



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

(Established by Act No. 30 of 2008)

Kukatpally, Hyderabad, Telangana (India).

ACADEMIC REGULATIONS OF B.PHARM. (REGULAR/FULL TIME) STUDENTS
WITH EFFECT FROM THE ACADEMIC YEAR 2022-23 (R-22)

1.0 Under-Graduate Degree Programme in Pharmacy

- 1.1** JNTUH offers a 4-year (8 semesters) Bachelor of Pharmacy (B.Pharm.) degree programme, under Choice Based Credit System (CBCS) at its affiliated colleges with effect from the academic year 2022-23.

2.0 Eligibility for admission

- 2.1** Admission to the under graduate programme shall be made either on the basis of the merit rank obtained by the qualified candidate in entrance test conducted by the Telangana State Government (EAMCET) or the University or on the basis of any other order of merit approved by the University, subject to reservations as prescribed by the government from time to time.
- 2.2** The medium of instructions for the entire under graduate programme in Pharmacy will be English only.

3.0 B.Pharm. Programme structure

- 3.1** A student after securing admission shall pursue the under graduate programme in B.Pharm. in a minimum period of four academic years (8 semesters), and a maximum period of eight academic years (16 semesters) starting from the date of commencement of first year first semester, failing which student shall forfeit seat in B.Pharm course.

A student shall register for all subjects for covering 209 credits and each student shall secure 209 credits (with CGPA ≥ 6) required for the completion of the under graduate programme and award of the B.Pharm. degree.

- 3.2** UGC/ PCI specified definitions/ descriptions are adopted appropriately for various terms and abbreviations used in these academic regulations/ norms, which are listed below.

3.2.1 Semester scheme

Each under graduate programme is of 4 academic years (8 semesters) with the academic year being divided into two semesters of 23 weeks (≥ 100 instructional days) each, each semester shall have - 'Continuous Internal Evaluation (CIE)' and 'Semester End Examination (SEE)'. Choice Based Credit System (CBCS) and Credit Based Semester System (CBSS) as indicated by UGC and curriculum/ course structure as suggested by PCI are followed.

3.2.2 Credit courses

All subjects/ courses are to be registered by the student in a semester to earn credits which shall be assigned to each subject/ course in an L: T: P: C (lecture periods: tutorial periods: practical periods: credits) structure based on the following general pattern.

- One credit for one hour/ week/ semester for theory/ lecture (L) courses.

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. PHARMACY COURSE STRUCTURE AND I & II YEARS SYLLABUS

Effective from Academic Year 2022-23 Admitted Batch

I Year I semester

S. No	Course Code	Subject	L	T	P	Credits
1	PS101	Human Anatomy and Physiology I	3	1	-	4
2	PS102	Pharmaceutical Analysis I	3	1	-	4
3	PS103	Pharmaceutics	3	1	-	4
4	PS104	Pharmaceutical Inorganic Chemistry	3	1	-	4
5	HS105	Communication skills	2	-	-	2
6	BS106/BS107	Remedial Biology [#] / Remedial Mathematics [§]	2 [#] /3 [§]	-	-	2 [#] /3 [§]
7	PS108	Human Anatomy and Physiology-I lab	-	-	4	2
8	PS109	Pharmaceutical Analysis I lab	-	-	4	2
9	PS110	Pharmaceutics lab	-	-	4	2
10	PS111	Pharmaceutical Inorganic Chemistry lab	-	-	4	2
11	HS112	Communication skills lab	-	-	2	1
12	BS113	Remedial Biology lab	-	-	2	1
Total			16/17	4	20	30[#]/30

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

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

I Year II semester

S. No	Course Code	Subject	L	T	P	Credits
1	PS201	Human Anatomy and Physiology II	3	1	-	4
2	PS202	Pharmaceutical Organic Chemistry-I	3	1	-	4
3	BS203	Biochemistry	3	1	-	4
4	BS204	Pathophysiology	3	1	-	4
5	CS205	Computer Applications in Pharmacy	3	-	-	3
6	PS206	Human Anatomy and Physiology II lab	-	-	4	2
7	PS207	Pharmaceutical Organic Chemistry-I Lab	-	-	4	2
8	BS208	Biochemistry lab	-	-	4	2
9	CS209	Computer Applications in Pharmacy lab	-	-	2	1
10	*MC200	NSS	-	-	-	-
Total			15	4	14	26

II YEAR I SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	PS301	Pharmaceutical Organic Chemistry-II	3	1	0	4
2	PS302	Physical Pharmaceutics-I	3	1	0	4
3	BS303	Pharmaceutical Microbiology	3	1	0	4
4	PC304	Pharmaceutical Engineering	3	1	0	4
5	PS305	Pharmaceutical Organic Chemistry-II Lab	0	0	4	2
6	PS306	Physical Pharmaceutics-I Lab	0	0	4	2
7	BS307	Pharmaceutical Microbiology Lab	0	0	4	2
8	PC308	Pharmaceutical Engineering Lab	0	0	4	2
10	*MC300	NSO	0	0	0	0
Total Credits			12	04	16	24



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II YEAR II SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	PS401	Pharmaceutical Organic Chemistry-III	3	1	0	4
2	PC402	Physical Pharmaceutics-II	3	1	0	4
3	PS403	Pharmacology-I	3	1	0	4
4	PC404	Pharmacognosy and Phytochemistry-I	3	1	0	4
5	PS405	Pharmaceutical Jurisprudence	3	1	0	4
6	PC406	Physical Pharmaceutics-II Lab	0	0	4	2
7	PS407	Pharmacology-I Lab	0	0	4	2
8	PC408	Pharmacognosy and Phytochemistry-I Lab	0	0	4	2
9	*MC400	Gender Sensitization Lab	1	0	0	0
Total Credits			16	05	12	26

III Year I Semester

S. No.	Course Code	Course Title	L	T	P	Credits
1	PS501	Medicinal Chemistry I	3	1	0	4
2	PS502	Industrial Pharmacy - I	3	1	0	4
3	PS503	Pharmacology II	3	1	0	4
4	PS504	Pharmacognosy and Phytochemistry - II	3	1	0	4
5	PS505 PS506 PS507 PS508	Open Elective - I I. Generic Product Development II. Green Chemistry III. Cell and Molecular Biology IV. Cosmetic science	3	1	0	4
6		PC509 Medicinal Chemistry I Lab	0	0	4	2
7		PS510 Industrial Pharmacy - I lab	0	0	4	2
8		PS511 Pharmacology - II lab	0	0	4	2
9	PS512	Pharmacognosy and Phytochemistry - II lab	0	0	4	2
10	*MC500	Environmental sciences	1	0	0	0
Total			16	05	16	28

III Year II Semester

S. No.	Course Code	Course Title	L	T	P	Credits
1	PS601	Medicinal Chemistry - II	3	1	0	4
2	PS602	Pharmacology - III	3	1	0	4
3	PS603	Herbal Drug Technology	3	1	0	4
4	PS604	Biopharmaceutics and Pharmacokinetics	3	1	0	4
5	PS605 PS606 PS607 PS608	Open Elective - II I. Pharmaceutical Quality Assurance II. Pharmaceutical Biotechnology III. Bioinformatics IV. Screening Methods in Pharmacology	3	1	0	4
6		PS609 Medicinal chemistry - II lab	0	0	4	2
7		PS610 Pharmacology - III lab	0	0	4	2
8		PS611 Herbal Drug Technology lab	0	0	4	2
9	PS612	Biopharmaceutics and Pharmacokinetics Lab	0	0	4	2
10	*MC600	Human Values and Professional Ethics	1	0	0	0
Total			16	05	16	28

IV Year I Semester

S.No	Course Code	Course Title	L	T	P	Credits
1	PS701	Instrumental Methods of Analysis	3	1	0	4
2	PS702	Industrial Pharmacy-II	3	1	0	4
3	PS703	Pharmacy Practice	3	1	0	4
4	PS704	Medicinal Chemistry - III	3	1	0	4
5	PS705	Open Elective - III i. Pharmaceutical Marketing	3	1	0	4



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	PS706	ii. Pharmaceutical Regulatory Science				
	PS707	iii. Pharmacovigilance				
	PS708	iv. Quality Control and Standardization of Herbals				
6	PS709	Instrumental Methods of Analysis Lab	0	0	4	2
7	PS710	Practice School	0	0	4	2
8	PS711	Industrial Training	0	0	4	2
Total			15	5	12	26

IV Year II Semester

S.No	Course Code	Course Title	L	T	P	Credits
1	PS801	Biostatistics and Research Methodology	3	1	0	4
2	PS802	Social and Preventive Pharmacy	3	1	0	4
3	PS803	Novel Drug Delivery System	3	1	0	4
4		Open Elective - IV	3	1	0	4
	PS804	i. Computer Aided Drug Design				
	PS805	ii. Nano Technology				
	PS806	iii. Experimental Pharmacology				
	PS807	iv. Advanced Instrumentation Techniques				
5	PS808	Novel Drug Delivery System Lab	0	0	4	2
6		Project Work	0	0	6	3
Total			12	4	10	21

*MC - Mandatory Course - Satisfactory/ Unsatisfactory.



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Academic Regulations of M.Pharm. (Regular/Full Time) Programmes, 2022-23 (R22)
(CBCS)

(Effective for the students admitted into 1 year from the Academic Year 2022-23 and onwards)

- 1.0 Post-Graduate Degree Programmes in Pharmacy (PGP in Pharmacy) Jawaharlal Nehru Technological University Hyderabad (JNTUH) offers Two Years (Four Semesters) full-time Master of Pharmacy (M.Pharm.) Degree programmes, under Choice Based Credit System (CBCS) at its constituent (non-autonomous) and affiliated colleges in different specializations.
- 2.0 Eligibility for Admissions
- 2.1 Admission to the PGPs shall be made subject to eligibility, qualification and specializations prescribed by the University from time to time, for each specialization under each M.Pharm. programme.
- 2.2 Admission to the post graduate programme shall be made on the basis of either the merit rank or Percentile obtained by the qualified student in the relevant qualifying GPAT Examination/ the merit rank obtained by the qualified student in an entrance test conducted by Telangana State Government (PGECET) for M.Pharm. programmes / an entrance test conducted by JNTUH/ on the basis of any other exams approved by the University, subject to reservations as laid down by the Govt. from time to time.
- 2.3 The medium of instructions for all PG Programmes will be **ENGLISH** only.
- 3.0 M.Pharm. Programme (PGP in Pharmacy) Structure
- 3.1 The M.Pharm. Programmes in Pharmacy of JNTUH are of Semester pattern, with Four Semesters consisting of Two academic years, each academic year having Two Semesters (First/Odd and Second/Even Semesters). Each Semester shall be of 23 weeks duration (inclusive of Examinations), with a minimum of 100 instructional days per Semester.
- 3.2 The student shall not take more than four academic years to fulfill all the academic requirements for the award of M.Pharm. degree from the date of commencement of first year first semester, failing which the student shall forfeit the seat in M.Pharm. programme.
- 3.3 UGC/PCI specified definitions/descriptions are adopted appropriately for various terms and abbreviations used in these PG academic regulations, as listed below:
 - 3.3.1 Semester Scheme

Each Semester shall have 'Continuous Internal Evaluation (CIE)' and 'Semester End Examination (SEE)'. Choice Based Credit System (CBCS) and Credit Based Semester System (CBSS) are taken as 'references' for the present set of Regulations. The terms 'SUBJECT' and 'COURSE' imply the same meaning here and refer to 'Theory Subject', or 'Lab Course', or 'Design Subject', or 'Mini Project with Seminar', or 'Dissertation', as the case may be.
 - 3.3.2 Credit Courses

All subjects/courses are to be registered by the student in a semester to earn credits which shall be assigned to each subject/course in an L: T: P: C (Lecture Periods: Tutorial Periods: Practical Periods:



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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.PHARMACY (PHARMACEUTICS / PHARMACEUTICAL TECHNOLOGY)
R22 COURSE STRUCTURE AND SYLLABUS
Effective from Academic Year 2022-23 Admitted Batch

I YEAR I Semester

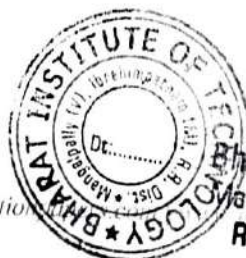
Course Code	Course Title	L	T	P	Credits
Professional Core-I	Modern Pharmaceutics-I	3	1	0	4
Professional Core-II	Applied Biopharmaceutics and Pharmacokinetics	3	1	0	4
Professional Elective-I	1. Advanced Physical Pharmaceutics	3	1	0	4
	2. Drug Regulatory affairs				
	3. Total Quality Management				
Professional Elective-II	1. Cosmetics and Cosmeceuticals	3	1	0	4
	2. Pharmaceutical Validation				
	3. Stability of Drugs and Dosage Forms				
	Research methodology and IPR	2	0	0	2
Laboratory- I	Modern Pharmaceutics – I Lab	0	0	6	3
Laboratory- II	Applied Biopharmaceutics and Pharmacokinetics Lab	0	0	6	3
Audit - I	Audit Course- I	2	0	0	0
	Seminar & Assignment	0	0	4	2
	TOTAL	16	4	16	26

I YEAR II Semester

Course Code	Course Title	L	T	P	Credits
Professional Core-III	Modern Pharmaceutics - II	3	1	0	4
Professional Core-IV	Advanced Drug Delivery Systems	3	1	0	4
Professional Elective-III	1. Industrial Pharmacy	3	1	0	4
	2. Herbal Cosmetics				
	3. Pharmaceutical Management				
Professional Elective-IV	1. Nano based Drug Delivery Systems	3	1	0	4
	2. Nutraceuticals				
	3. Clinical Research and Pharmacovigilance				
Laboratory- III	Modern Pharmaceutics – II Lab	0	0	6	3
Laboratory- IV	Advanced Drug Delivery System Lab	0	0	6	3
	Mini Project	2	0	0	2
Audit - II	Audit Course- II	2	0	0	0
	Seminar & Assignment	0	0	4	2
	TOTAL	16	4	16	26

II YEAR I Semester

Course Code	Course Title	L	T	P	Credits
Professional Elective-V	1. Biostatistics	3	1	0	4
	2. Scale up and Technology Transfer				
	3. Production area, Design and Packaging Development				
Open Elective	Open Elective	3	1	0	4
	Comprehensive Viva voce	0	0	8	4
	Dissertation Work Review – II	0	0	24	12
	TOTAL	6	2	32	24



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II YEAR II Semester

Course Code	Course Title	L	T	P	Credits
Dissertation	Dissertation Work Review - III	0	0	24	12
Dissertation	Dissertation Viva-Voce	0	0	20	10
	TOTAL	0	0	44	22

*For Dissertation Work Review - I, Please refer R22 Academic Regulations.

Audit Courses I & II:

1. English for Research Paper Writing
2. Disaster Management
3. Sanskrit for Technological Learning
4. Value Education
5. Constitution of India
6. Pedagogy Studies
7. Stress Management by Yoga
8. Personality Development through Life Enlightenment Skills



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JAWAHARLALNEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M. PHARMACY (PHARMACOLOGY)
R22 COURSE STRUCTURE AND SYLLABUS
Effective from Academic Year 2022 – 23 Admitted Batch

I YEAR I Semester

Course Code	Course Title	L	T	P	Credits
Professional Core-I	Advanced Pharmacology-I	3	1	0	4
Professional Core-II	Clinical Pharmacology and Pharmacotherapeutics	3	1	0	4
Professional Elective-I	1. Pharmacokinetics and Drug Metabolism 2. Clinical Research and Pharmacovigilance 3. Principles of Drug Discovery	3	1	0	4
Professional Elective-II	1. Animal Cell Cultures and Applications 2. Molecular Biology 3. Principles of Toxicology	3	1	0	4
	Research Methodology and IPR	2	0	0	2
Laboratory-I	Advanced Pharmacology –I Lab	0	0	6	3
Laboratory-II	Clinical Pharmacology and Pharmacotherapeutics Lab	0	0	6	3
Audit-I	Audit Course-I	2	0	0	0
	Seminar & Assignment	0	0	4	2
	TOTAL	16	4	16	26

I YEAR II Semester

Course Code	Course Title	L	T	P	Credits
Professional Core-III	Advanced Pharmacology - II	3	1	0	4
Professional Core-IV	Pharmacological Screening Methods and Toxicology	3	1	0	4
Professional Elective-III	1. Quality Use of Medicines 2. Pharmacoepidemiology and Pharmacoeconomics 3. Advanced Drug Delivery Systems	3	1	0	4
Professional Elective-IV	1. Pharmaceutical Management 2. Nutraceuticals 3. Pharmacokinetic and Therapeutic Drug Monitoring	3	1	0	4
Laboratory-III	Advanced Pharmacology-II Lab	0	0	6	3
Laboratory-IV	Pharmacological Screening Methods and Toxicology lab	0	0	6	3
	Mini project	2	0	0	2
Audit-II	Audit Course- II	2	0	0	0
	Seminar & Assignment	0	0	4	2
	TOTAL	16	4	16	26

II YEAR I Semester

Course Code	Course Title	L	T	P	Credits
Professional Elective-V	1. Biostatistics 2. Hospital and Community Pharmacy 3. Medicinal Plant Biotechnology	3	1	0	4
Open Elective	Open Elective	3	1	0	4
	Comprehensive Viva Voce	0	0	8	4
	Dissertation Work Review-II	0	0	24	12
	TOTAL	6	2	32	24



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II YEAR II Semester

Course Code	Course Title	L	T	P	Credits
Dissertation	Dissertation Work Review - III	0	0	24	12
Dissertation	Dissertation Viva-Voce	0	0	20	10
	TOTAL	0	0	44	22

*For Dissertation Work Review - I, Please refer R22 Academic Regulations.

Audit Courses I & II:

1. English for Research Paper Writing
2. Disaster Management
3. Sanskrit for Technological Learning
4. Value Education
5. Constitution of India
6. Pedagogy Studies
7. Stress Management by Yoga
8. Personality Development through Life Enlightenment Skills



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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**M.PHARMACY (PHARMACY PRACTICE)****R22 COURSE STRUCTURE AND SYLLABUS**

Effective from Academic Year 2022-23 Admitted Batch

I YEAR I Semester

Course Code	Course Title	L	T	P	Credits
Professional Core-I	Pharmacotherapeutics – I	3	1	0	4
Professional Core-II	Clinical Pharmacy Practice	3	1	0	4
Professional Elective-I	1. Clinical Toxicology	3	1	0	4
	2. Hospital and Community Pharmacy				
	3. Clinical Research and Pharmacovigilance				
Professional Elective-II	1. Molecular Biology	3	1	0	4
	2. Advances in Preclinical Evaluation				
	3. Drug Regulatory Affairs				
	Research methodology and IPR	2	0	0	2
Laboratory-I	Pharmacotherapeutics – I Lab	0	0	6	3
Laboratory-II	Clinical Pharmacy Practice Lab	0	0	6	3
Audit - I	Audit Course - I	2	0	0	0
	Seminar & Assignment	0	0	4	2
	Total	16	4	16	26

I YEAR II Semester

Course Code	Course Title	L	T	P	Credits
Professional Core-III	Pharmacotherapeutics – II	3	1	0	4
Professional Core-IV	Clinical Pharmacokinetics and Drug monitoring	3	1	0	4
Professional Elective-III	1. Biopharmaceutics and Pharmacokinetics	3	1	0	4
	2. Clinical Research				
	3. Quality use of Medicines				
Professional Elective-IV	1. Principles of Drug Discovery	3	1	0	4
	2. Cellular and Molecular Pharmacology				
	3. Nutraceuticals				
Laboratory- III	Pharmacotherapeutics – II Lab	0	0	6	3
Laboratory- IV	Clinical Pharmacokinetics and Drug Monitoring Lab	0	0	6	3
	Mini Project	2	0	0	2
Audit - II	Audit Course- II	2	0	0	0
	Seminar & Assignment	0	0	4	2
	Total	16	4	16	26

II YEAR I Semester

Course Code	Course Title	L	T	P	Credits
Professional Elective-V	1. Biostatistics	3	1	0	4
	2. Pharmacoepidemiology and Pharmacoeconomics				
	3. Phytopharmaceuticals				
Open Elective	Open Elective	3	1	0	4
	Comprehensive Viva voce	0	0	8	4
	Dissertation Work Review - II	0	0	24	12
	Total	6	2	32	24



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II YEAR II Semester

Course Code	Course Title	L	T	P	Credits
Dissertation	Dissertation Work Review - III	0	0	24	12
Dissertation	Dissertation Viva-Voce	0	0	20	10
	Total	0	0	44	22

*For Dissertation Work Review - I, Please refer R22 Academic Regulations.

Audit Courses I & II:

1. English for Research Paper Writing
2. Disaster Management
3. Sanskrit for Technological Learning
4. Value Education
5. Constitution of India
6. Pedagogy Studies
7. Stress Management by Yoga
8. Personality Development through Life Enlightenment Skills



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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.PHARMACY (PHARMACEUTICAL CHEMISTRY)
R22 COURSE STRUCTURE AND SYLLABUS
Effective from Academic Year 2022 - 23 Admitted Batch

I YEAR I Semester

Course Code	Course Title	L	T	P	Credits
Professional Core-I	Advanced Organic Chemistry-I	3	1	0	4
Professional Core-II	Advanced Medicinal Chemistry-I	3	1	0	4
Professional Elective-I	1. Chemistry of Natural Products	3	1	0	4
	2. Modern Pharmaceutical Analytical Techniques				
	3. Drug Regulatory Affairs				
Professional Elective-II	1. Drug Discovery & Design	3	1	0	4
	2. Pharmaceutical Food Analysis				
	3. Spectral Analysis				
	Research methodology and IPR	2	0	0	2
Laboratory-I	Advanced Organic Chemistry – I Lab	0	0	6	3
Laboratory-II	Advanced Medicinal Chemistry – I Lab	0	0	6	3
Audit - I	Audit Course – I	2	0	0	0
	Seminar & Assignment	0	0	4	2
	TOTAL	16	4	16	26

I YEAR II Semester

Course Code	Course Title	L	T	P	Credits
Professional Core-III	Advanced Organic Chemistry –II	3	1	0	4
Professional Core-IV	Advanced Medicinal Chemistry - II	3	1	0	4
Professional Elective-III	1. Pharmaceutical Process Chemistry	3	1	0	4
	2. Quality Control and Quality Assurance				
	3. Clinical Research and Pharmacovigilance				
Professional Elective-IV	1. Screening Methods in Pharmacology	3	1	0	4
	2. Advanced Instrumental Analysis				
	3. Herbal Drug Technology				
Laboratory-III	Advanced Organic Chemistry - II Lab	0	0	6	3
Laboratory-IV	Advanced Medicinal Chemistry - II Lab	0	0	6	3
	Mini project	2	0	0	2
Audit - II	Audit Course - II	2	0	0	0
	Seminar & Assignment	0	0	4	2
	TOTAL	16	4	16	26

II YEAR I Semester

Course Code	Course Title	L	T	P	Credits
Professional Elective-V	1. Biostatistics	3	1	0	4
	2. Pharmaceutical Production and Packaging Technology				
	3. Scale-up and Technology Transfer				
Open Elective	Open Elective	3	1	0	4
	Comprehensive Viva Voce	0	0	8	4
	Dissertation Work Review - II	0	0	24	12
	Total Credits	6	2	32	24



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II YEAR II - SEMESTER

Course Code	Course Title	L	T	P	Credits
Dissertation	Dissertation Work Review - III	0	0	24	12
Dissertation	Dissertation Viva-Voce	0	0	20	10
	Total Credits	0	0	44	22

*For Dissertation Work Review - I, Please refer R22 Academic Regulations.

Audit Courses I & II:

1. English for Research Paper Writing
2. Disaster Management
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4. Value Education
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6. Pedagogy Studies
7. Stress Management by Yoga
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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.PHARMACY (PHARMACEUTICAL ANALYSIS)
R22 COURSE STRUCTURE AND SYLLABUS
Effective from Academic Year 2022-23 Admitted Batch

I YEAR I Semester

Course Code	Course Title	L	T	P	Credits
Professional Core-I	Modern Pharmaceutical Analytical Techniques	3	1	0	4
Professional Core-II	Pharmaceutical Food Analysis	3	1	0	4
Professional Elective-I	1. Advanced Pharmaceutical Analysis	3	1	0	4
	2. Drug Regulatory Affairs				
	3. Phytochemistry				
Professional Elective-II	1. Pharmaceutical Validation	3	1	0	4
	2. Cosmetics and Cosmeceuticals				
	3. Stability of Drugs and Dosage forms				
	Research Methodology & IPR	2	0	0	2
Laboratory-I	Modern Pharmaceutical Analytical Techniques lab	0	0	6	3
Laboratory-II	Pharmaceutical food Analysis Lab	0	0	6	3
Audit - II	Audit course- I	2	0	0	0
	Seminar & Assignment	0	0	4	2
	TOTAL	16	4	16	26

I YEAR II Semester

Course Code	Course Title	L	T	P	Credits
Professional Core-III	Advanced Instrumental Analysis - I	3	1	0	4
Professional Core-IV	Pharmaceutical Quality Control & Quality Assurance	3	1	0	4
Professional Elective-III	1. Modern Bio-analytical Techniques	3	1	0	4
	2. Herbal Cosmetics				
	3. Pharmacoepidemiology & Pharmacoeconomics				
Professional Elective-IV	1. Advanced Instrumental Analysis - II	3	1	0	4
	2. Nutraceuticals				
	3. Clinical Research and Pharmacovigilance				
Laboratory- III	Advanced Instrumental Analysis I Lab	0	0	6	3
Laboratory- IV	Pharmaceutical Quality Control & Quality Assurance Lab	0	0	6	3
	Mini project	2	0	0	2
Audit - II	Audit Course - II	2	0	0	0
	Seminar & Assignment	0	0	4	2
	Total	16	4	16	26

II YEAR I Semester

Course Code	Course Title	L	T	P	Credits
Professional Elective-V	1. Biostatistics	3	1	0	4
	2. Scale up and Technology Transfer				
	3. Production Area Design and Packaging Development				
Open Elective	Open Elective	3	1	0	4
Dissertation	Comprehensive Viva Voce	0	0	8	4
	Dissertation Work Review - II	0	0	24	12
	Total	6	2	32	24



II YEAR II SEMESTER

Course Code	Course Title	L	T	P	Credits
Dissertation	Dissertation Work Review - III	0	0	24	12
Dissertation	Dissertation Viva-Voce	0	0	20	10
	Total	0	0	44	22

*For Dissertation Work Review - I, Please refer R22 Academic Regulations.

Audit Courses I&II:

1. English for Research Paper Writing
2. Disaster Management
3. Sanskrit for Technological Learning
4. Value Education
5. Constitution of India
6. Pedagogy Studies
7. Stress Management by Yoga
8. Personality Development through Life Enlightenment Skills



[Signature]

PRINCIPAL

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