JSS Academy of Higher Education & Research

JSS College of Pharmacy

Sri Shivarathreeshwara Nagara, Mysuru-570015

Ph: 0821-2548353, Fax: 0821-2548359, Email: jsscpmy@jssuni.edu.in

Website: www.jssuni.edu.in

An ISO 9001:2015 Certified Institution

Accredited 'A+' Grade by NAAC

Course Handout

2023-24

Class: B. Pharm – III Semester

Name : _____

Roll No. : _____

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VISION

To be a leader in Pharmacy Education, Training and Research to Transform Individuals and Society.

MISSION

- To educate and inspire diverse group of future pharmacists and pharmaceutical scientists to be a leader in pharmaceutical sciences and pharmacy practice.
- To provide conducive environment and infrastructure that motivate and enable individuals to excel in research that benefits the society.
- To train and empower the individuals to advance the public health through quality pharmaceutical care services.
- To reach out the public through outreach programs to meet the changing needs of the society.
- To contribute to a sustainable future by adopting innovative technologies and advance pharmacy education and training.

CORE VALUES

- Innovation, Leadership, Excellence, Integrity, Respect, Professionalism

QUALITY POLICY

1. To provide accurate and unbiased assessment of Examinees/ Students.
2. To provide excellent work environment and to promote technical superiority.
3. To carry out work in such a way that student (customer) satisfaction, as well as confidence in college independence, competence, impartiality, and integrity are maintained.

MOBILE PHONE POLICY

- Staff members shall not keep their mobile phones switched on while conducting theory, practical classes and in library.
- Students' mobile phones should be put off in the college premises. If found ringing in the college premises the teachers are authorized to confiscate the mobiles and report to the principal.
- If found guilty, the confiscated mobile phones will not be returned to the student till completion of the course.

Academic Calendar 2022-23
(B. Pharm – III Semester)

1. **Commencement of Classes**

   B. Pharm – III Semester - 10th July 2023

2. **Sessional Examination Schedule**

I	II
06th September	15th November

3. **Closure of Term** - 21st November 2023
4. **End semester Examination** - 27th November 2023

Teacher's In charge

Class	Class Teacher	Batch No.	Batch Teacher
II Year III semester	Dr. Prabitha P (PP)	I	PS
		II	RG
		III	PP
		IV	ST

ACTIVITIES AND COORDINATORS 2023-24

Curricular & Co curricular activities

Sl. No	Activities	Coordinator/s	Tentative schedule of meeting/activity
1.	Induction, learning skills, and personality development programs for freshers' day	Coordinator: AKT Members: BRJ, DT	July/August 2023
2.	Anti-ragging cell	Coordinators: JS, KSN, & Committee members	July/August 2023
3.	Grievance and redressal cell	Coordinator: GVP & Committee members	Meetings - twice/year
4.	Gender Sensitization Committee	Coordinator: SNM & Committee members	Meetings - twice/year

5.	Industrial Visits, Training, and placements	Coordinator: ABP Members: MGS, SM, SD, LR, UM	September 2023- June 2024
6.	Internal Quality Assurance Cell (IQAC) Team	Chairman- GVP Coordinator- HVG Member Secretary: SP Members: RSC, MPV, KSN, CIA, HP	4 meetings/year
7.	Guest lecture & Seminar/ Conference/ Training / Workshop/Webinar organized at college / delivered/ attended by staff- Validation of college data.	IQAC Team	Throughout the academic year
8.	Governing council meeting	GVP + IQAC Team AAO & Asha B	July 2023 and Feb 2024
9.	Preparation of documents and submission for NIRF, NAAC, NBA, PCI or any other agency	Team IQAC	• Throughout the academic year
10.	Internal Assessment Committee (IAC)	Coordinator: GVP Members: All program Coordinators (M Pharm, B. Pharm, D Pharm, Pharm D)	Meetings - twice/year Schedule as per the academic calendar
11.	ACPE committee- Interim report and others	Coordinator: MR /RSS Member: SP & UM	• As required
12.	Academic Council Board (ACB) • Student Progression (Advanced/ Medium/ Slow learners) • Mentors Diary- Student profile	Class teachers and Program Coordinators	• After each sessional exam • Regular monitoring of Mentee
13.	Ethics committee	• IAEC-SBC • IEC-CSH	• Twice a year
14.	Class Timetable committee	Coordinator: VJ Member: BRP, NPK, URR, DT	• Twice a year (June & Nov 2023)
15.	Women's cell/Prevention of Sexual Harassment Cell/Internal Complaints committee (ICC)	SNM & committee members	• Meetings twice a year (June & Nov • 2023)
16.	Scholarship Bureau	Coordinator: RSC Member: SRD	Soon after the announcement of the Scholarships

17.	Compilation of publications (Research papers/ books/chapters)	Coordinator: SRD	1st of Every month
18.	Research Coordination & Consultancy Committee Compilation of Ph.D. details and funded projects Review of publications Collaboration with Industries/organizations Interdepartmental/ Interdisciplinary research	Chairman-SBC Members-All HoDs	At least 3 meetings/year
19.	Department Academic Integrity Panel (DAIP) - Plagiarism Check for PhD & M Pharm thesis	Chairman-TMP Member Secretary: BRP Member-VJ	During the submission of thesis by the students
20.	Pharmacy Education Unit – for CCLPE activities	MSS	At least 5 activities/ year
21.	Annual result analysis and List of merit students	Class teachers and M Pharm Course Coordinators	Soon after the exam results
22.	GPAT and other competitive exams (TOEFL, GRE etc.)	Coordinator: SNM Members: RAO, RJ	Planning of coaching Throughout the academic year
23.	Library orientation	Librarian	July/August 2023
24.	Library staff coordinator	Coordinator: HYK Members: PP, AAR, RG, DT, and AAP	Two meetings/year Yearly textbook requirements
25.	Soft Skills Training	Coordinator: ABP Member: MGS	At least 3 activities/year
26.	International Student Rotation	CSH	As and when
27.	Hackathon	RAO	At least two events/ year
28.	Golden Jubilee-Souvenir, press and publicity	Chairman- TMP/ GVP Members-BS, KSN, RJ, RG, CIA	August 2022- August 2023
29.	SDG- Activities and Compendium	CIA, PP	• Compendium- August 23 • Regular activity under each SDG
30.	Course handouts/ Teachers' diary/ Student Handbook/Faculty Handbook.	NPK & HYK	• July/ August 2023

31.	National Pharmacy Week (NPW) & Pharmacists Day	Coordinator: UM & IPA office bearers	• Nov-Dec 2023
32.	Alumni association	Coordinator: HVG Member: SM	• August/September 2023
33.	Herbal and College Garden	NPK	• Regular monitoring
34.	ISO 9001:2015	Coordinator: SNM Member: SM	• 2 Internal audits (July and December) • Surveillance/ Recertification audit
35.	Press and publicity	Coordinator: BRP Member: TS	During the Conferences/ workshop organized
36.	Foreign students' cell	MPV	At least 2 meetings
37.	Monthly/Annual report of college and JSSU Newsletter & Annual report of JSS AHER and other agencies	Coordinator: KM Members: PP, HP, AAP, DT, AAR	Monthly report
38.	College website updating	Coordinator: HKS Members: AKT, DT, RG, URR, MGS	Throughout the year
39.	JSSUonline.com Student promotion, Timetable, teacher allotment, and others	Coordinator - SRD	Throughout the year
40.	Annual group photo session	HP, RG	Feb 2024
41.	Lab coat and Blazers	JS and Ningaraju	August/Sep 2023
42.	Notice Board (SNB, LNB, and IIPC), Departmental staff list	Shadakshari	Throughout the year
43.	Stock verification	Ningaraju	April/May 2024
44.	Student Liaison	Coordinator: AAO Member: TS	Throughout the year
45.	Student ID Cards /Attendance entry	Shivanna & Kumar	Aug/Sep 2023
46.	Retreat for Pharmacy Students	AKT	Nov/Dec 2023
47.	Retreat for Teachers	JS	November 2023/May 2024
48.	Feedback	VJ & SA	April/May 2023
49.	Institute Innovation Cell	Coordinator: RAO Member: DT	Throughout the year
50.	Practice School	Coordinator: ST Member: KSN, PS, MSS, PP	Throughout the year

51.	MOUs-Collate College initiation activities	HP	June 2023 & Jan 2024
Extracurricular activities			
Sl. No.	**Activities**	**Coordinator/s**	**Tentative schedule of meeting/activity**
52.	Selection of Class Representatives, Pharmaceutical society members Annual planning and execution of Student-centered and professional activities including the inauguration of IPS	Coordinator: MPV Member: MSS	July 2023
53.	JASPHARM- College magazine	Coordinator: BS Member: AAP	July 2024
54.	STUMAG- College wall magazine	TSK, LR	At least 3 issues/year
55.	Sports coordinators	HYK, SND	Feb 2024
56.	NSS coordinators	Program Officer- URR Assistant PO - SND	Regular activities and special camp
57.	Cultural & Literary coordinators	PS, MGS, LR	Nov 2023
58.	Annual Day Celebration & Graduation Day	CIA, ASP	March 2024, July 2024
59.	Foreign languages	CIA, PP	Throughout the year
60.	College Calendar & Events	RSC, MPV	June / July 2023

Program committees			
Sl. No.	**Programs**	**Chairperson**	**Member Secretary**
1.	D. Pharm	GVP	MSS
2.	B. Pharm	GVP	MPV
3.	Pharm. D	TMP	CSH
4.	M. Pharm	TMP	KRSCM
5.	Diploma programs	GVP	RJ
Sl. No	**M. Pharm Program**		**Coordinator**
6.	Pharmaceutics	RAO	
7.	Industrial Pharmacy	ASP	
8.	Pharmaceutical Regulatory Affairs	MPV	
9.	Pharmaceutical Quality Assurance	HKS	
10.	Pharmaceutical Chemistry	HYK	
11.	Pharmaceutical Analysis	AKT	
12.	Pharmacology	SM	
13.	Pharmacognosy	NPK	
14.	Pharmacy Practice	UM	
15.	Pharmaceutical Biotechnology	RG	
Sl. No	**PG Diploma Program**	**Coordinator**	
16.	Pharmacovigilance	CSH	
17.	Medicine & Poison Information	UM	
18.	Clinical Research	SP	
19.	Pharmaceutical Quality Assurance	ST	
20.	Pharmaceutical Regulatory Affairs	MPV	
21.	Medical Devices	MGS	

22.	Intellectual Property Rights	ARR/HYK
23.	Computer Aided Drug Design	SD
24.	Food and Drug Analysis	RJ
25.	Regulatory Toxicology	SBC
26.	Phytopharmaceutical and Industrial Applications	NPK
27.	Quality Control	AKT
Sl. No	**Certificate Course**	**Coordinator**
28.	Pharmaceutical Quality Assurance	HKS
29.	Herbal Drug Standardization	HP
30.	Medicine Information	BRJ
31.	Clinical Research	SP
32.	Global Regulatory Affairs	MPV
33.	Food & Nutraceuticals	RJ
34.	Telemedicine	BRJ

Class and Batch Teachers-2023-24

Class	Class Teacher	Batch Teacher I	Batch Teacher II	Batch Teacher III	Batch Teacher IV
I B. Pharm	HKS	HKS	SD	CIA	SM
II B. Pharm	PP	PS	RG	PP	ST
III B. Pharm	LR	LR	KSN	AKT	SNM

IV B. Pharm	RJ	RJ	TSK	MSS	MGS
I Pharm. D	BRP	BRP	TSK	-	-
II Pharm. D	CSH	CSH	HP	-	-
III Pharm. D	HYK	HYK	ASP	-	-
IV Pharm. D	UM	UM	RAO	-	-
V Pharm. D	BRJ	BRJ	RSS	-	-
I D. Pharm	ARR	ARR	BS	PP	MSS
II D. Pharm	URR	URR	SND	DT	-

Note:

- All coordinators are informed to adhere the number of meetings to be scheduled for activities.
- Maintain the file for each activity and furnish to the office or regulatory bodies as and when required.
- Updating the minutes of meetings/activities coordinated in the google forms and college website.

List of Holidays

July 29	Sat	Last Day of Muharam	**Nov 30**	Thu	Kanakadasa Jayanthi
Aug 15	Tue	Independence Day	**Dec 25**	Mon	Christmas
Sep 18	Mon	Varasiddhi Vinayaka Vratha	**Jan 15**	Mon	Makar Sankranti
Sep 28	Thu	Id Milad	**Jan 26**	Fri	Republic Day
Oct 2	Mon	Gandhi Jayanthi	**Mar 8**	Fri	Maha Shivaratri
Oct 23	Mon	Ayudha Pooja	**Mar 29**	Fri	Good Friday
Oct 24	Tue	Vijaya Dashami	**Apr 9**	Tue	Ugadi
Oct 28	Sat	Maharshi Valmiki Jayanthi	**Apr 11**	Thu	Ramzan
Nov 1	Wed	Kannada Rajyotsava	**Apr 17**	Wed	Ramanavami
Nov 14	Tue	Bali Padyami			

CONTACT DETAILS OF TEACHING FACULTY

Sl. No	NAME	QUALIFICATION	DESIGNATION	DEPARTMENT
1.	Dr. T.M. Pramod Kumar (TMP)	M.Pharm., Ph.D.	Professor & Principal	Pharmaceutics
2.	Dr. Gurubasavaraj V Pujar (GVP)	M.Pharm., Ph.D.	Professor & Vice Principal	Pharma. Chemistry
3.	Dr. Balamuralidhara V. (BMV)	M.Pharm., Ph.D.	Assoc. Professor & Head	Pharmaceutics
4.	Dr.K. Bangarurajan (KBR)	M.Pharm., Ph.D.	Professor	Pharmaceutics
5.	Dr. Gangadharappa H.V. (HVG)	M.Pharm., Ph.D.	Assoc. Professor	Pharmaceutics
6.	Dr. M.P. Venkatesh (MPV)	M.Pharm., Ph.D.	Assoc. Professor	Pharmaceutics
7.	Dr. Vikas Jain (VJ)	M.Pharm., Ph.D.	Assoc. Professor	Pharmaceutics
8.	Dr. Amit B Patil (ABP)	M.Pharm., Ph.D.	Assoc. Professor	Pharmaceutics
9.	Dr. Hemanth Kumar S (HKS)	M.Pharm., Ph.D.	Asst. Professor	Pharmaceutics
10.	Dr. Osmani Mir Riyaz Ali MahafezAli (RAO)	M.Pharm., Ph.D.	Asst. Professor	Pharmaceutics
11.	Dr. Asha Spandana K M (ASP)	M.Pharm., Ph.D.	Lecturer	Pharmaceutics
12.	Dr. Shailesh T(TS)	M.Pharm., Ph.D.	Lecturer	Pharmaceutics
13.	Ms. Preethi S (PS)	M.Pharm	Lecturer	Pharmaceutics
14.	Ms. Akhila AR (AAR)	M.Pharm	Lecturer	Pharmaceutics
15.	Mr. Trideva Sastri K (TSK)	M.Pharm	Lecturer	Pharmaceutics
16.	Dr.Meghana G S(MGS)	M.Pharm., Ph.D.	Lecturer	Pharmaceutics
17.	Dr. Savitha R S (RSS)	M.Pharm.	Assoc. Professor & Head	Pharmacy Practice
18.	Dr. M. Ramesh (MR)	M.Pharm., Ph.D.	Professor	Pharmacy Practice
19.	Ms. Shilpa Palaksha (SP)	M.Pharm.	Assoc. Professor	Pharmacy Practice
20.	Mr. D.H. P. Gowda (DHP)	M.Sc., PGDCA.	Asst. Professor	Pharmacy Practice
21.	Dr. M Umesh (UM)	Pharm D.	Asst. Professor	Pharmacy Practice
22.	Dr. Sri Harsha Chalasani (CSH)	M.Pharm., Ph.D.	Asst. Professor	Pharmacy Practice
23.	Dr. Jaidev Kumar B R (BRJ)	M.Pharm.	Lecturer	Pharmacy Practice
24.	Dr. Srikanth M S (MSS)	M.Pharm., Ph.D.	Lecturer	Pharmacy Practice
25.	Mr Balaji S (BS)	M.Pharm	Lecturer	Pharmacy Practice
26.	Dr. U R Rakshith (URR)	Pharm D	Lecturer	Pharmacy Practice
27.	Dr. Acsah Annie Paul (AAP)	Pharm D	Lecturer	Pharmacy Practice
28.	Dr Siddartha N Durappanavar (SND)	Pharm D	Resident	Pharmacy Practice
29.	Dr. B.M. Gurupadayya (BMG)	M.Pharm., Ph.D.	Professor & Head	Pharma. Chemistry
30.	Dr. R. S. Chandan (RSC)	M.Pharm., Ph.D.	Assoc. Professor	Pharma. Chemistry
31.	Dr. Prashantha Kumar B R (BRP)	M.Pharm., Ph.D.	Assoc. Professor	Pharma. Chemistry
32.	Dr. Anand Kumar Tengli (AKT)	M.Pharm., Ph.D.	Assoc. Professor	Pharma. Chemistry

33.	Dr. H. Yogish Kumar (HYK)	M.Pharm., Ph.D.	Lecturer	Pharma. Chemistry
34.	Dr. Sheshagiri Dixit (SD)	M.Pharm., Ph.D.	Lecturer	Pharma. Chemistry
35.	Dr Rupshee Jain (RJ)	M.Pharm., Ph.D.	Lecturer	Pharma. Chemistry
36.	Mr. Chetan.I.A(CIA)	M.Pharm	Lecturer	Pharma. Chemistry
37.	Dr. Prabitha P (PP)	M.Pharm., Ph.D.	Lecturer	Pharma. Chemistry
38.	Dr. J. Suresh (JS)	M.Pharm., Ph.D.	Professor & Head	Pharmacognosy
39.	Dr. K Mruthunjaya (KM)	M.Pharm., Ph.D.	Professor	Pharmacognosy
40.	Dr. N Paramakrishnan (NPK)	M.Pharm., Ph.D.	Asst. Professor	Pharmacognosy
41.	Ms. Haripriya G (HG)	M Pharm	Lecturer	Pharmacognosy
42.	Dr. Logesh R (LR)	M.Pharm., Ph.D.	Lecturer	Pharmacognosy
43.	Mr. Rajaguru A (RG)	M.Pharm	Lecturer	Pharmaceutical Biotechnology
44.	Mr. Siva Armugam (SA)	M.Pharm	Lecturer	Pharmaceutical Biotechnology
45.	Dr. K L Krishna (KLK)	M.Pharm., Ph.D.	Assoc. Professor& Head	Pharmacology
46.	Dr. S. N. Manjula (SNM)	M.Pharm., Ph.D.	Professor	Pharmacology
47.	Dr. Saravana Babu C (SB)	M.Pharm., Ph.D.	Professor	Pharmacology
48.	Dr. Seema Mehdi (SM)	M.Pharm., Ph.D.	Lecturer	Pharmacology
49.	Dr. Nagashree K S (KSN)	M.Pharm ., Ph.D	Lecturer	Pharmacology
50.	Dr. Dithu Thekkekkara (DT)	M.Pharm ., Ph.D	Lecturer	Pharmacology

B. PHARM

Program Educational Objectives (PEOs):

PEO 1: To acquire the theoretical knowledge of pharmaceutical sciences

PEO 2: To acquire practical skills in

- isolation of medicinal compounds from natural sources
- synthesis and analysis of medicinal compounds
- screening medicinal compounds for pharmacological activities
- formulation of pharmaceutical dosage forms and their evaluation

PEO 3: To develop competent Pharmacists with ethical attitude, research intuition, leadership qualities, to participate in public health programs and engage in life-long learning

Program Outcomes (POs):

1. Ability to acquire knowledge of pharmaceutical sciences

2. Ability to design and conduct experiments, to analyze and interpret data
3. Ability to demonstrate effective planning, develop and implement plans within time frame.
4. Ability to function effectively individually and on teams, including diverse and multidisciplinary, to accomplish a task.
5. Ability to understand and appreciate the role of pharmacist in healthcare services.
6. Understanding of professional, ethical, legal, security and social issues and responsibilities.
7. Ability to understand contemporary issues relating to pharmacy profession and challenges ahead.
8. Awareness of ethical and professional responsibilities.
9. Possess the necessary interpersonal and communication skills to be a productive member of the team in work environment.
10. Ability to use current techniques, skills, and modern tools.
11. A strong background and motivation to pursue life-long learning

COURSE HAND OUT 2023-24 Class: B. Pharm – III Semester

1. Course Details

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP301T	Pharmaceutical Organic Chemistry II – Theory	3	1	4
BP302T	Physical Pharmaceutics I – Theory	3	1	4
PB303T	Pharmaceutical Microbiology – Theory	3	1	4
BP304T	Pharmaceutical Engineering – Theory	3	1	4
BP305T	Pharmaceutical Organic Chemistry II – Practical	4	1	2
BP306P	Physical Pharmaceutics I – Practical	4	-	2
BP307P	Pharmaceutical Microbiology – Practical	4	-	2
BP308P	Pharmaceutical Engineering –Practical	4	-	2
	Total	**28**	**4**	**24**

2. Evaluation:

a. Internal assessment: Continuous mode

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

Table 1: Scheme for awarding internal assessment: Continuous mode

THEORY		
Criteria	**Maximum Marks**	
Attendance	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**
PRACTICALS		
Attendance	2	
Based on Practical Records, Regular viva voce, etc.	3	
Total	**5**	

Table 2: 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

b. 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.

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)
(Answer all the questions) = 10 x 1 = 10
I. Long Answers (Answer 1 out of 2) = 1 x 10 = 10
II. Short Answers (Answer 2 out of 3) = 2 x 5 = 10

Total = 30 marks

For subjects having Non-University Examination

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

Total = 30 marks

Question paper pattern for practical sessional examinations

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

Total = 40 marks

3. End semester examinations

The End Semester Examinations for each theory and practical course through semesters I to VIII shall be conducted by the university except for the subjects notified as non-university examinations

Table 3: Scheme for internal assessments and university examination - Semester-IV

Course code	Name of the course	Internal Assessment				University Exam		Total Marks	Credit points
		Continuous Mode	Sessional Exams		Total	Marks	Duration		
			Marks	Duration					
BP301T	Pharmaceutical Organic Chemistry II – Theory	10	15	1 Hour	25	75	3 Hours	100	4
BP302T	PhysicalPharmaceuticsI –Theory	10	15	1 Hour	25	75	3 Hours	100	4
BP303T	Pharmaceutical Microbiology – Theory	10	15	1 Hour	25	75	3 Hours	100	4
BP304T	Pharmaceutical Engineering – Theory	10	15	1 Hour	25	75	3 Hours	100	4
BP305T	Pharmaceutical Organic Chemistry II – Practical	5	10	4 Hours	15	35	4 Hours	50	4
BP306P	Physical Pharmaceutics I – Practical	5	10	4 Hours	15	35	4 Hours	50	2
BP307P	Pharmaceutical Microbiology – Practical	5	10	4 Hours	15	35	4 Hours	50	2
BP308P	Pharmaceutical Engineering – Practical	5	10	4 Hours	15	35	4 Hours	50	2
Total		**60**	**100**	**20 Hrs.**	**160**	**440**	**28 Hrs.**	**600**	**26**

4. Promotion and award of grades

A student shall be declared PASS and eligible for getting grade in a course of B. Pharm programme if he/she secures at least 50% marks in that course including internal assessment. For example, to be declared as PASS and to get grade, the student must 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.

5. Carry forward of marks

In case a student fails to secure the minimum 50% in any Theory or Practical course as specified (in promotion and award of grades), then he/she shall reappear for the university 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.

6. 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 should be completed before the commencement of next semester theory examinations.

7. Re-examination of end semester examinations

Reexamination of end semester examination shall be conducted as per the schedule given in table 3. The exact dates of examinations will be notified from time to time.

Table 4: Tentative schedule of university examinations and supplementary examinations

Semester	Regular examinations	Supplementary examinations
I, III, V and VII	September / October	May / June
II, IV, VI and VIII	December	November / December

Question pattern for university theory examinations for 75 marks paper

I. Multiple Choice Questions (MCQs)		
(Answer all the questions)	=	20 x 01 = 20
I. Long Answers (2 out of 3)	=	2 x 10 = 20
II. Short Answers (7 out of 9)	=	7 x 05 = 35

Total	=	75 marks

Question pattern for university theory examinations for 50 marks paper

I. Long Answers (2 out of 3)	=	2 x 10 = 20
II. Short Answers (6 out of 8)	=	6 x 05 = 30

Total	=	50 marks
		---

8. Grading of performances

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.

Table 5: Letter grades and grade points equivalent to percentage of marks and performances

Percentage of Marks Obtained	Letter Grade	Grade Point	Performance
90.00 – 100	A+	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 in any form of evaluation/examination, letter grade allocated to him/her should 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.

9. Declaration of class

The class shall be awarded based on 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

10. Attendance: The marks are allotted based on the attendance percentage (Table 2)

11. Chamber consultation hours: Any time during college hours.

12. Tutorial Class: Objective of the tutorial is to enhance the learning ability and help students in better understanding of the subject. This provides a best opportunity for the students to clarify their subject doubts. This involves discussions, presentations on specified topics, assignments and evaluation.

BP301T. PHARMACEUTICAL ORGANIC CHEMISTRY –II (Theory)

Teacher/s: Dr. Prabitha P (PP) **45 Hours (3 Hrs/ week)**

Scope: This subject deals with general methods of preparation and reactions of some organic compounds. Reactivity of organic compounds are also studied here. The syllabus emphasizes on mechanisms and orientation of reactions. Chemistry of fats and oils are also included in the syllabus.

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

Theory:

1. write the structure, name and the type of isomerism of the organic compound
2. write the reaction, name the reaction and orientation of reactions
3. account for reactivity/stability of compounds,
4. prepare organic compounds

Practical:

1. explain the principle involved in the determination of various oil values such as acid value, saponification value and iodine value
2. explain the principle involved in the purification technique by recrystallization and steam distillation
3. perform experiments involving purification techniques and determination of various oil values such as acid value, saponification value and iodine value
4. synthesize and purify selected organic compounds

Course Content:

General methods of preparation and reactions of compounds superscripted with asterisk (*) to be explained

To emphasize on definition, types, classification, principles/mechanisms, applications, examples and differences

Chapter No.	Title	No. of Hours
1	**Benzene and its derivative** Analytical, synthetic and other evidences in the derivation of structure of benzene, Orbital picture, resonance in benzene, aromatic characters, Huckel's rule	2

2	Reactions of benzene - nitration, sulphonation, halogenation- reactivity, Friedel crafts alkylation- reactivity, limitations, Friedel crafts acylation. Substituents, effect of substituents on reactivity and orientation of mono substituted benzene compounds towards electrophilic substitution reaction D) Structure and uses of DDT, Saccharin, BHC and Chloramine	**8**
3	**Phenols*** - Acidity of phenols, effect of substituents on acidity, qualitative tests, Structure and uses of phenol, cresols, resorcinol, naphthols	**4**
4	**Aromatic Acids* –**Acidity, effect of substituents on acidity and important reactions of benzoic acid. **Aromatic Amines* -** Basicity of amines, effect of substituents on basicity, and synthetic uses of aryl diazonium salts	**6**
5	**Fats and Oils** A) Fatty acids – reactions. B) Hydrolysis, Hydrogenation, Saponification and Rancidity of oils, Drying oils.	**5**
6	Analytical constants – Acid value, Saponification value, Ester value, Iodine value, Acetyl value, Reichert Meissl (RM) value – significance and principle involved in their determination	**5**
7	**Polynuclear hydrocarbons:** a. Synthesis, reactions b. Structure and medicinal uses of Naphthalene, Phenanthrene, Anthracene, Diphenylmethane, Triphenylmethane and their derivatives	**8**
8	**Cyclo alkanes*** Stabilities – Baeyer's strain theory, limitation of Baeyer's strain theory, Coulson and Moffitt's modification, Sachse Mohr's theory (Theory of strainless rings), reactions of cyclopropane and cyclobutane only)	**7**

Theory Sessional examination syllabus

Sessional No.	**Syllabus Chapters no.**
I	1 to 4
II	5 to 8

BP306P. PHARMACEUTICAL ORGANIC CHEMISTRY -II (Practical)

Teacher/s: Dr. Prabitha P (PP) & Dr. H. Yogish Kumar (HYK) 4 Hrs/week

I	Experiments involving laboratory techniques Recrystallization Steam distillation
II	Determination of following oil values (including standardization of reagents) Acid value Saponification value Iodine value
III	**Preparation of compounds** 1. Benzanilide/Phenyl benzoate/Acetanilide from Aniline/ Phenol /Aniline by acylation reaction. 2. 2,4,6-Tribromo aniline/Para bromo acetanilide from Aniline/ 3. Acetanilide by halogenation (Bromination) reaction. 4. 5-Nitro salicylic acid/Meta di nitro benzene from Salicylic acid / Nitro benzene by nitration reaction. 5. Benzoic acid from Benzyl chloride by oxidation reaction. 6. Benzoic acid/ Salicylic acid from alkyl benzoate/ alkyl salicylate by hydrolysis reaction. 7. 1-Phenyl azo-2-napthol from Aniline by diazotization and coupling reactions. 8. Benzil from Benzoin by oxidation reaction. 9. Dibenzal acetone from Benzaldehyde by Claison Schmidt reaction 10. Cinnammic acid from Benzaldehyde by Perkin reaction 11. *P*-Iodo benzoic acid from *P*-amino benzoic acid

Recommended Books (Latest Editions)

1. Organic Chemistry by Morrison and Boyd
2. Organic Chemistry by I.L. Finar , Volume-I
3. Textbook of Organic Chemistry by B.S. Bahl & Arun Bahl.
4. Organic Chemistry by P.L.Soni
5. Practical Organic Chemistry by Mann and Saunders.
6. Vogel's text book of Practical Organic Chemistry
7. Advanced Practical organic chemistry by N.K.Vishnoi.

8. Introduction to Organic Laboratory techniques by Pavia, Lampman and Kriz.

BP302 T. PHYSICAL PHARMACEUTICS-I (Theory)

Teacher: Ms. Preeti S (PS) **45 Hours (3 Hrs/week)**

Scope: The course deals with the various physical, physicochemical properties and principle involved in dosage forms, formulations. Theory and practical components of the subject help the student to get a better insight in to various areas of formulation research and development and stability studies of pharmaceutical dosage forms.

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

Theory:

1. Understand various physicochemical properties of drug molecules in the designing the dosage forms
2. Know the principles of chemical kinetics & to use them for stability testing and determination of expiry date of formulations
3. Demonstrate use of physicochemical properties in the formulation development and evaluation of dosage forms.

Practical:

1. perform and determine the solubility, partition coefficient and pKa of drugs in the development of dosage form.
2. determine the adsorption of drugs and surface area by adsorption method
3. evaluate the stability constant of drugs with complexing agent and its influence in the development of dosage form.

Lecture wise Programme:

Chapter No.	Title	No. of Hours
1	**Solubility of drugs:** Solubility expressions, mechanisms of solute solvent interactions, ideal solubility parameters, solvation & association, quantitative approach to the factors influencing solubility of drugs, diffusion principles in biological systems. Solubility of gas in liquids, solubility of liquids in liquids, (Binary solutions, ideal solutions) Raoult's law, real solutions. Partially miscible liquids, Critical solution temperature and applications. Distribution law, its limitations and applications	**10**

2	**States of Matter and properties of matter:** State of matter, changes in the state of matter, latent heats, vapour pressure, sublimation critical point, eutectic mixtures, gases, aerosols – inhalers, relative humidity, liquid complexes, liquid crystals, glassy states, solid-crystalline, amorphous & polymorphism. **Physicochemical properties of drug molecules:** Refractive index, optical rotation, dielectric constant, dipole moment, dissociation constant, determinations and applications	**10**
3	**a) Surface and interfacial phenomenon:** Liquid interface, surface & interfacial tensions, surface free energy, measurement of surface & interfacial tensions, **b)** Spreading coefficient, adsorption at liquid interfaces, surface active agents, HLB Scale, solubilisation, detergency, adsorption at solid interface.	**3** **7**
4	**Complexation and protein binding**: Introduction, Classification of Complexation, Applications, methods of analysis, protein binding, Complexation and drug action, crystalline structures of complexes and thermodynamic treatment of stability constants.	**8**
5	**pH, buffers and Isotonic solutions:** Sorensen's pH scale, pH determination (electrometric and calorimetric), applications of buffers, buffer equation, buffer capacity, buffers in pharmaceutical and biological systems, buffered isotonic solutions.	**7**

Theory Internal assessment syllabus

Internal assessment No.	**Syllabus Chapters no.**
I	1 - 3a
II	3b - 5

BP 307 P. PHYSICAL PHARMACEUTICS – I (Practical)

Teacher/s: Ms. Preeti S (PS) & Dr. Shailesh T(TS) 4 Hrs/week

1. Determination the solubility of drug at room temperature
2. Determination of pKa value by Half Neutralization/ Henderson Hasselbalch equation.
3. Determination of Partition co- efficient of benzoic acid in benzene and water
4. Determination of Partition co- efficient of Iodine in CCl_4 and water
5. Determination of % composition of NaCl in a solution using phenol-water system by CST method
6. Determination of surface tension of given liquids by drop count and drop weight method
7. Determination of HLB number of a surfactant by saponification method
8. Determination of Freundlich and Langmuir constants using activated char coal
9. Determination of critical micellar concentration of surfactants
10. Determination of stability constant and donor acceptor ratio of PABA-Caffeine complex by solubility method
11. Determination of stability constant and donor acceptor ratio of Cupric-Glycine complex by pH titration method

Recommended Books: (Latest Editions)

1. Physical Pharmacy by Alfred Martin
2. Experimental Pharmaceutics by Eugene, Parott.
3. Tutorial Pharmacy by Cooper and Gunn.
4. Stocklosam J. Pharmaceutical Calculations, Lea & Febiger, Philadelphia.
5. Liberman H.A, Lachman C., Pharmaceutical Dosage forms, Tablets, Volume-1 to 3, Marcel Dekkar Inc.
6. Liberman H.A, Lachman C, Pharmaceutical Dosage forms. Disperse systems, volume 1, 2, 3. Marcel Dekkar Inc.
7. Physical Pharmaceutics by Ramasamy C and Manavalan R.
8. Laboratory Manual of Physical Pharmaceutics, C.V.S. Subramanyam, J. Thimma settee
9. Physical Pharmaceutics by C.V.S. Subramanyam
10. Test book of Physical Phramacy, by Gaurav Jain & Roop K. Khar

BP 303 T. PHARMACEUTICAL MICROBIOLOGY (Theory)

Teacher/s: Mr. RajaGuru (RG) **45 Hours (3 Hrs/ week)**

Scope:

Study of all categories of microorganisms especially for the production of alcohol antibiotics, vaccines, vitamins enzymes etc.

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

Theory:

1. Understand methods of identification, cultivation and preservation of various microorganisms
2. To understand the importance and implementation of sterilization in pharmaceutical processing and industry
3. Learn sterility testing of pharmaceutical products.
4. Carried out microbiological standardization of Pharmaceuticals.
5. Understand the cell culture technology and its applications in pharmaceutical industries.

Practical:

1. write the (remember) the sources of microbial contamination and problems associated with it
2. explain the methods of identification, cultivation, counting and preservation of microorganisms
3. enlist the methods of sterilization and know their merits and demerits
4. suggest the method of sterilization for different pharmaceutical products.
5. classify various disinfectants, write their methods of testing the efficacy and their applications
6. explain sterility testing of pharmaceutical products.
7. write the methods involved in cell culture technology and its applications in pharmaceutical industries.

Course content:

Chapter No.	**Topic**	**No. of Hours**
1	Introduction to Microbiology	
	a) Introduction, history of microbiology, its branches, scope and its importance.	3
	b) Introduction to Prokaryotes and Eukaryotes	2

	c)	Study of ultra-structure and morphological classification of bacteria, nutritional requirements, raw materials used for culture media and physical parameters for growth, growth curve, isolation and preservation methods for pure cultures, cultivation of anaerobes, quantitative measurement of bacterial growth (total & viable count).	3
	d)	Study of different types of phase microscopy, dark field microscopy and electron microscopy.	2
2	a)	Identification of bacteria using staining techniques (simple, Gram's & Acid fast staining) and biochemical tests (IMViC).	2
	b)	Study of principle, procedure, merits, demerits and applications of Physical, chemical, gaseous, radiation and mechanical method of sterilization.	3
	c)	Evaluation of the efficiency of sterilization methods.	2
	d)	Equipments employed in large scale sterilization.	1
	e)	Sterility indicators.	2
3	a)	Study of morphology, classification, reproduction/replication and cultivation of Fungi and Viruses.	3
	b)	Classification and mode of action of disinfectants	1
	c)	Factors influencing disinfection, antiseptics and their evaluation for bacteriostatic and bactericidal actions	2
	d)	Evaluation of bactericidal & Bacteriostatic.	1
	e)	Sterility testing of products (solids, liquids, ophthalmic and other sterile products) according to IP, BP and USP.	3
4	a)	Designing of aseptic area, laminar flow equipment; study of different sources of contamination in an aseptic area and methods of prevention, clean area classification.	3
	b)	Principles and methods of different microbiological assay. Methods for standardization of antibiotics, vitamins and amino acids.	3
	c)	Assessment of a new antibiotic.	2
5	a)	Types of spoilage, factors affecting the microbial spoilage of pharmaceutical products, sources and types of microbial contaminants, assessment of microbial contamination and spoilage.	2
	b)	Preservation of pharmaceutical products using antimicrobial agents, evaluation of microbial stability of formulations.	2
	c)	Growth of animal cells in culture, general procedure for cell culture, Primary, established and transformed cell cultures.	2

d) Application of cell cultures in pharmaceutical industry and research. 1

Theory Internal assessment syllabus

Internal assessment No.	Syllabus Chapters no.
I	1 to 3a
II	3b to 5

BP307P. MICROBIOLOGY (Practical)

Teacher/s: Mr. Shiva Arumugam (SA) **4 Hrs/week**

1. Introduction and study of different equipments and processing, e.g., B.O.D. incubator, laminar flow, aseptic hood, autoclave, hot air sterilizer, deep freezer, refrigerator, microscopes used in experimental microbiology.
2. Sterilization of glassware, preparation and sterilization of media.
3. Sub culturing of bacteria and fungus. Nutrient stabs and slants preparations.
4. Staining methods- Simple, Grams staining and acid fast staining (Demonstration with practical).
5. Isolation of pure culture of micro-organisms by multiple streak plate technique and other techniques.
6. Microbiological assay of antibiotics by cup plate method and other methods
7. Motility determination by Hanging drop method.
8. Sterility testing of pharmaceuticals.
9. Bacteriological analysis of water
10. Biochemical test.

References

1. W.B. Hugo and A.D. Russel: Pharmaceutical Microbiology, Blackwell Scientific publications, Oxford London.
2. Prescott and Dunn., Industrial Microbiology, 4th edition, CBS Publishers & Distributors, Delhi.
3. Pelczar, Chan Kreig, Microbiology, Tata McGraw Hill edn.
4. Malcolm Harris, Balliere Tindall and Cox: Pharmaceutical Microbiology.
5. Rose: Industrial Microbiology.
6. Probisher, Hinsdill et al: Fundamentals of Microbiology, 9th ed. Japan
7. Cooper and Gunn's: Tutorial Pharmacy, CBS Publisher and Distribution.
8. Peppler: Microbial Technology.
9. I.P., B.P., U.S.P- latest editions.

10. Ananthnarayan: Text Book of Microbiology, Orient-Longman, Chennai
11. Edward: Fundamentals of Microbiology.
12. N.K.Jain: Pharmaceutical Microbiology, Vallabh Prakashan, Delhi
13. Bergeys manual of systematic bacteriology, Williams and Wilkins- A Waverly company

BP 304 T. PHARMACEUTICAL ENGINEERING (Theory)

Teacher: Dr. Shailesh T (ST) & Dr. Riyas Ali Osmani (RAO) 45 Hours (3 Hours/ week)

Scope: This course is designed to impart a fundamental knowledge on the art and science of various unit operations used in pharmaceutical industry.

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

Theory:

1. To know various unit operations used in Pharmaceutical industries.
2. To understand the material handling techniques.
3. To perform various processes involved in pharmaceutical manufacturing process.
4. To carry out various test to prevent environmental pollution.
5. To appreciate and comprehend significance of plant lay out design for optimum use of resources.
6. To appreciate the various preventive methods used for corrosion control in Pharmaceutical industries.

Practicals:

1. To know various unit operations used in Pharmaceutical industries.
2. To Demonstration of manufacturing equipment involved in manufacturing process.
3. To perform various processes involved in pharmaceutical manufacturing like Filtration,
4. Evaporation, Crystallization, Mixing , Drying etc.
5. To carry out determination of radiation constant for various materials used in pharmaceutical industry.
6. To calculate the efficiency of Distillation.
7. To Determine Humidity of air and moisture content.

Course content

Chapter No.	Topics	No. of Hours
1	**Flow of fluids:** Types of manometers, Reynolds number and its	03

	significance, Bernoulli's theorem and its applications, Energy losses, Orifice meter, Venturimeter, Pitot tube and Rotometer	
2	**Size Reduction:** Objectives, Mechanisms & Laws governing size reduction, factors affecting size reduction, principles, construction, working, uses, merits and demerits of Hammer mill, ball mill, fluid energy mill, Edge runner mill & end runner mill.	**03**
3	**Size Separation:** Objectives, applications & mechanism of size separation, official standards of powders, sieves, size separation Principles, construction, working, uses, merits and demerits of Sieve shaker, cyclone separator, Air separator, Bag filter & elutriation tank.	**04**
4	**Mixing:** Objectives, applications & factors affecting mixing, Difference between solid and liquid mixing, mechanism of solid mixing, liquids mixing and semisolids mixing. Principles, Construction, Working, uses, Merits and Demerits of Double cone blender, twin shell blender, ribbon blender, Sigma blade mixer, planetary mixers, Propellers, Turbines, Paddles & Silverson Emulsifier,	**05**
5	**Evaporation:** Objectives, applications and factors influencing evaporation, differences between evaporation and other heat process. principles, construction, working, uses, merits and demerits of Steam jacketed kettle, horizontal tube evaporator, climbing film evaporator, forced circulation evaporator, multiple effect evaporator & Economy of multiple effect evaporator.	**04**
6	**Heat Transfer:** Objectives, applications & Heat transfer mechanisms. Fourier's law, Heat transfer by conduction, convection & radiation. Heat interchangers & heat exchangers.	**03**
7	**Drying:** Objectives, applications & mechanism of drying process, measurements & applications of Equilibrium Moisture content, rate of drying curve. principles, construction, working, uses, merits and demerits of Tray dryer, drum dryer spray dryer, fluidized bed dryer, vacuum dryer, freeze dryer.	**05**
8	**Distillation:** Basic Principles and methodology of simple distillation, flash distillation, fractional distillation, distillation under reduced pressure, steam distillation & molecular distillation	**05**
9	**Filtration:** Objectives, applications, Theories & Factors influencing filtration, filter aids, filter medias. Principle, Construction, Working, Uses, Merits and demerits of plate & frame filter, filter leaf, rotary drum filter, Meta filter & Cartridge filter, membrane filters and Seidtz filter.	**05**

10	**Centrifugation:** Objectives, principle & applications of Centrifugation, principles, construction, working, uses, merits and demerits of Perforated basket centrifuge, Non-perforated basket centrifuge, semi continuous centrifuge & super centrifuge.	**05**
11	**Materials of pharmaceutical plant construction, Corrosion and its prevention:** Factors affecting during materials selected for Pharmaceutical plant construction, Theories of corrosion, types of corrosion and there prevention. Ferrous and nonferrous metals, inorganic and organic non metals, basic of material handling systems.	**03**

Theory Internal assessment syllabus

Internal assessment No.	Syllabus Chapters no.
I	1 - 6
II	7 - 11

Recommended Books: (Latest Editions)

1. Introduction to chemical engineering – Walter L Badger & Julius Banchero, Latest edition.
2. Solid phase extraction, Principles, techniques and applications by Nigel J.K. Simpson- Latest edition.
3. Unit operation of chemical engineering – Mcabe Smith, Latest edition.
4. Pharmaceutical engineering principles and practices – C.V.S Subrahmanyam et al., Latest
1. edition.
5. Remington practice of pharmacy- Martin, Latest edition.
6. Theory and practice of industrial pharmacy by Lachmann., Latest edition.
7. Physical pharmaceutics- C.V.S Subrahmanyam et al., Latest edition.
8. Cooper and Gunn's Tutorial pharmacy, S.J. Carter, Latest edition.

BP 308 P. PHARMACEUTICAL ENGINEERING (Practical)

Teacher: Dr. Shailesh T (ST), Dr. Riyas Ali Osmani (RAO) & Dr. AS 45 Hours

I. Determination of radiation constant of brass, iron, unpainted and painted glass.
II. Steam distillation – To calculate the efficiency of steam distillation.
III. To determine the overall heat transfer coefficient by heat exchanger.
IV. Construction of drying curves (for calcium carbonate and starch).
V. Determination of moisture content and loss on drying.
VI. Determination of humidity of air – i) From wet and dry bulb temperatures –use of Dew point method.
VII. Description of Construction working and application of Pharmaceutical Machinery such as rotary tablet machine, fluidized bed coater, fluid energy mill, de humidifier.
VIII. Size analysis by sieving – To evaluate size distribution of tablet granulation Construction of various size frequency curves including arithmetic and logarithmic probability plots.
IX. Size reduction: To verify the laws of size reduction using ball mill and determining Kicks, Rittinger's, Bond's coefficients, power requirement and critical speed of Ball Mill.
X. Demonstration of colloid mill, planetary mixer, fluidized bed dryer, freeze dryer and such other major equipment.
XI. Factors affecting Rate of Filtration and Evaporation (Surface area, Concentration and Thickness/ viscosity
XII. To study the effect of time on the Rate of Crystallization.
XIII. To calculate the uniformity Index for given sample by using Double Cone Blender.

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Sri ShivarathreeshwaraNagara, Mysore-570015

*CLASS TIME TABLE – 2023-24

Class: B. PHARM (Semester- III)

Lunch Break: 1.00 to 2.00 PM
Tea Break: 10.40 to 11.10 AM
3.50 PM to 4.05 PM

Time / Day	9.00-9.50AM	9.50-10.40AM	TEA BREAK	11.10-12.05PM	12.05–1.00PM	LUNCH BREAK	2.00-2.55PM	2.55-3.50PM	TEA BREAK	4.05-5.00PM	5.00-5.55PM
Monday	←--- Physical Pharmaceutics -------- ←----Pharm.Organic Chemistry-II -- CAP ←-----Pharm.Engineering ←---MicroB ---------			-------Batch – I---------PS------→ ------Batch – III-----HYK-------→ --Batch – IV------ST---------→ ------Batch II - -X---------→						Pharmaceutical Microbiology RG	Pharmaceutical Engineering RAO
Tuesday	----------	----------		----------			Physical Pharmaceutics PS	Pharmaceutical Microbiology RG		Physical Pharmaceutics (Tu) PS	
Wednesday	----------	----------		----------	----------		Pharm. Organic Chemistry II PP	Physical Pharmaceutics PS		Pharmaceutical Engineering ST	Pharmaceutical Engineering (Tu) RAO
Thursday	←--- Physical Pharmaceutics -------- ←---------- Microbiology----------			-------Batch –II---------TS------→ ------Batch – III-------X---------→			Pharm. Organic Chemistry II PP	Pharmaceutical Engineering ST		Microbiology RG	Ph MicroBio (Tu) RG
	←----------Pha. Org.Chem-II----------			----------Batch – IV-----SRD--→							
	←-----Pharm. Engineering ----------			----------Batch – I-----ST-----→							
Friday	←--- Physical Pharmaceutics -------- ←---------- Microbiology----------			-------Batch – III-------PS--------→ ------Batch – IV--------X---------→			Pharm. Organic Chemistry II(Tu) PP	Physical Pharmaceutics PS		Pharm. Organic Chemistry II PP	---------
	--------	←-Pha.Org.Chem-II		----------Batch – I-----PP---→							
	-------	←-Pharm. Engg-----		----------Batch – II-----RAO-----→							
Saturday	←--- Physical Pharmaceutics --------			-------Batch – IV-------TS-------→							
	←---------- Microbiology----------			-Batch -----X-----→------							
	←----Pharm.Organic Chemistry-II -- ←-----Pharm.Engineering ----------			----------Batch – II-----PP----→ ----------Batch – III-----AS-----→							

*Effective from: 03rd July - 2023

Note: 1. No tea break for practicals

Time table Coordinator

Principal

(Dr. T. M. Pramod Kumar)
Principal
JSS CP, Mysuru