyone.



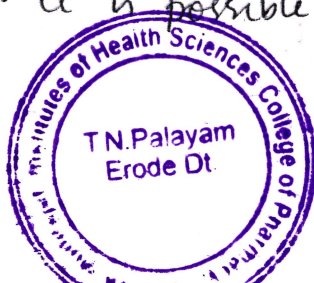
classical optimization

it involves application of calculus to basic problem for maximum / minimum function

limited applications

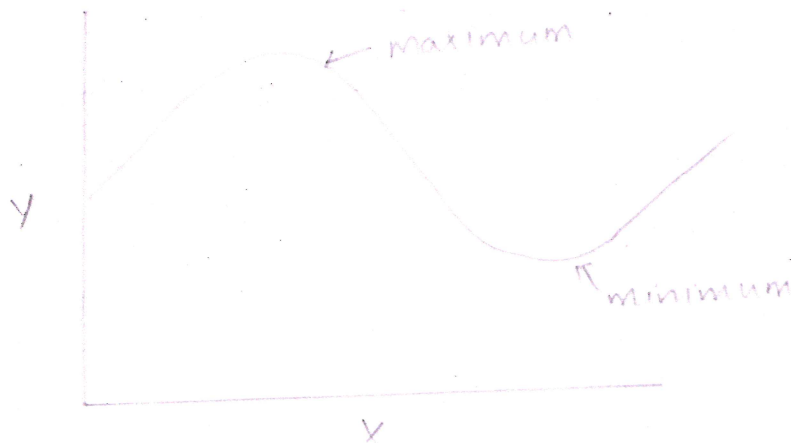
- i) problems that are not too complex
- ii) They do not involve more than two variables.

For more than two variables graphical representation is impossible. It is possible mathematically



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graph representing the Relationship between The response variables and independent variables



→ using calculus the graph obtained can be solved.

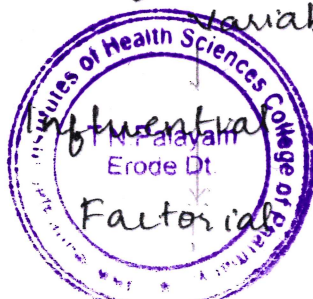
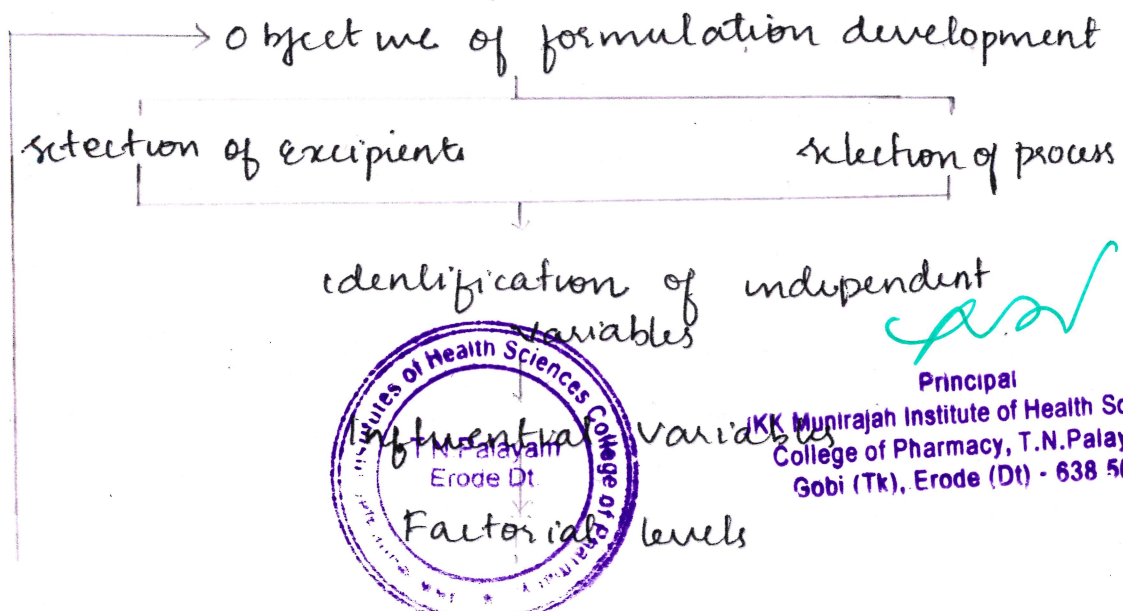
$$Y = f(x)$$

→ when the relation for the response Y is given as the function of two independent variables, x_1, x_2 .

$$Y = f(x_1, x_2)$$

The above function is represented by contour plots on which the axes represent the independent variables x_1 and x_2 .

overall plan of optimization :-



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identification of model of experimental design
Formulation and evaluation of drug delivery
system

Statistical Analysis

Mathematical Models

Response surfaces

search for optimum targets

Verification by New experiments

implementation of Results in products /
Process Development.

Unsuccessful

successful

Production Cycle

Statistical design:-

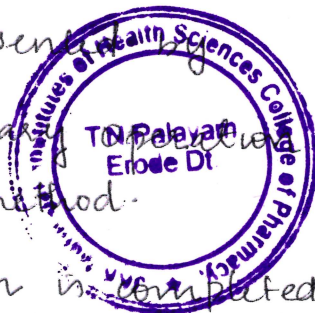
Techniques used divided in to two types.

- Experimentation continues as optimization proceeds

it is represented by

1. Evolutionary Operation (EVOP)
2. simplex method.

- Experimentation is completed before optimization takes place. it is represented by
 1. Classical mathematical



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2. search methods -

Evolutionary operation :-

it is the one of the most widely used methods of experimental optimization in fields other than pharmaceutical technology is the evolutionary operation (EVOP), it is well suited to production situation. The basic idea is that the production procedure (formulation and process) is allowed to evolve to the optimum by careful planning and constant repetition.

Method : This process is run in a such a way that

- it produces a product that meets all specification
- simultaneously, it generates information on product improvement.

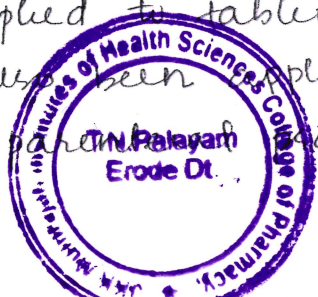
Experimenter makes a very small change in the formulation or process but makes it so many times i.e., repeats the experiment so many times

Then he/she can be able to determine statistically whether the product has improved. And the experimenter makes further any other change in the same direction, many times and notes the results

this continues until further changes do not improve the product or perhaps become detrimental

Applications :

- it was applied to tablets by Rubinstein.
- it has also been applied to an inspection system for pharmaceutical products.



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several levels.

The relationship with single independent variable can be obtained by simple regression analysis or least square method.

→ The relationship with more than one important variable can be obtained by

Statistical design of experiment and Multi linear regression analysis.

→ Most widely used experimental plan is Factorial design

Factors :-

→ concentration,

→ Temperature

TYPE OF EXPERIMENTAL DESIGN :-

* Completely randomized design

* Randomised block design

* Factorial design

• Full

• Fractional

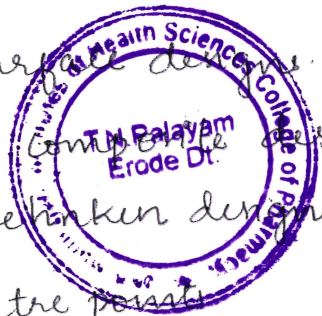
* Response surface design

• Central composite design

• Box - Behnken design

* Adding Centre points

* Three level full factorial designs.



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This experiment compares the values of a response variable based on different level of that primary factor.

Eg:- if there are 3 level of the primary factor with each level to be run 2 times then there are 6 factorial possible run sequences.

* Randomised block design:-

For this there is one factor or variable that is of primary interest. To control non significant factors, an important technique called blocking can be used to reduce or eliminate the contribution of these factors to experimental errors.

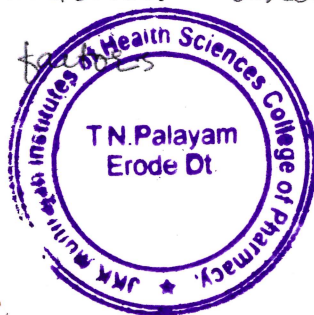
* Factorial design:-

These are the designs of choice for simultaneous determination of the effects of several factors and their interactions.

used in experiments where the effects of different factors or conditions on experiment results are to be elucidated.

Two type

- Full factorial - used for small set of factors
- Fractional factorial - used for optimizing more number of factors



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level of factors in this factorial design:-

FACTOR	LOW LEVEL (mg)	HIGH LEVEL (mg)
A. Stearate	0.5	1.5
B. Drug	60.0	120.0
C. Starch	30.0	50.0

Examples of full factorial experiment.

Factor Combination	Stearate	Drug	Starch	Response Thickness $cm \times 10^3$
1	-	-	-	475
a	+	-	-	487
b	-	+	-	421
ab	+	+	-	426
c	-	-	+	525
ac	+	-	+	546
bc	-	+	+	472
abc	+	+	+	522

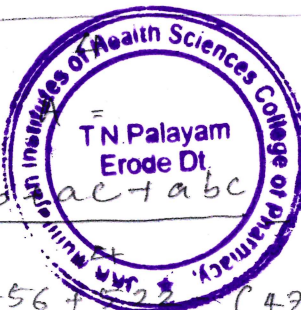
Eg: of full factorial:-

- Calculate of main effect of A (stearate)
- The main effect for factor A is

$$\frac{\{-(1) + a - b + ab - c + ac - bc + abc\} \times 10^{-3}}$$

- Main effect of

$$a + ab + ac + abc$$



$$(1) + b + c + bc$$

4

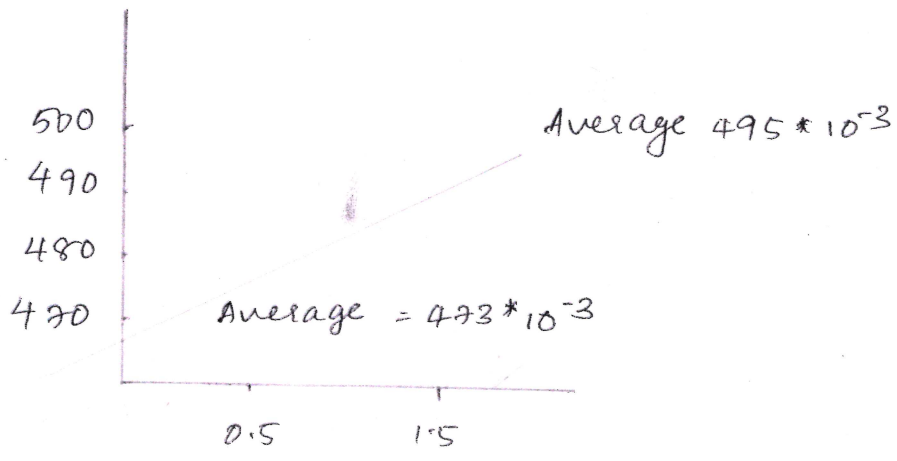
$$= \frac{[487 + 426 + 456 + 546 + 522 + (475 + 421 + 525 + 472)] \times 10^3}{4}$$

$$= 0.522 \text{ cm}$$

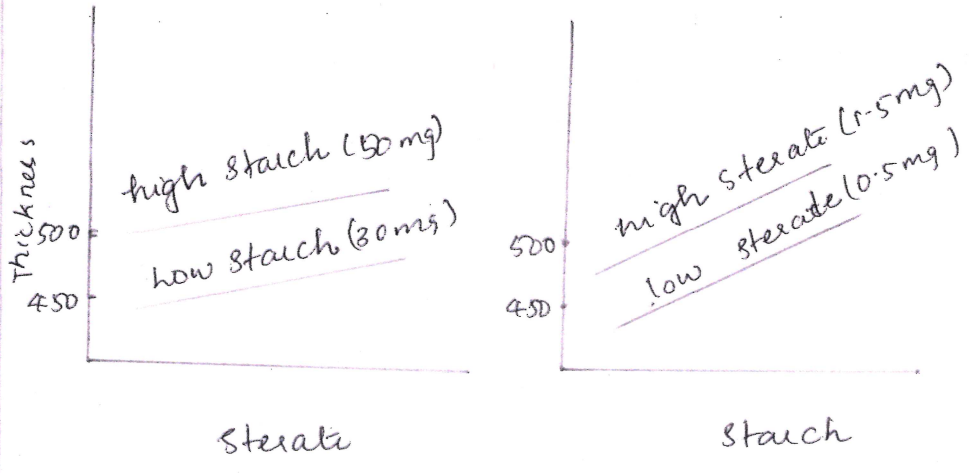
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to the factors Stearate

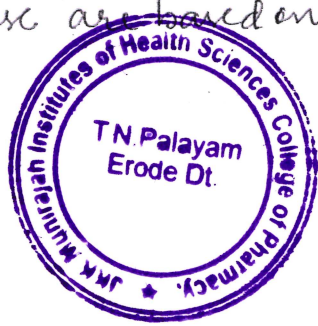


Starch x Stearate interaction



with the factorial design, the influence of numerous factors, as well as interactions between them, may be determined with the same number of trials as it is takes to determine any one of the effects to the same degree on its own. These are the some of the most often utilised reaction surface design. A factorial experiment combines all levels of a single component with all levels of all other factors in the experiment.

The majority of these are based on first order mathematical models.



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Application:-

- used in high performance liquid chromatographic
- formulation and processing
- Analysis formulation of culture medium in virological studies
- study of pharmacokinetic parameters.
- clinical chemistry medicinal chemistry.

Uses:-

- In microencapsulation process.
- provide solution to large scale manufacturing problems.
- Improvement of physical and biological properties by modification.
- Provides strong assurances to regulatory agencies superior drug product quality.
- in microencapsulation process.

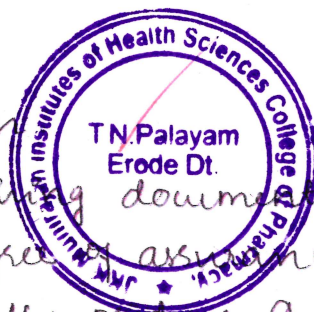
II Write notes on:-

1. Type of validation
2. Accelerated stability testing
3. Describe the spectroscopic techniques of analysis of drug excipient interaction
4. write the importance of formulation studies:

ANSWERS

1. type of validation

Establishing documented evidence which provides a high degree of assurance that a specific process will consistently produce a product meeting its pre-determined specifications and quality.



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retrospective process validation:-

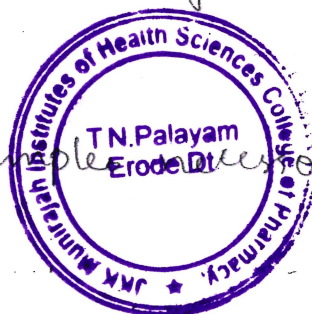
- it is chosen for established products whose manufacturing process are considered stable and when on the basis of economic consideration alone and resource limitation, prospective validation programs cannot be justified.
- where in the numerical in process and or end product test data of historic production batches are subjected to statistical analysis.
- The equipment, facilities and subsystems used in connection with the manufacturing process must be qualified in conformance with GMP requirements.

Requirement:-

- Gather all historical data of process / product in chronological sequence according to batch manufactured.
- Data should consist of at least last 20-30 manufactured batches for analysis.
- Trim data by eliminating results of non-critical steps.
- Subject the resultant data to statistical analysis and evaluation.
- Draw the control charting and go for conclusion.

Advantages:-

- No additional sample necessary, only need history data.



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→ No additional sample necessary, only need history data.

→ No additional sample necessary, only need history data.

occasional testing

testing required

- No additional risk
- No longer time need
- Trained persons are early available to perform the work
- it can be adopted to various type of processes/ Products
- well suited for existing product which are not validated previously.

Concurrent process validation

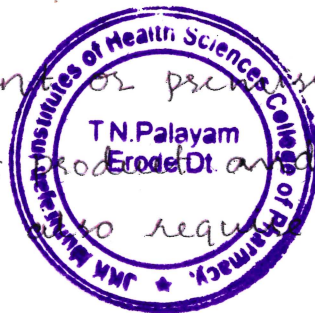
- it is in process monitoring of critical processing steps and end product testing of current production
- it can provide documented evidence to show that the manufacturing process is in a state of control
- it provides validation documentation from the test parameter and data source disclosed in the section on retrospective validation

Process Re-validation:

Required when there is a change in

- any of the critical process parameters
- formulation
- primary packaging components
- raw material
- major equipment or processes

Failure to meet product and process specification in batches would require process revalidation.



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2. Accelerated stability testing:

stability:-

stability of pharmaceutical product may be defined as the capability of a particular formulation in a specific container/closure system to remain within its physical, chemical, microbiological, therapeutic and toxicological specification.

According to USP type of stability

- chemical
- physical
- microbiological
- therapeutic
- toxic

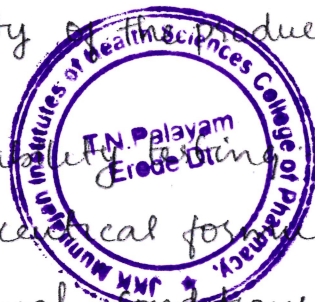
stability testing is necessary to ensure the degradation has not exceed an acceptable level assuring.

1. safety of the patient
2. Activity of the product

Accelerating stability testing

pharmaceutical formulations are

stored under normal conditions, their instabilities are detectable after only long storage & such methods are time consuming & uneconomical, to overcome these problems preparations are tested under stress conditions, which will accelerate decomposition at a faster rate, but this instabilities can be



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- To select best formulation
- To predict shelf life
- used in quality control.

shelf life:

t_{90} : Time required to reduce the concentration to 90% of its initial concentration.

$$t_{90} = 0.105/k$$

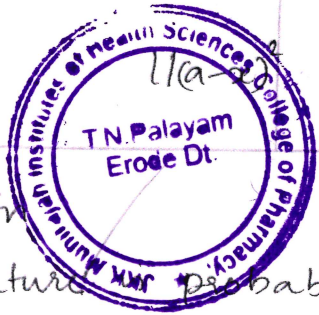
stability of formulation can be determined by shelf life

Calculation of shelf life :-

order	X axis	Y axis	Half life	shelf life
zero	Time	$(a-x)$	$a/2k$	$0.1 A_0/B_0$
First		$\log(a-x)$	$0.693/k$	$0.105/k_1$
Second ($a=b$)		$1/(a-x)$	$1/k_a$	
Second $a \neq b$		$\log b(a-x)/a(b-x)$	$1/k_a$	
Third		$1/(a-x)^2$	$3/2k_a^2$	

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Arrhenius equation

Temperature is probably the most common acceleration factor used for chemical, pharmaceuticals, and biological products. Since its relationship with the degradation rate is well characterized by the Arrhenius equation

According to Arrhenius, for every 10°C , rise in Temperature the speed of reaction increases about 2-3 times

$$k = Ae^{-E_a/RT}$$

A - Arrhenius factor

E_a - is energy of activation

R. is Gas constant

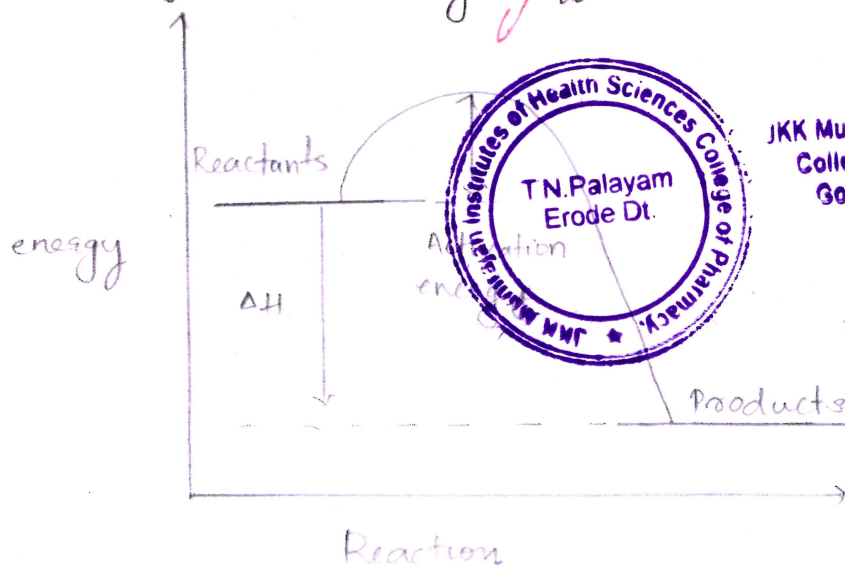
Arrhenius factor is frequency of molecular collisions occurring between the molecules.

$$\log k = \log A - E_a / 2.303 RT$$

Activation energy:-

It is defined as the energy that must be overcome in order for a chemical reaction to occur. Activation energy may also be defined as the minimum energy required to start a chemical reaction.

The activation energy of a reaction is usually denoted by E_a .



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Chemical stability :-
Stability :-

→ it can be done by inducing rapid decomposition by using artificial light source.

→ The intensity of light is proportional to photo degradation of formulation.

To overcome the problems :-

to overcome photochemical degradation, the formulation must be packed in amber coloured containers and extra protection from light is provided by placing the container in carton box

Accelerated test for moisture absorption :-

→ In these the products are placed in small cabinets containing different saturated salt solution which maintain high relative humidity and controlled temperature.

→ The formulations are kept in packed and unpacked forms and are checked for their physical and chemical stability.

4/ → It indicates the product is susceptible to moisture or not

Accelerated test for emulsions :-

→ For emulsion we cannot perform accelerated test by increasing temperature because at higher temperature because at higher temperature, the emulsion will break.

→ So we perform centrifugation instead of increasing temperature,



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- By centrifugation we accelerate the rate of creaming. ultra centrifuges used with 60,000 rpm
- Rate of creaming is proportional to speed of centrifuge.
- The emulsion is subjected to different centrifugal speeds and separation of phases is observed at different time periods.
- Bad emulsion separates oil instantly
- Good emulsion does not exhibit detectable separation of oil phase until certain time period

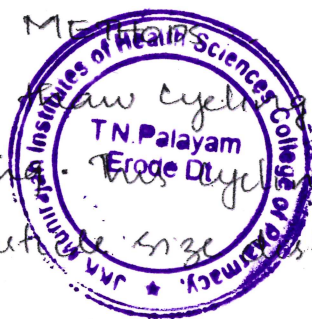
Accelerated test for suspension :-

- Cake formation is accelerated by centrifugation
- High speed centrifugation is hence not preferred low speed centrifugation is used to study physical stability.
- A freeze-thaw cycling technique is one of the stress testing

cpw

FREEZE THAW METHOD

A freeze thaw cycling technique is one of the stress testing. This cycling treatment promotes particle size, particle size distribution and crystal habit



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Limitations of Accelerated stability testing :-

- valid only when the break down depends on temperature.
- The energy of activation should be known.

- microbial contamination
- photochemical reactions
- Diffusion
- Excessive agitation

→ when the product loses its physical integrity at higher temperatures

→ when the order changes at elevated temperature

3. Describe the spectroscopic techniques of analyses of drug-exipient interaction?

Answer:-

There are 3 spectroscopic techniques used in drug-exipient interactions:-

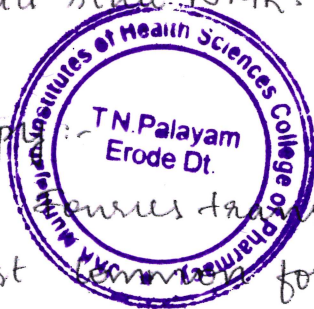
- FT-IR spectroscopy
- Powder X-ray diffraction
- solid state NMR.

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FT-IR spectroscopy



This is a transform infrared and it is the most common form of infrared spectroscopy. All infrared spectroscopies act on the principle that when infrared (IR) radiation passes through a sample, some of the radiation is absorbed. The radiation that passes through the sample is recorded.

FTIR spectroscopy identifies chemical bonds in a molecule by producing an infrared absorption spectrum

The spectra produce a profile of the sample a distinctive molecular fingerprint that can be used to screen and scan samples for many different components

Application of FT spectroscopy :-

→ monitoring air quality

→ it is mainly used for absorption spectroscopy

→ testing water quality.

The wavelength of FTIR are mainly used to

measure light absorption of so-called mid-infrared light, light in the wavenumber range of 4000 to 400 cm^{-1} (wavelength 2.5 to $25\text{ }\mu\text{m}$).

Frequency range is between 456.50 cm^{-1}
and 436.09 cm^{-1}

Absorbance in FT IR :-

units used to measure the amount of IR radiation absorbed by a sample.

Advantages of FTIR

→ spectral quality

→ data collection

→ reproducibility

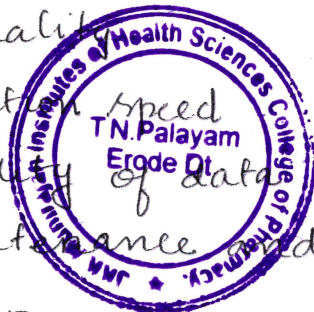
→ ease of maintenance and use.

Types of FTIR

Attenuated Total Reflection (ATR)

Specular Reflection

Diffuse Reflectance



sd
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Limitations of FTIR:

The sampling chamber of an FTIR can present some limitations due to its relatively small size. Mounted pieces can obstruct the IR beam. Usually, only small items as rings can be tested. Several materials completely absorb infrared radiation.

Disadvantages :-

- The sampling chamber of an FTIR can present some limitations due to its relatively small size.
- Mounted piece can obstruct the IR beam. usually only small items as rings can be tested
- several materials completely absorb infrared radiation; consequently it may be impossible to get a reliable result.

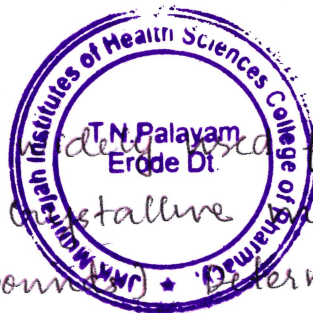
X-ray powder diffraction :-

X-ray powder diffraction (XRD) is a rapid analytical technique primarily used for phase identification of a crystalline material and can provide information on unit cell dimensions.

The analyzed material is finely ground, homogenized and average bulk composition is determined.

Applications :-

Most identification for the identification of unknown crystalline materials (eg. minerals, organic compounds) * Determination of unknown solids is critical to studies in geology, environmental



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Science, material science, engineering and biology
other application ..

- characterization of crystalline materials
- identification of fine-grained minerals such as clays and mixed layer clays that are difficult to determine optically
- determination of unit cell dimension
- measurement of sample purity.

XRD can be used to

- determine crystal structures using Rietveld refinement
- determine of modal amount of minerals.
- characterize thin films samples.

Strength & limitation of XRD

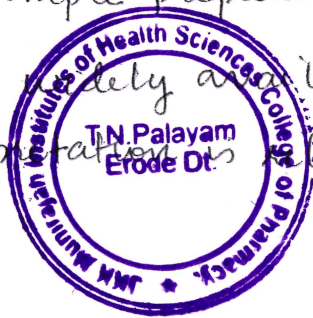
Strengths :-

- powerful and rapid
- it provides an unambiguous mineral determination
- Minimal sample preparation
- XRD units readily available
- Data interpretation relatively straight forward.

Limitation :-

- Homogeneous and single phase material is best for identification
- Peak overlap may occur

angle of diffraction and intensity



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it is an atomic level method to determine the chemical structure, 3D structure and dynamics of solids and semisolids. The basic principle of NMR spectroscopy as applied to the wide range of solid systems. The nuclear spin interactions and the effects of magnetic fields and radiofrequency pulses on nuclear spins in solid state NMR are the same as in liquid state NMR spectroscopy.

4. write the importance of preformulation studies?

Answer:-

A stage of development during which the physicochemical properties of drug substance are characterized is called preformulation.

if the drug shows sufficient activity in animals and is to be evaluated in humans:

it is mainly focused on physicochemical properties of a new compound which may affect the drug performance & development of efficacious dosage form

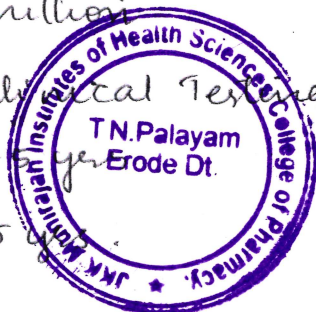
The drug development cycle - An overview

The process of developing a new drug can take between 10 and 15 yrs with an estimated average cost of \$ 800 million

Discovery / Preclinical Testing

Time = 6-8 yrs

Phase I - 1-5 yrs



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phase II : safety and efficacy

Time : 2 yrs

phase III : Time 3.5 yrs

Marketing Approval process -

Time :- 1.5 yrs

Preformulation studies are an important foundation tool early in the development of both API and drug products.

They influences ...

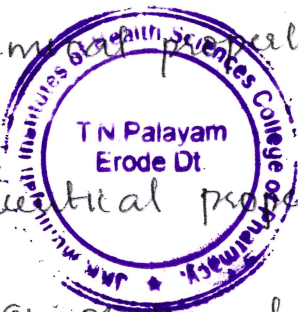
- Selection of the drug candidate itself.
- selection of formulation components
- API and drug product manufacturing process.
- Determination of the most appropriate container closure system
- Development of analytical methods.
- Assignment of API retest periods
- The synthetic route of the API
- Toxicological strategic management process.

Preformulation characterization :-

- Bulk properties
- physico-chemical properties
- Stability
- Biopharmaceutical properties.

Principle areas of preformulations

- Bulk characterization
- solubility and stability



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Polymerization and their influence on formulation and stability of products

• Prodrugs.

→ study of prodrugs in solving problems related to

- stability
- Bioavailability and
- elegance of formulation

• Pro-prodrug:-

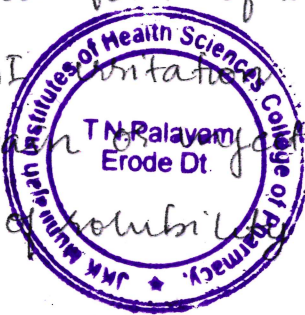
Few cases of carrier type prodrugs to be formulated as ophthalmic, parenteral or oral liquid preparation, the conversion to active drug-chemically (non enzymatically) triggered by change in pH - stability problem

Overcome by

- Double prodrug or pro-prodrug concept

• Mutual prodrug:

- Improvement of taste
- Improvement of odor
- Change of physical form of the drug
- Reduction of GI irritation
- Reduction of pain or discomfort
- Enhancement of solubility and dissolution rate.
- Enhancement of chemical stability
- Enhancement of stability
- Enhancement of bioavailability

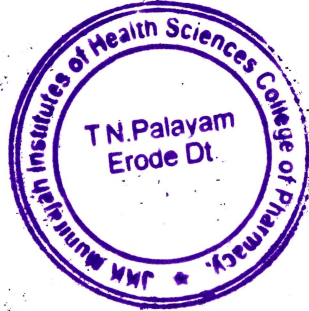


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- Increase the duration of action
- Reduction of toxicity
- site specific drug delivery



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FIRST YEAR MPHARM PHARMACEUTICS

SECOND SESSIONAL THEORY EXAMINATION

SUBJECT :- MODERN PHARMACEUTICS MARKS : 30

TIME : 1-30 hr.

28
30

14
15

NAME : NADIMA RASHEED.K

I ELABORATE ON:

Discuss the objectives and policies of CGMP write the GMP requirements, equipments, and their maintenance for solid dosage form products.

ANSWER :-

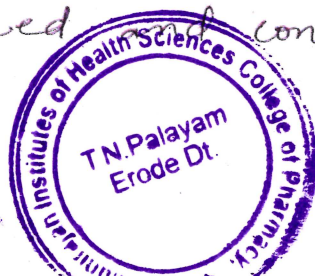
"CGMP refers to current good manufacturing practices regulations enforced by U.S. Food and drug administration. cGMP provides a system that assure proper design, monitoring, & control of manufacturing processes and facilities"

- Announced by FDA in Aug 2002

- FDA's CGMP practice steering committee

objective and policies of CGMP :-

→ ensure that products are consistently manufactured and controlled to the specified quality.

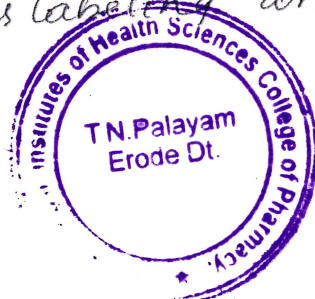


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- concerned with all aspects of production and quality control.
- In the manufacture of cosmetic products, overall control and monitoring
- ensure that the consumer receives products of specified quality.
- * CFR, published by federal gov, contains 50 chapters
- * chapter 21 of CFR is for Food & Drug manufacturing.
- Part 200: cGMP in manufacturing, processing, packaging, or holding of drugs.
- Part 211: cGMP for finished pharmaceuticals
- Part 211 is further divided into 11 subparts, A to K

Benefits of cGMP:-

- They outline a Quality system that reduces errors
- Ensures products are safe for use in humans.
- Minimizes variations in potency of drug
- prevent side effects
- prevent mislabeling and adulteration




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Good manufacturing practice is a set of

regulations, codes, and guidelines for the manufacture of drug substances and drug products, medical devices, in vivo and in vitro diagnostic products and food

Objective :-

guarantee high quality products to the consumer

↓

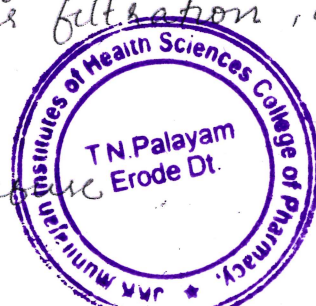
Delivering products free of all possible contamination

general requirements :-

- Avoid risks and possibilities of mix up at all stages of Mfg, labelling PKG and testing
- AHS comfort of the personnel working and regular monitoring of temp and humidity, Particulate count, DOP testing etc.
- Proper drainage system which prevents backflow
Avoid open channels and if provided must be able to clean and disinfect.

Building and facilities :-

- Design and construction features.
- Lighting
- Ventilation, air filtration, air heating and cooling
- Plumbing.
- Sewage and waste



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* washing and toilet facilities

- Sanitation

- Maintenance

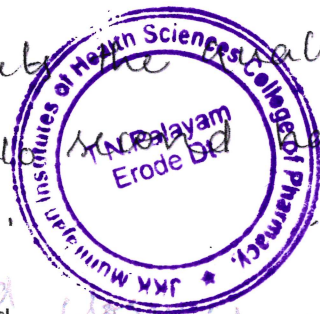
Equipment

1. Equipment design, size, and location
2. Equipment construction
3. Equipment cleaning and maintenance
4. Automatic, mechanical, and electronic equipment
5. Filters

Control of components :-

1- ~~Control~~ containers and closures :-

All containers and closures intended for use shall comply with the pharmacopoeial requirements. Suitable validated test method sample sizes, specifications, cleaning procedure and sterilization procedure, where ver indicated, shall be strictly followed to ensure that there are not rupture, additive absorptive or leak to an extent that significantly affect the quality or purity of the drug.



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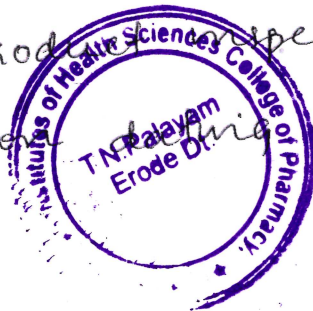
an...
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Production and process control

1. written procedures; deviations.
2. change in of components
3. calculation of yield
4. Equipment identification.
5. Sampling and testing of in-process materials and drug products
6. Time limitations on productions
7. Control of microbiological contamination
8. Reprocessing

Packaging and labelling control

1. material examination and usage criteria
2. Labelling issuance.
3. Packaging and labelling operations
4. Tamper-evident packaging requirement for over the counter (OTC) human drug product.
5. Drug production inspection
6. Expiration



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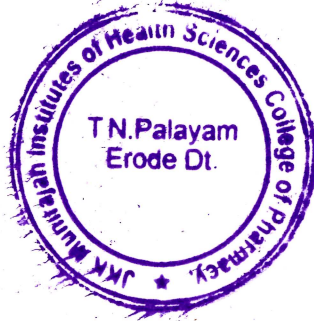
Holding and distribution

1. warehousing procedures
2. Distribution procedures.

Returned salvaged drug products

1. Returned drug products
2. Drug product salvaging

9



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11 Write notes on ::

1. Anova test
2. Give the planning to prepare budget and its control
3. Factorial design.
4. Inventory management and sales forecasting.

ANSWER :-

1. Anova test :-

Statistical technique specially designed to test whether the means of more than 2 quantitative populations are equal.

developed by Sir Ronald A. Fisher

in 1920's

example : study conducted among men of age group 18-25 yr in a community to assess effect of SES on BMI

Lower SES
18, 17, 18, 19, 19

$N_1 = 5$

mean

Middle SES
22, 25, 24, 26, 24, 21

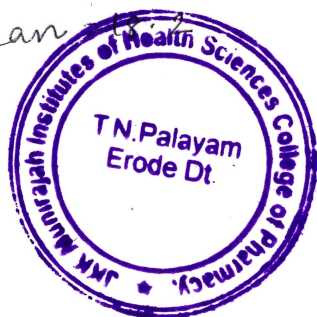
$N_2 = 6$

Mean = 23.6

Higher SES
25, 26, 24, 28, 29

$N_3 = 5$

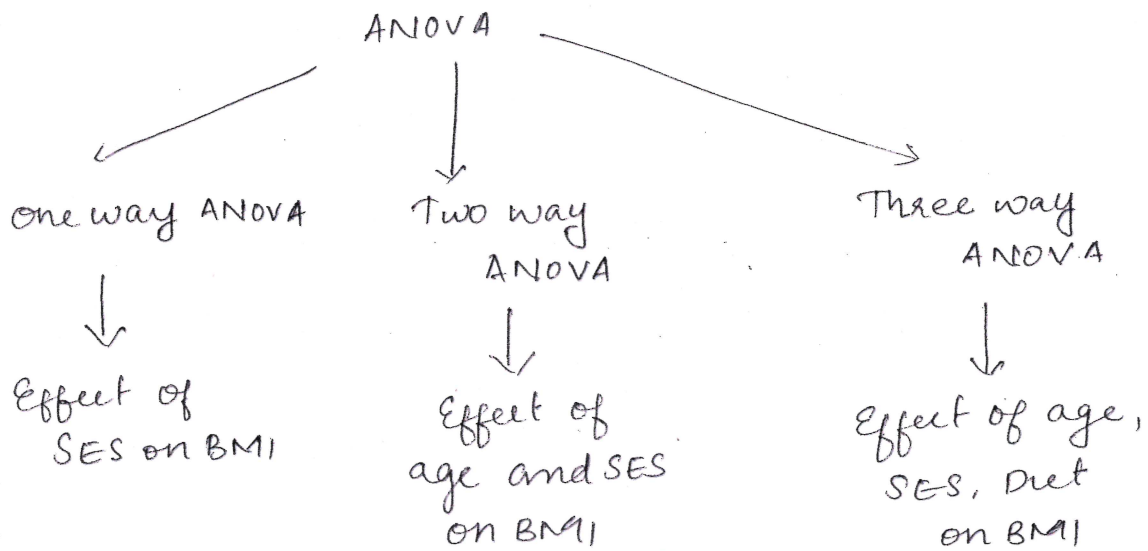
Mean = 26.4



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ANOVA with repeated measures - comparing ≥ 3 group means where the participants are same in each group eg :-

group of subject is measured more than twice, generally over time, such as Patients weighed at baseline and every month after a weight loss program.

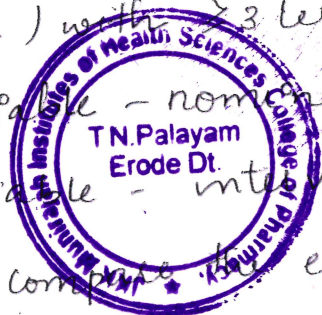
one way ANOVA :-

Determines means of ≥ 3 independent groups significantly different from one another

- only 1 independent variable (factor / grouping variable) with ≥ 3 level.

- Grouping variable - nominal
- outcome variable - interval or ratio

examples :- to compare the effectiveness of two or more drugs in controlling or curing a particular disease.



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Calculation of one way ANOVA

1. Computation of one way Analysis of Variance (ANOVA)

A) population variance between the groups :-

- The variation due to the interaction between the sample, denoted SSB for sum of square between groups. There are k samples involved with one data volume for each sample (the sample mean) so there are $k - 1$ degree of freedom.

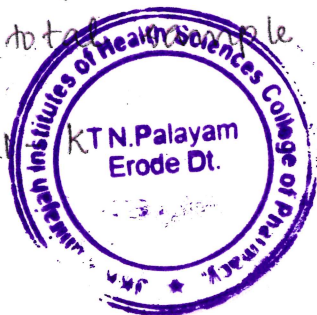
- The variance due to the interaction between the samples, denoted MSB for mean square between groups. This is the between group variation divided by its degree of freedom

B) population variance within the group :-

The variation due to difference within the individual samples, denoted SSW for sum of squares within groups. Each sample is considered independently, The degree of freedom is equal to the sum of individual degrees of freedom for each sample. Since each sample size has degree of freedom equal to one less than their sample size, and there are k sample the total degrees of degrees of freedom is k less than the total sample size.

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• $DF = N$



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The variance due to the difference within individual samples, denoted MSW for mean square within groups. This is the within group variation divided by its degree of freedom.

Procedure for calculation of one way ANOVA

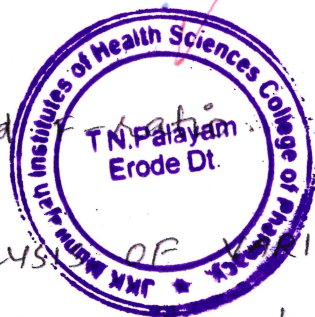
1. obtain the mean of each sample.
2. Take out the average mean of the sample means
3. calculate sum of squares for variance between the sample $SSB (SB^2)$
4. obtain variance for mean square (MS) between samples.
5. calculate sum of square for variance within samples $SSW (SW^2)$
6. Obtain the variance or mean square (MS) within sample.
7. Find sum of square or deviation for total variance
8. finally, find F ratio

TWO WAY ANALYSIS OF VARIANCE:-

In this there are two independent variables are present. In ANOVA impact of two different factors on the variation in a specific variable is tested.

Example :- productivity of several near by

field influenced by seed varieties and types



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of manure used

Procedure of two way Analysis of Variance :-

a) sum of squares between the columns = SSC

b) sum of square between the rows = SSR

c) sum of square for the residuals or error = SSE

Therefore, sum of square of total variance = SST

i) $SST = SSC + SSR + SSE$.

ii) correlation factor (CF) = $\frac{T_2}{N}$

iii) $SST = \sum x_1^2 + \sum x_2^2 + \dots + \sum x_c^2 = (T_2/N)$

iv) $SSC = \frac{\sum (\sum x_c)^2}{n_c} - \frac{T_2^2}{N}$

n_c is the number of units in each column

v) $SSR = \frac{\sum (\sum x_r)^2}{n_r} - \frac{T_2^2}{N}$

n_r is the number of units in each row

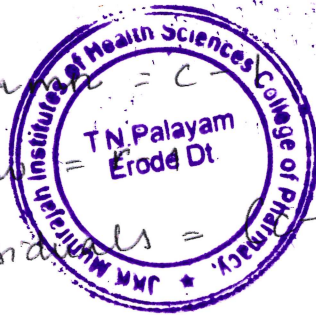
vi) $SSE = SST - (SSC + SSR)$

d.f between columns = $c - 1$

- d.f between rows = $r - 1$

- d.f between residuals = $(r-1)(c-1)$

F (tabulated) is compared with F (calculated) at 5% for $(c-1), (r-1)(c-1)$ i.e. $F(3,6)$ and for $(r-1), (r-1)(c-1)$ i.e. $F(2,6)$.



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$F(\text{calculated}) \text{ for } F(3,6) = 0.29$

$F(\text{calculated}) \text{ for } F(2,6) = 0.19$

And, $F(\text{tabulated}) \text{ for } F(3,6) = 4.78$

$F(\text{tabulated}) \text{ for } F(2,6) = 5.14$

$F(\text{calculated}) < F(\text{tabulated})$

Hence, $F(\text{calculated})$ is less than $F(\text{tabulated})$
so the null hypothesis is accepted

2. Give the planning to prepare budget and its control :-

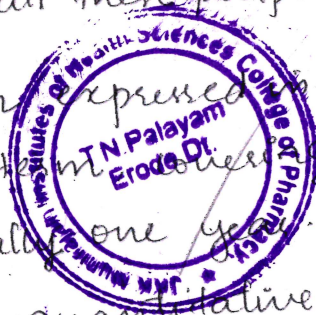
For effective running of a business management must know how it intends to accomplish its objectives.

Budgetary control is the device that a company uses for all these purposes

A budget is a plan expressed in usually monetary terms for a specific period of time, usually one year.

A budget is a quantitative of financial statement, that contains the detailed plans and policies to be pursued during a future accounting period (Collis and Hussey, 2002).

In other words a budget is a systematic plan for the utilization of manpowers and material resources.



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Purpose of budget :-

- Communication :- Budget enables to communicate plans and control information.
- Motivation :- Budget seeks to motivate managers to achieve objectives.
- Performance evaluation :- Budget is used to evaluate the capability of managers to achieve targets.
- Authorization :- Budget is used to authorize expenditure or to pursue certain initiatives once a budget is approved.

Steps in the preparation of Budget :-

- identify objectives
- Gather data about alternatives
- Select alternative courses of action
- Discuss the plans / activities and allocate the budget
- Establish monitoring mechanisms
- Respond to problems encountered in the previous budget

Budget sources of information

- internal source
- External source



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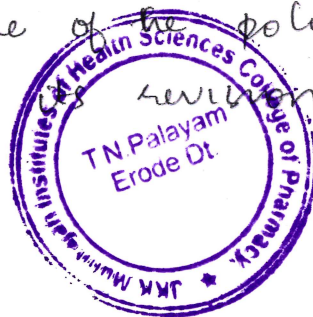
method for setting Budgets.

- Incremental Budgeting
- Zero Base budgeting
- Functional budgeting
- Master Budget.
- Fixed Budget
- Flexible budget.

Budgetary control :-

it is the process by which financial control is exercised by managers preparing budgets for revenue and expenditure for each function of the organization in advance of an accounting period. it involve the continuous against the budget to ensure the plan is achieved or to provide a basis for its revision (Collis and Hussey 2007), P. 309

According to CIMA: Establishment of budgets relating the responsibilities of executives to the requirements of a policy, and the continuous comparison of actual with budgeted result either to secure by individual action the objective of the policy or to provide a basis for revision.



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Elements of budgetary control

- setting up budgets i.e., planned targets on revenue, expenses, assets and liabilities relating to the activities concerned
- measuring actual results against the budget and modifying on a continuous basis
- identifying and analysing deviation from budgets and modifying both actual operation and subsequent budgets.

Stages in Budgetary control

consult with managers



Make assumptions and predictions

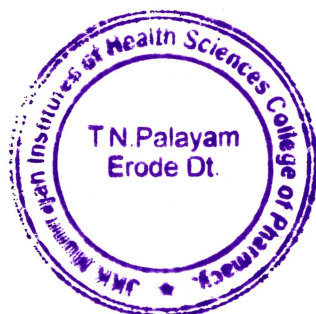


set detailed budgets to meet objectives

Q2
Measure actual performance and compare with budget



Revise budget & take remedial action to achieve Plan



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3. Factorial designs.

factorial experiment is an experiment whose design consist of two or more factor each with different possible values or "level"

it is applied in optimization techniques.

Factors :

- factors can be quantitative (numerical number) or they are qualitative.

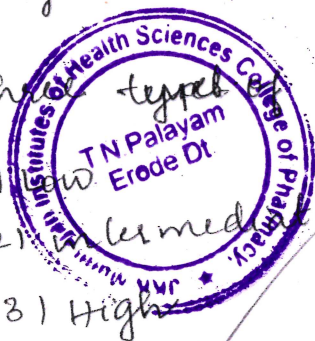
- They may be names rather than numbers like method 1, site B or present or absent.

- factorial design depends on independent variables for development of new formulation

- factorial design also depends on levels as well as coding

They are three types

- 1) low
- 2) Intermediate
- 3) High



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simultaneously coding take place for levels

1) for low = (-1)

2) for intermediate = (0)

3) for high = (+1)

Types of factorial design :-

- full factorial design
- fractional factorial design.

Full factorial design :-

A design in which every setting of every factor appears with setting of every other factor is full factorial design.

If there is k factor, each at Z level
a full FD has Z^k .

$$(\text{levels})^{\text{factors}} \rightarrow [Z^k]$$

Fractional factorial design :-

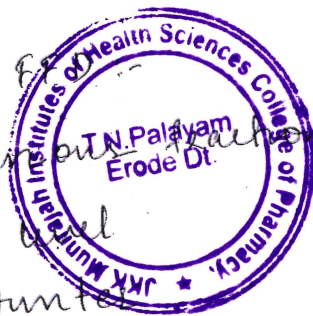
- In full FD, as a number of factor or level increase, the number of experiment required exceeds to unmanageable levels.

- In such cases, the number of experiment can be reduced systematically and resulting design is called as fractional factorial design (FFD).

→ applied if no. of factors are more than 5

Type of FFD

- Homogeneous
- Mixed level
- Box - Hunter




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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI
Internal Assessment(I.A) Verification Report

Course: 2611 - M.Pharm. - (PHARMACEUTICS)
 Institution: 649-JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES, COLLEGE OF PHARMACY ERODE
 Exam Session: Apr 2023
 Subject: 262933 - MODERN PHARMACEUTICS

Term: FIRST SEMESTER - 1-2017
 Exam Type: I.A

S.No.	Register No.	Student Name	App	I.A.Theory		I.A.Att.		I.A.Interaction		Credit Points		Eligibility	Confirm Zero Mark Entry
				Max: 15.00; Min: N.M	12.00	Max: 8.00; Min: 2.00	8.00	Max: 2.00; Min: N.M	2.00	Max: 4.00; Min: 4.00	4.00		
1	261121516506	NETHAJI S	2	12.00	8.00	2.00	4.00	4.00	2.00	4.00	Eligible		
2	261122516501	AMARNATH V	1	14.00	8.00	2.00	4.00	4.00	2.00	4.00	Eligible		
3	261122516502	DEEPIKA P	1	14.00	8.00	2.00	4.00	4.00	2.00	4.00	Eligible		
4	261122516503	NADIMA RASHEED K	1	14.00	8.00	2.00	4.00	4.00	2.00	4.00	Eligible		
5	261122516504	SATHISHKUMAR R	1	13.00	8.00	2.00	4.00	4.00	2.00	4.00	Eligible		
6	261122516505	SIVA BHARATHI P	1	14.00	8.00	2.00	4.00	4.00	2.00	4.00	Eligible		
7	261122516506	TAMILARASAN K	1	14.00	8.00	2.00	4.00	4.00	2.00	4.00	Eligible		
8	261122516507	THAMARASELVIL	1	14.00	8.00	2.00	4.00	4.00	2.00	4.00	Eligible		

[Signature]
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TIME TABLE

**POST GRADUATE DEGREE COURSE
M.PHARM. EXAMINATIONS**

NEW REGULATIONS 2016 (CBSS) IMPLEMENTED BY THE PHARMACY COUNCIL OF INDIA,
NEW DELHI.

APRIL 2023 SESSION to be held on AUGUST 2023

SEMESTER I

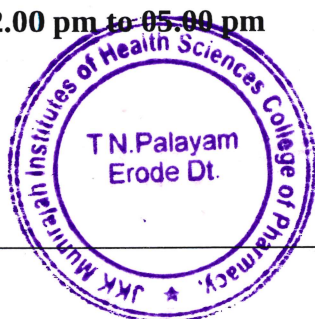
(Candidates admitted up to 2022 - 2023)

(PHARMACEUTICS - MPH)

Thurs	17.08.2023 02.00 pm to 05.00 pm	I	MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES	262931
Fri	18.08.2023 02.00 pm to 05.00 pm	II	DRUG DELIVERY SYSTEM	262932
Mon	21.08.2023 02.00 pm to 05.00 pm	III	MODERN PHARMACEUTICS	262933
Tues	22.08.2023 02.00 pm to 05.00 pm	IV	REGULATORY AFFAIR	262934

(PHARMACEUTICAL CHEMISTRY - MPC)

Thurs	17.08.2023 02.00 pm to 05.00 pm	I	MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES	262941
Fri	18.08.2023 02.00 pm to 05.00 pm	II	ADVANCED ORGANIC CHEMISTRY I	262942
Mon	21.08.2023 02.00 pm to 05.00 pm	III	ADVANCED MEDICINAL CHEMISTRY	262943
Tues	22.08.2023 02.00 pm to 05.00 pm	IV	CHEMISTRY OF NATURAL PRODUCTS	262944



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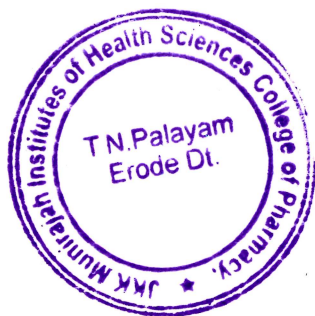
Day	Date and Time	Paper	Subjects	Q.P. Code
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(PHARMACEUTICAL ANALYSIS - MPA)

Thurs	17.08.2023 02.00 pm to 05.00 pm	I	MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES	262951
Fri	18.08.2023 02.00 pm to 05.00 pm	II	ADVANCED PHARMACEUTICAL ANALYSIS	262952
Mon	21.08.2023 02.00 pm to 05.00 pm	III	PHARMACEUTICAL VALIDATION	262953
Tues	22.08.2023 02.00 pm to 05.00 pm	IV	FOOD ANALYSIS	262954

(PHARMACEUTICAL BIOTECHNOLOGY - MPB)

Thurs	17.08.2023 02.00 pm to 05.00 pm	I	MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES	262961
Fri	18.08.2023 02.00 pm to 05.00 pm	II	MICROBIAL AND CELLULAR BIOLOGY	262962
Mon	21.08.2023 02.00 pm to 05.00 pm	III	BIOPROCESS ENGINEERING AND TECHNOLOGY	262963
Tues	22.08.2023 02.00 pm to 05.00 pm	IV	ADVANCED PHARMACEUTICAL BIOTECHNOLOGY	262964



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(PHARMACY PRACTICE - MPP)

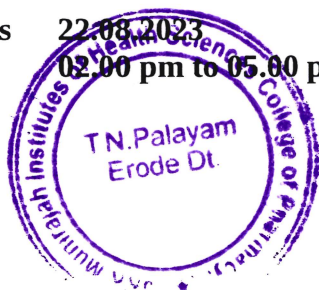
Thurs	17.08.2023 02.00 pm to 05.00 pm	I	CLINICAL PHARMACY PRACTICE	262971
Fri	18.08.2023 02.00 pm to 05.00 pm	II	PHARMACOTHERAPEUTICS-I	262972
Mon	21.08.2023 02.00 pm to 05.00 pm	III	HOSPITAL AND COMMUNITY PHARMACY	262973
Tues	22.08.2023 02.00 pm to 05.00 pm	IV	CLINICAL RESEARCH	262974


(PHARMACOLOGY - MPL)

Thurs	17.08.2023 02.00 pm to 05.00 pm	I	MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES	262981
Fri	18.08.2023 02.00 pm to 05.00 pm	II	ADVANCED PHARMACOLOGY - I	262982
Mon	21.08.2023 02.00 pm to 05.00 pm	III	PHARMACOLOGICAL AND TOXICOLOGICAL SCREENING METHODS - I	262983
Tues	22.08.2023 02.00 pm to 05.00 pm	IV	CELLULAR AND MOLECULAR PHARMACOLOGY	262984

(PHARMACOGNOSY - MPG)

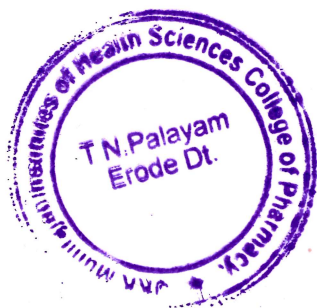
Thurs	17.08.2023 02.00 pm to 05.00 pm	I	MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES	262991
Fri	18.08.2023 02.00 pm to 05.00 pm	II	ADVANCED PHARMACOGNOSY - I	262992
Mon	21.08.2023 02.00 pm to 05.00 pm	III	PHYTOCHEMISTRY	262993
Tues	22.08.2023 02.00 pm to 05.00 pm	IV	INDUSTRIAL PHARMACOGNOSTICAL TECHNOLOGY	262994




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(PHARMACEUTICAL REGULATORY AFFAIRS - MRA)

Thurs	17.08.2023 02.00 pm to 05.00 pm	I	GOOD REGULATORY PRACTICES	263001
Fri	18.08.2023 02.00 pm to 05.00 pm	II	DOCUMENTATION AND REGULATORY WRITING	263002
Mon	21.08.2023 02.00 pm to 05.00 pm	III	CLINICAL RESEARCH REGULATIONS	263003
Tues	22.08.2023 02.00 pm to 05.00 pm	IV	REGULATIONS AND LEGISLATION FOR DRUGS & COSMETICS, MEDICAL DEVICES, BIOLOGICALS & HERBALS, AND FOOD & NUTRACEUTICALS IN INDIA AND INTELLECTUAL PROPERTY RIGHTS	263004



A handwritten signature in green ink, appearing to be "J.K.K.", positioned above the printed name of the Principal.

Principal

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**POST GRADUATE DEGREE COURSE
M.PHARM. EXAMINATIONS**

NEW REGULATIONS 2016 (CBSS) IMPLEMENTED BY THE PHARMACY COUNCIL OF INDIA,
NEW DELHI .

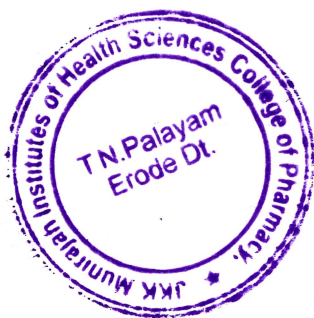
SEMESTER – II – APRIL 2023 to be held on (AUGUST 2023)

(PHARMACEUTICS - MPH)

Thurs	17.08.2023 09.30 am to 12.30 am	I	MOLECULAR PHARMACEUTICS (NANO TECH AND TARGETED DDS)	262935
Fri	18.08.2023 09.30 am to 12.30 am	II	ADVANCED BIOPHARMACEUTICS & PHARMACOKINETICS	262936
Mon	21.08.2023 09.30 am to 12.30 am	III	COMPUTER AIDED DRUG DELIVERY SYSTEM	262937
Tues	22.08.2023 09.30 am to 12.30 am	IV	COSMETIC AND COSMECEUTICALS	262938

(PHARMACEUTICAL CHEMISTRY - MPC)

Thurs	17.08.2023 09.30 am to 12.30 am	I	ADVANCED SPECTRAL ANALYSIS	262945
Fri	18.08.2023 09.30 am to 12.30 am	II	ADVANCED ORGANIC CHEMISTRY II	262946
Mon	21.08.2023 09.30 am to 12.30 am	III	COMPUTER AIDED DRUG DESIGN	262947
Tues	22.08.2023 09.30 am to 12.30 am	IV	PHARMACEUTICAL PROCESS CHEMISTRY	262948




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Day	Date and Time	Paper	Subjects	Q.P. Code
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(PHARMACEUTICAL ANALYSIS - MPA)

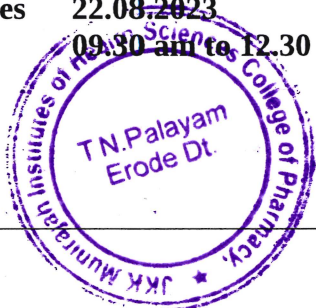
Thurs	17.08.2023 09.30 am to 12.30 am	I	ADVANCED INSTRUMENTAL ANALYSIS	262955
Fri	18.08.2023 09.30 am to 12.30 am	II	MODERN BIO ANALYTICAL TECHNIQUES	262956
Mon	21.08.2023 09.30 am to 12.30 am	III	QUALITY CONTROL AND QUALITY ASSURANCE	262957
Tues	22.08.2023 09.30 am to 12.30 am	IV	HERBAL AND COSMETIC ANALYSIS	262958


(PHARMACEUTICAL BIOTECHNOLOGY - MPB)

Thurs	17.08.2023 09.30 am to 12.30 am	I	PROTEINS AND PROTEIN FORMULATION	262965
Fri	18.08.2023 09.30 am to 12.30 am	II	IMMUNOTECHNOLOGY	262966
Mon	21.08.2023 09.30 am to 12.30 am	III	BIOINFORMATICS AND COMPUTER TECHNOLOGY	262967
Tues	22.08.2023 09.30 am to 12.30 am	IV	BIOLOGICAL EVALUATION OF DRUG THERAPY	262968

(PHARMACY PRACTICE - MPP)

Thurs	17.08.2023 09.30 am to 12.30 am	I	PRINCIPLES OF QUALITY USE OF MEDICINES	262975
Fri	18.08.2023 09.30 am to 12.30 am	II	PHARMACOTHERAPEUTICS-II	262976
Mon	21.08.2023 09.30 am to 12.30 am	III	CLINICAL PHARMACOKINETICS AND THERAPEUTIC DRUG MONITORING	262977
Tues	22.08.2023 09.30 am to 12.30 am	IV	PHARMACOEPIDEMOLOGY AND PHARMACOECONOMICS	262978




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Day	Date and Time	Paper	Subjects	Q.P. Code
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(PHARMACOLOGY - MPL)

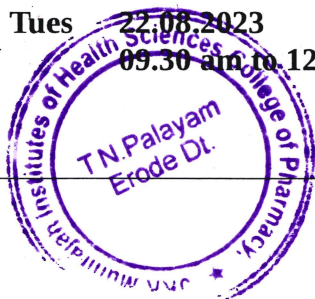
Thurs	17.08.2023 09.30 am to 12.30 am	I	ADVANCED PHARMACOLGY - II	262985
Fri	18.08.2023 09.30 am to 12.30 am	II	PHARMACOLOGICAL AND TOXICOLOGICAL SCREENING METHODS - II	262986
Mon	21.08.2023 09.30 am to 12.30 am	III	PRINCIPLES OF DRUG DISCOVERY	262987
Tues	22.08.2023 09.30 am to 12.30 am	IV	CLINICAL RESEARCH AND PHARMACOVIGILANCE	262988

(PHARMACOGNOSY - MPG)

Thurs	17.08.2023 09.30 am to 12.30 am	I	MEDICINAL PLANT BIOTECHNOLOGY	262995
Fri	18.08.2023 09.30 am to 12.30 am	II	ADVANCED PHARMACOGNOSY - II	262996
Mon	21.08.2023 09.30 am to 12.30 am	III	INDIAN SYSTEM OF MEDICINE	262997
Tues	22.08.2023 09.30 am to 12.30 am	IV	HERBAL COSMETICS	262998

PHARMACEUTICAL REGULATORY AFFAIRS - MRA)

Thurs	17.08.2023 09.30 am to 12.30 am	I	REGULATORY ASPECTS OF DRUGS & COSMETICS	263005
Fri	18.08.2023 09.30 am to 12.30 am	II	REGULATORY ASPECTS OF HERBAL & BIOLOGICALS	263006
Mon	21.08.2023 09.30 am to 12.30 am	III	REGULATORY ASPECTS OF MEDICAL DEVICES	263007
Tues	22.08.2023 09.30 am to 12.30 am	IV	REGULATORY ASPECTS OF FOOD & NUTRACEUTICALS	263008



(Signature)
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Day

Date

Paper

Subjects

Q.P. Code

**POST GRADUATE DEGREE COURSE
M.PHARM. EXAMINATIONS**

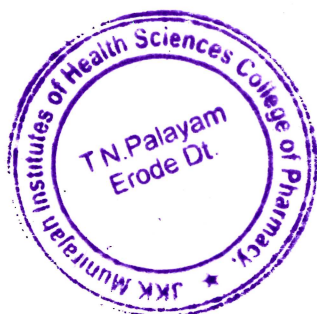
**NEW REGULATIONS 2016 (CBSS) IMPLEMENTED BY THE PHARMACY COUNCIL OF INDIA,
NEW DELHI .**

SEMESTER – III – (Non University Exam.)


APRIL 2023 to be held on (AUGUST - 2023)

BR -I	- PHARMACEUTICS – MPH
BR-II	- PHARMACEUTICAL CHEMISTRY – MPC
BR-III	- PHARMACEUTICAL ANALYSIS – MPA
BR- IV	- PHARMACEUTICAL BIOTECHNOLOGY – MPB
BR-V	- PHARMACY PRACTICE – MPP
BR-VI	- PHARMACOLOGY – MPL
BR- VII	- PHARMACOGNOSY - MPG

Wed	23-08-2023	I	RESEARCH METHODOLOGY AND BIOSTATSTICS	269913
Thurs	24-08-2023	IV	RESEARCH WORK	269916



Sd/-
Vice Chancellor.


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**POST GRADUATE DEGREE COURSE
M.PHARM. EXAMINATIONS**

APRIL 2023 SESSION to be held on (AUGUST 2023)

FIRST YEAR

(COMMON TO ALL BRANCHES)

Thurs	17.08.2023	I	Modern Pharmaceutical Analytical Techniques	262901
	02.00 pm to 05.00 pm			

SPECIALITY PAPERS

BRANCH-I --> PHARMACEUTICS

Fri	18.08.2023	II	Industrial Pharmacy	262902
	02.00 pm to 05.00 pm			

Mon	21.08.2023	III	Bio-Pharmaceutics and Pharmacokinetics	262903
	02.00 pm to 05.00 pm			

Tues	22.08.2023	IV	Advances in Drug Delivery System	262904
	02.00 pm to 05.00 pm			

BRANCH-II --> PHARMACEUTICAL CHEMISTRY

Fri	18.08.2023	II	Advanced Organic Chemistry	262905
	02.00 pm to 05.00 pm			

Mon	21.08.2023	III	Advanced Medicinal Chemistry	262906
	02.00 pm to 05.00 pm			

Tues	22.08.2023	IV	Natural Products of Medicinal Interest	262907
	02.00 pm to 05.00 pm			

BRANCH-III --> PHARMACOGNOSY

Fri	18.08.2023	II	Pharmacognosy	262908
	02.00 pm to 05.00 pm			

Mon	21.08.2023	III	Biogenesis and Chemistry of Natural Products	262909
	02.00 pm to 05.00 pm			

Tues	22.08.2023	IV	Phytochemistry and Biotechnology	262910
	02.00 pm to 05.00 pm			



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Day	Date and Time	Paper	Subjects	Q.P. Code
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BRANCH-IV --> PHARMACOLOGY

Fri	18.08.2023 02.00 pm to 05.00 pm	II	Pharmacology and Toxicology	262911
Mon	21.08.2023 02.00 pm to 05.00 pm	III	Biological Standardisation and Pharmacological Screening Methods	262912
Tues	22.08.2023 02.00 pm to 05.00 pm	IV	Drug Design and Molecular Pharmacology	262913

BRANCH-V --> PHARMACEUTICAL ANALYSIS

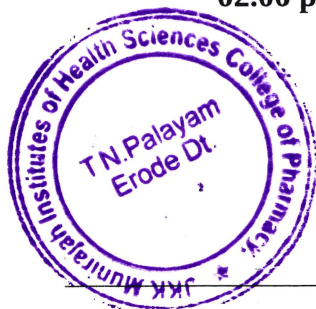
Fri	18.08.2023 02.00 pm to 05.00 pm	II	Pharmaceutical and Cosmetic Analysis	262914
Mon	21.08.2023 02.00 pm to 05.00 pm	III	Advanced Pharmaceutical Analysis	262915
Tues	22.08.2023 02.00 pm to 05.00 pm	IV	Quality Control and Quality Assurance	262916

BRANCH-VI --> PHARMACEUTICAL BIO-TECHNOLOGY

Fri	18.08.2023 02.00 pm to 05.00 pm	II	Pharmaceutical Aspects of Microbial and Cellular Biology	262917
Mon	21.08.2023 02.00 pm to 05.00 pm	III	Bio-process Technology	262918
Tues	22.08.2023 02.00 pm to 05.00 pm	IV	Advances in Pharmaceutical Bio- Technology	262919

BRANCH-VII --> PHARMACY PRACTICE

Fri	18.08.2023 02.00 pm to 05.00 pm	II	Pharmacotherapeutics (Including Pathophysiology)	262920
Mon	21.08.2023 02.00 pm to 05.00 pm	III	Hospital and Community Pharmacy	262921
Tues	22.08.2023 02.00 pm to 05.00 pm	IV	Clinical Pharmacy	262922



[Signature]
Principal

JKK Murirajah Institute of Health Sciences
College of Pharmacy, T.N. Palayam
Gobi (Tk), Erode (Dt) - 638 506

Sd/-
Vice Chancellor.

JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES COLLEGE OF PHARMACY

Approved by AICTE & Pharmacy Council of India - New Delhi, Affiliated to The Tamilnadu Dr. M.G.R Medical University, Chennai)

T.N.Palayam(PO), Gobichettipalayam(TK),Erode(DT)-638506.

Dr. J. K. K. MUNIRAJAH, M.Tech.,(Bolton)
Chairman & Managing Trustee

DR. P.Perumal.,M.Pharm.,Ph.D.,FIC.,
Professor & Principal

Ref No: JKKMIHSCP/UNIV/0322D23

DATE: 22.08.2023

To

The Deputy Controller of Examinations (Pharmacy),
The Tamilnadu Dr. MGR Medical University,
No. 69 Anna Salai, Guindy,
Chennai – 600032.

Sub: Theory examinations **APRIL- 2023 A/N** Session – **JKK Munirajah
Institute of Health Sciences College of Pharmacy - Centre 649** –
Submission of Answer Books & particulars – M.Pharm Pharmaceutics
I Semester- Reg.

Sir,

With respect to the cited subject, the theory examination answer books of
M.Pharm (Pharmaceutics) I Semester held on **22.08.2023 A/N** for the subject
REGULATORY AFFAIR (262934) in this JKK Munirajah Institute of Health
Sciences College of Pharmacy center are submitted herewith. Kindly acknowledge
the same.

Thanking you,

Yours truly

(Signature)
22/08/23 (S. Kannan)

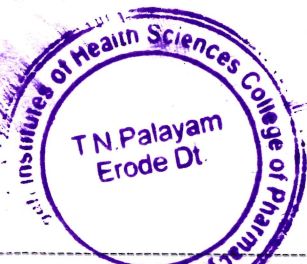
CHIEF SUPERINTENDENT
UNIVERSITY EXAMINATIONS
COLLEGE CODE NO. 649
JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES
COLLEGE OF PHARMACY, T.N.PALAYAM,
Gobi (Tk), Erode (Dt) - 638 506

Encl:

- | | |
|--------------------------------------|---------------------|
| 1. Answer books bundle | - (07 Answer Books) |
| 2. Attendance Statement | - 01 Page |
| 3. Absentees Statement | - 01 Page |
| 4. Statement for seating arrangement | - 01 Page |

(Signature)
Principal

JKK Munirajah Institute of Health Sciences
College of Pharmacy, T.N.Palayam,
Gobi (Tk), Erode (Dt) - 638 506



04285-262220

jkkmihsdp@gmail.com

www.jkkmihsdp.org

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY
69, ANNA SALAI, GUINDY, CHENNAI- 600 032.

ATTENDANCE SHEET

Course : 2611.M.Pharm. FIRST SEMESTER
Exam Center : 649.JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES, COLLEGE OF PHARMACY, ERODE
Subject / Paper : 262934 - REGULATORY AFFAIR
Date & Session of Exam : 22-08-2023 A
Month & Year of Exam : APR 2023

S.No	Register No.	Name of the Student	Signature of the Student
1	261122516501	AMARNATH V	V.A.
2	261122516502	DEEPIKA P	Deepika P
3	261122516503	NADIMA RASHEED K	N.R.
4	261122516504	SATHISHKUMAR R	R.Sathish
5	261122516505	SIVA BHARATHI P	P. Siva
6	261122516506	TAMILARASAN K	K. Tamil
7	261122516507	THAMARASELVI L	L. Thamaraseelvi

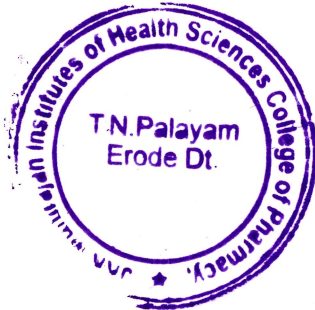
S. Gnanapriya
22/8/23
Signature of the Invigilator [DR-S. GANDHIMATHI]

A. Srinivasan
Signature of the Chief Superintendent

NOTE :

- Candidates who are NOT present may be noted as absent against their register nos.
- Separate format may be used by each invigilator.

CHIEF SUPERINTENDENT
UNIVERSITY EXAMINATIONS
COLLEGE CODE No : 649
JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES
COLLEGE OF PHARMACY T.N.PALAYAM,
Gobi (Tk), Erode (Dt) - 638 508



Principal
JKK Munirajah Institute of Health Sciences
College of Pharmacy, T.N.Palayam,
Gobi (Tk), Erode (Dt) - 638 508

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY
69, ANNA SALAI, GUINDY, CHENNAI- 600 032.

STATEMENT OF ABSENTEES

(To be filled in daily, in respect of each paper at the close of the examinations)

* List showing the names of absentees, their register numbers, the day of examination and the subject/paper for which they were absent.

Statement No. 01

Month & Year of Exam : Apr 2023

(To be filled by the Chief)

Course : 2611.M.Pharm. FIRST SEMESTER

Exam Center : 649.JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES, COLLEGE OF PHARMACY,ERODE

Subject/ Paper : 262934 - REGULATORY AFFAIR

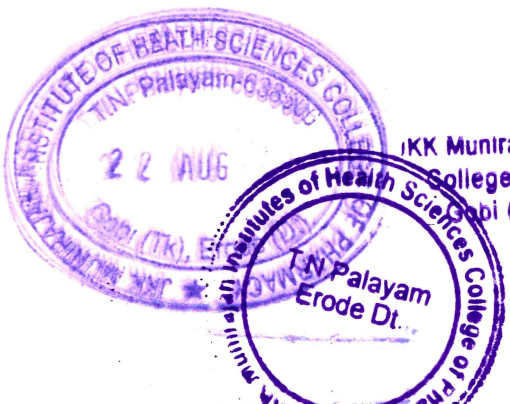
Date & Session : 22-08-2023 AN

S.No	Absentee Register No	Name of the Absentee
1		
2		
3		
4		
5		
6		
7		
8		NIL
9		
10		
11		
12		
13		
14		
15		

NOTE : This statement should be carefully prepared at the close of the examinations in each paper and the figures must tally with the register numbers of absentees entered on each packet of Answer book.

Station :

Date :

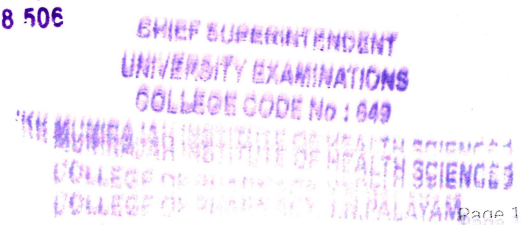


[Signature]
Principal

JKK Munirajah Institute of Health Sciences
 College of Pharmacy, T.N. Palayam,
 Sobi (Tk), Erode (Dt) - 638 506

[Signature]
22/08/23

Signature of the Chief Superintendent

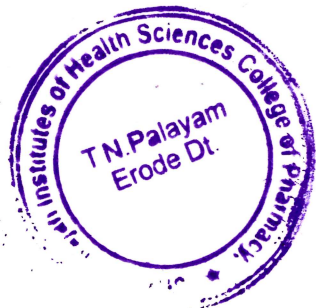
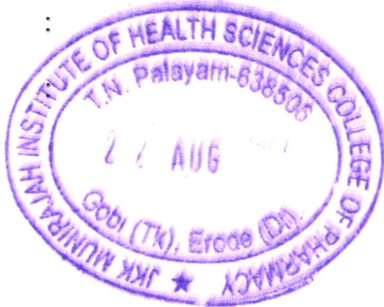


**ARRANGEMENT OF SEATS
HALL NO:1**

Month &Year of Exam : APRIL – 2023			
Course :26. M. PHARM (PHARMACEUTICS) FIRST SEMESTER			
Exam Center :649, J.K.K. MUNIRAJAH INSTITUTE OF HEALTH SCIENCES COLLEGE OF PHARMACY			
Subject/Paper :REGULATORY AFFAIR			
Date & Session of Exam:22.08.2023 AN			
ROW I	ROW II	ROW III	ROW IV
261122516501	261122516506	261122516507	----
261122516502	261122516505	----	----
261122516503	261122516504	----	----

Station :

Date



[Handwritten Signature]
Signature of the Chief Superintendent

CHIEF SUPERINTENDENT
UNIVERSITY EXAMINATIONS
COLLEGE CODE No : 649
JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCE,
COLLEGE OF PHARMACY T.N.PALAYAM,
GOBI (TK) ERODE (DT) - 638 506

[Handwritten Signature]
Principal
JKK Munirajah Institute of Health Sciences
College of Pharmacy, T.N.Palayam,
Gobi (Tk), Erode (Dt) - 638 506

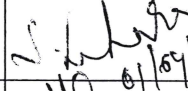


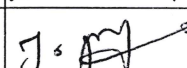
JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES COLLEGE OF PHARMACY
TN Palayam, Gobichettipalayam, Erode.

M. PHARMACY I YEAR EXAMINATION APRIL - 2023

PHARMACEUTICS - MPH

After Noon Session Time: 02.00 PM to 05.00 PM

HALL NO 1

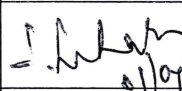

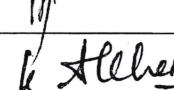
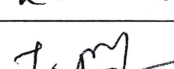
S.No	Date & Session	Subject	Invigilator	Signature
1	17.04.2023	Modern Pharmaceutical Analytical Techniques	Dr. S. Selvaraj	
2	18.04.2023	Drug Delivery System	DR. K. K. Senthilkumar	
3	20.04.2023	Modern Pharmaceutics	DR. K. Abhenaya	
4	21.04.2023	Regulatory Affair	DR. J. Priya	

M. PHARMACY I YEAR EXAMINATION APRIL - 2023

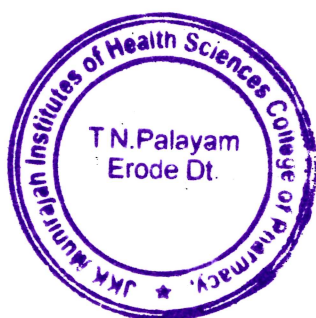
PHARMACEUTICAL CHEMISTRY - MPC


After Noon Session Time: 02.00 PM to 05.00 PM


HALL NO 1

S.No	Date & Session	Subject	Invigilator	Signature
1	17.04.2023	Modern Pharmaceutical Analytical Techniques	Dr. S. Selvaraj	
2	18.04.2023	Advanced Organic Chemistry I	DR. K. K. Senthilkumar	
3	20.04.2023	Advanced Medicinal Chemistry	DR. K. Abhenaya	
4	21.04.2023	Chemistry of Natural Products	DR. J. Priya	

- Water, Snacks, Stationary and all required arrangement to be done by Mrs. S. Loganayaki.
- Entire House Keeping arrangements to be completed by Mrs. S. Loganayaki through lower grade staff.




Principal
JKK Munirajah Institute of Health Sciences
College of Pharmacy, T.N. Palayam,
Gobi (Tk), Erode (Dt) - 638 506


01/4/23
Principal
JKK Munirajah Institute of Health Sciences
College of Pharmacy, T.N. Palayam,
Gobi (Tk), Erode (Dt) - 638 506

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[M.PHARM 0823]

AUGUST 2023
(APRIL 2023 EXAM SESSION)

Sub. Code: 2933

M.PHARMACY DEGREE EXAMINATION
SEMESTER - I (PCI New Regulations 2016)
PHARMACEUTICS - MPH
PAPER III – MODERN PHARMACEUTICS

Q.P. Code: 262933

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

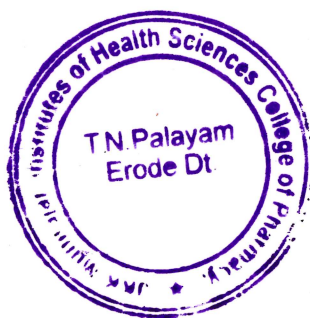
(2 x 20 = 40)


1. Explain elaborately about Physics of Tablet Compression.
2. Define Pharmaceutical validation and write scope and quality. Discuss about general guidelines for the validation and calibration of manufacturing process model.

II. Write notes on:

(7 x 5 = 35)

1. Stability testing of Small volume parenterals.
2. Factorial designs and application in pharmaceutical formulation.
3. Describe current Good Manufacturing Practice.
4. Similarity factors (f₂).
5. Response surface Methodology.
6. Calibration and Validation of equipments as ICH guidelines.
7. Concept of Total Quality Management.




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69, ANNA SALAI, GUINDY, CHENNAI- 600 032.

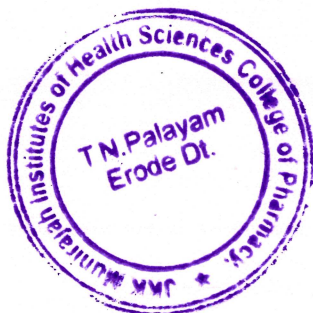
RESULT GALLEY

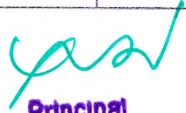
Exam Session : APR 2023

Course & Term : 2611 - M.Pharm. - (PHARMACEUTICS) FIRST SEMESTER

Institution : 649-JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES, COLLEGE OF PHARMACY ERODE,

S. No.	Register No.	Name of the Candidate	A P P	Pattern: 1.2017					
				262931 MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES	262932 DRUG DELIVERY SYSTEM	262933 MODERN PHARMACEUTICAL ICS	262934 REGULATORY AFFAIR	992611 PHARMACEUTICAL ICS PRACTICAL	269911 SEMINAR / ASSIGNMENT
1	261121516502	DEVI BALAN	2	—	FAIL	—	—	—	—
2	261121516507	PRATHEEPA S	2	—	PASS	—	—	—	—
3	261121516508	PREETHI R	2	—	FAIL	—	—	—	—
4	261122516501	AMARNATH V	1	PASS	PASS	PASS	PASS	PASS	PASS
5	261122516502	DEEPIKA P	1	PASS	PASS	PASS	PASS	PASS	PASS
	261122516503	NADIMA RASHEED K	1	PASS	PASS	PASS	PASS	PASS	PASS
7	261122516504	SATHISHKUMAR R	1	PASS	FAIL	PASS	PASS	PASS	PASS
8	261122516505	SIVA BHARATHI P	1	PASS	PASS	PASS	PASS	PASS	PASS
9	261122516506	TAMILARASAN K	1	PASS	PASS	PASS	PASS	PASS	PASS
10	261122516507	THAMARAISELVI L	1	PASS	PASS	PASS	PASS	PASS	PASS




Principal
 JKK Munirajah Institute of Health Sciences
 College of Pharmacy, T.N. Palayam.
 Gobi (Tk), Erode (Dt) - 638 506