Program	Master of Pharmacy (M.Pharm)	**Semester - 1**
Type of Course	-	
Prerequisite		
Course Objective	-	
Effective From A.Y.	2023-24	

Teaching Scheme (Contact Hours)				Examination Scheme				
				Theory Marks		Practical Marks		
Lecture	Tutorial	Lab	Credit	External Marks (T)	Internal Marks (T)	External Marks (P)	Internal Marks (P)	Total Marks
-	-	12	6	-	-	100	50	150

SEE *- Semester End Examination,* ***CIA*** *- Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)*

Course Content

T - Teaching Hours | **W** - Weightage

Sr.	Topics	T	W
1	**PRACTICAL** Analysis of pharmacopoeial compounds and their formulations by UV Vis spectrophotometer	12	5
2	**PRACTICAL** Simultaneous estimation of multi component containing formulations by UV spectrophotometry	12	5
3	**PRACTICAL** Experiments based on HPLC	5	2
4	**PRACTICAL** Experiments based on Gas Chromatography	5	3
5	**PRACTICAL** Estimation of riboflavin/quinine sulphate by fluorimetry	10	4
6	**PRACTICAL** Estimation of sodium/potassium by flame photometry	6	2
7	**PRACTICAL** To perform In-vitro dissolution profile of CR/ SR marketed formulation	12	8
8	**PRACTICAL** Formulation and evaluation of sustained release matrix tablets	12	8
9	**PRACTICAL** Formulation and evaluation osmotically controlled DDS	12	5
10	**PRACTICAL** Preparation and evaluation of Floating DDS- hydro dynamically balanced DDS	12	5
11	**PRACTICAL** Formulation and evaluation of Muco adhesive tablets.	8	4
12	**PRACTICAL** Formulation and evaluation of trans dermal patches.	12	8
13	**PRACTICAL** To carry out preformulation studies of tablets	10	8

Course Content

T - Teaching Hours | **W** - Weightage

Sr.	Topics	T	W
14	**PRACTICAL** To study the effect of compressional force on tablets disintegration time.	12	10
15	**PRACTICAL** To study Micromeritic properties of powders and granulation	8	2
16	**PRACTICAL** To study the effect of particle size on dissolution of a tablet	10	5
17	**PRACTICAL** To study the effect of binders on dissolution of a tablet	11	8
18	**PRACTICAL** To plot Heckal plot, Higuchi and peppas plot and determine similarity factors	11	8
	Total	180	100

Suggested Distribution Of Theory Marks Using Bloom's Taxonomy

Level	Analyze	Evaluate
Weightage	40	60

NOTE : This specification table shall be treated as a general guideline for the students and the teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Course Outcomes

At the end of this course, students will be able to:	
CO1	Ability to Develop the analytical methods for estimation of drugs in single and combined dosage forms
CO2	Ability to formulate different dosage forms and evaluate them for their quality.

Reference Books

1.	**Theory and practice of Industrial Pharmacy** By Lachmann | CBS PUBLISHER AND DISTRIBUTORS | 4TH, Pub. Year 2009
2.	**Analytical Chemistry (TextBook)** By G.D. Christian | Wiley India | 6TH, Pub. Year 2007
3.	**Pharmaceutical Analysis** By D.G. Watson | Harcourt Publishers Ltd | 1ST, Pub. Year 2000
4.	**Textbook of Pharmaceutical Analysis (TextBook)** By K.A. Conners | John Wiley & Sons | 3RD, Pub. Year 2004
5.	**Vogel's Textbook of Quantitative Chemical Analysis** By J MENDHAM,RC DENNEY,J D BARES,M THOMAS,B SIVASANKAR | PEARSON | 6 TH, Pub. Year 1989
6.	**Laboratory handbook in Instrumental analysis (TextBook)** By Dr. Kalpana Patel, Dr.Pruvi shah, Hitesh Raval | Nirav Prakashan | 1ST, Pub. Year 2013

List of Practical

1.	To carry out assay of Paracetamol by UV spectrophotometric method as per the IP 2022
2.	To determine % w/w of Paracetamol in given tablet by colorimetric method
3.	To determine %w/w of Ofloxacin in given tablet by Colorimetric method
4.	To perform assay of Indomethacin using UV spectroscopic method
5.	Determination of Chloramphenicol from its ointment by UV-Visible Spectroscopy
6.	To estimate the amount of quinine sulphate present in given sample by photo fluorimetry.
7.	To determine amount of Caffeine and Sodium Benzoate in mixture by UV spectroscopy using simultaneous equation method
8.	To determine amount of Caffeine and Sodium Benzoate in mixture by UV spectroscopy using absorbance ratio method
9.	To determine amount of Ornidazole and Ofloxacin by Simultaneous equation method.
10.	To determine amount of Ornidazole and Ofloxacin by absorption ratio method.
11.	To determine amount of Ornidazole and Ofloxacin by 1st order derivative method
12.	To determine amount of Paracetamol and Ibuprofen by absorption ratio method in Combiflam.
13.	To determine amount of Paracetamol and Ibuprofen by simultaneous equation method in Combiflam
14.	To determine amount of Paracetamol and Ibuprofen by 1st order derivative method in Combiflam.
15.	To estimate Paracetamol by HPLC method.
16.	To perform in-vitro dissolution profile of CR/SR marketed formulation.
17.	Formulation & evaluation of sustained release matrix tablets.
18.	To prepare and evaluate osmotically controlled DDS.
19.	Preparation and evaluation of hydro dynamically balanced DDS.
20.	Formulation and evaluation of Muco-adhesive tablets.
21.	Formulation and evaluation of transdermal patches.
22.	To carry out preformulation studies of tablets.
23.	To study the effect of compressional force on tablets disintegration time.
24.	To study micromeritic properties of powders and granulation.
25.	To study the effect of particle size on dissolution of a tablet.
26.	To study the effect of binders on dissolution of a tablet.
27.	To plot Heckal plot, Higuchi and peppas plot and determine similarity factors.