



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**  
**M. Pharmacy (PHARMACEUTICS / PHARMACEUTICAL TECHNOLOGY)**

**COURSE STRUCTURE AND SYLLABUS**

**I Year – I Semester**

Category	Course Title	Int. marks	Ext. marks	L	P	C
Core Course I	Applied Biopharmaceutics and Pharmacokinetics	25	75	4	--	4
Core Course II	Advanced Physical Pharmaceutics	25	75	4	--	4
Core Course III	Advanced Pharmaceutical Technology –I	25	75	4	--	4
Core Elective I	1. Modern Pharmaceutical Analytical Technique 2. Intellectual Property Rights and Regulatory Affairs	25	75	4	--	4
Open Elective I	1. Pharmacoepidemiology, Pharmacoconomics and Pharmacovigilance 2. Drug Regulatory Affairs (National & International) 3. Herbal Cosmetic Technology 4. Separation Methods 5. Pharmaceutical Management – I	25	75	4	--	4
Laboratory I	Modern Pharmaceutical Analytical Techniques Lab	25	75	4	--	4
Laboratory II	Advanced physical Pharmaceutics Lab	25	75	--	4	2
Seminar I	Seminar	50	--	--	4	2
<b>Total Credits</b>				<b>24</b>	<b>8</b>	<b>28</b>

**I Year – II Semester**

Category	Course Title	Int. marks	Ext. marks	L	P	C
Core Course IV	Advanced Drug Delivery Systems	25	75	4	--	4
Core Course V	Industrial Pharmacy	25	75	4	--	4
Core Course VI	Advanced Pharmaceutical Technology II	25	75	4	--	4
Core Elective II	1. Biostatistics And Research Methodology 2. Screening Methods & Clinical Research	25	75	4	--	4
Open Elective II	1. Stability of Drugs and Dosage Forms 2. Nano Based Drug Delivery Systems 3. Nutraceuticals 4. Pharmaceutical Management-II	25	75	4	--	4
Laboratory III	Advanced Drug Delivery Systems Lab	25	75	4	--	4
Laboratory IV	Advanced Pharmaceutical Technology Lab	25	75	--	4	2
Seminar II	Seminar	50	--	--	4	2
<b>Total Credits</b>				<b>24</b>	<b>8</b>	<b>28</b>

**II Year - I Semester**

Course Title	Int. marks	Ext. marks	L	P	C
Comprehensive Viva-Voce	--	100	--	--	4
Project work Review I	50	--	--	24	12
<b>Total Credits</b>			<b>--</b>	<b>24</b>	<b>16</b>

**II Year - II Semester**

Course Title	Int. marks	Ext. marks	L	P	C
Project work Review II	50	--	--	8	4
Project Evaluation (Viva-Voce)	--	150	--	16	12
<b>Total Credits</b>			<b>--</b>	<b>24</b>	<b>16</b>



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B. PHARMACY COURSE STRUCTURE (2016-17)**

**II YEAR I SEMESTER**


S. No	Course Code	Subject	L	T	P	Credits
1	PS301	Pharmaceutical Organic Chemistry – III	4	1	0	4
2	PS302	Pharmaceutical Unit Operations – I	4	1	0	4
3	PS303	Hospital and Community Pharmacy	3	1	0	3
4	PS304	Pharmacognosy – I	3	1	0	3
5	PS305	Pharmaceutical Analysis – I	4	1	0	4
6	PS306	Pharmaceutical Organic Chemistry – III Lab	0	0	3	2
7	PS307	Pharmacognosy – I Lab	0	0	3	2
8	PS308	Pharmaceutical Analysis – I Lab	0	0	3	2
9	*MC309	Environmental Science and Technology	3	0	0	0
		<b>Total</b>	<b>21</b>	<b>5</b>	<b>9</b>	<b>24</b>

**II YEAR II SEMESTER**

S. No	Course Code	Subject	L	T	P	Credits
1	PS401	Pharmaceutical Unit Operations - II	4	1	0	4
2	BS402	Biochemistry	3	1	0	3
3	PS403	Pharmaceutical Jurisprudence	4	1	0	4
4	PS404	Physical Pharmacy – II	4	1	0	4
5	<b>OE</b>	HS405: Intellectual Property Rights PS405: Herbal Drugs Technology BS405: Green Chemistry	3	0	0	3
6	PS406	Pharmaceutical Unit Operations – II Lab	0	0	3	2
7	BS407	Biochemistry Lab	0	0	3	2
8	PS408	Physical Pharmacy – II Lab	0	0	3	2
9	*MC409	Gender Sensitization Lab	0	0	3	0
		<b>Total</b>	<b>18</b>	<b>4</b>	<b>12</b>	<b>24</b>

**\*MC – Mandatory Course**



  
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2017-18

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**  
**M. Pharmacy (PHARMACEUTICS / PHARMACEUTICAL TECHNOLOGY)**

**COURSE STRUCTURE AND SYLLABUS**

**I Year – I Semester**

Category	Course Title	Int. marks	Ext. marks	L	P	C
Core Course I	Applied Biopharmaceutics and Pharmacokinetics	25	75	4	--	4
Core Course II	Advanced Physical Pharmaceutics	25	75	4	--	4
Core Course III	Advanced Pharmaceutical Technology –I	25	75	4	--	4
Core Elective I	1. Modern Pharmaceutical Analytical Technique 2. Intellectual Property Rights and Regulatory Affairs	25	75	4	--	4
Open Elective I	1. Pharmacoepidemiology, Pharmacoeconomics and Pharmacovigilance 2. Drug Regulatory Affairs (National & International) 3. Herbal Cosmetic Technology 4. Separation Methods 5. Pharmaceutical Management – I	25	75	4	--	4
Laboratory I	Modern Pharmaceutical Analytical Techniques Lab	25	75	4	--	4
Laboratory II	Advanced physical Pharmaceutics Lab	25	75	--	4	2
Seminar I	Seminar	50	--	--	4	2
<b>Total Credits</b>				<b>24</b>	<b>8</b>	<b>28</b>

**I Year – II Semester**

Category	Course Title	Int. marks	Ext. marks	L	P	C
Core Course IV	Advanced Drug Delivery Systems	25	75	4	--	4
Core Course V	Industrial Pharmacy	25	75	4	--	4
Core Course VI	Advanced Pharmaceutical Technology II	25	75	4	--	4
Core Elective II	1. Biostatistics And Research Methodology 2. Screening Methods & Clinical Research	25	75	4	--	4
Open Elective II	1. Stability of Drugs and Dosage Forms 2. Nano Based Drug Delivery Systems 3. Nutraceuticals 4. Pharmaceutical Management-II	25	75	4	--	4
Laboratory III	Advanced Drug Delivery Systems Lab	25	75	4	--	4
Laboratory IV	Advanced Pharmaceutical Technology Lab	25	75	--	4	2
Seminar II	Seminar	50	--	--	4	2
<b>Total Credits</b>				<b>24</b>	<b>8</b>	<b>28</b>

**II Year - I Semester**

Course Title	Int. marks	Ext. marks	L	P	C
Comprehensive Viva-Voce	--	100	--	--	4
Project work Review I	50	--	--	24	12
<b>Total Credits</b>				<b>24</b>	<b>16</b>

**II Year - II Semester**

Course Title	Int. marks	Ext. marks	L	P	C
Project work Review II	50	--	--	8	4
Project Evaluation (Viva-Voce)	--	150	--	16	12
<b>Total Credits</b>				<b>24</b>	<b>16</b>



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## JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

## B.PHARM. III YEAR COURSE STRUCTURE &amp; SYLLABUS (R16)

Applicable From 2016-17 Admitted Batch


## III YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	PS501	Pharmaceutical Microbiology	4	1	0	4
2	PS502	Pharmaceutical Technology - I	4	1	0	4
3	PS503	Pharmacology - I	4	1	0	4
4	PS504	Pharmacognosy - II	3	1	0	3
5	PS505 PS506 MS507	Open Elective - II Drug Regulatory Affairs ✓ Active Pharmaceutical Ingredient Process Development Entrepreneurship and Small Business Enterprises	3	0	0	3
6	PS508	Pharmaceutical Microbiology Lab	0	0	3	2
7	PS509	Pharmaceutical Technology - I Lab	0	0	3	2
8	PS510	Pharmacology - I Lab	0	0	3	2
9	*MC500	Professional Ethics	3	0	0	0
		Total	21	4	9	24

## III YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	PS601	Medicinal Chemistry - I	3	1	0	3
2	PS602	Pharmaceutical Technology - II	3	1	0	3
3	PS603	Pharmacology - II	4	1	0	4
4	PS604	Chemistry of Natural Products	3	1	0	3
5	PS605 PS606 PS607	Open Elective - III Generic Product Development ✓ Drug Design and Discovery Screening Methods in Pharmacology	3	0	0	3
6	PS608	Medicinal Chemistry - I Lab	0	0	3	2
7	PS609	Pharmaceutical Technology - II Lab	0	0	3	2
8	PS610	Pharmacology - II Lab	0	0	3	2
9	HS611	Advanced English Communication skills Lab	0	0	3	2
		Total	16	04	12	24



  
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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M. Pharmacy (PHARMACEUTICS / PHARMACEUTICAL TECHNOLOGY)

COURSE STRUCTURE AND SYLLABUS  
Effective from Academic Year 2017-18 Admitted Batch

I Year – I Semester

Category	Course Title	Int. marks	Ext. marks	L	P	C
Core Course I	Advanced Physical Pharmaceutics	25	75	4	–	4
Core Course II	Modern Pharmaceutics-I	25	75	4	–	4
Core Course III	Applied Biopharmaceutics and Pharmacokinetics	25	75	4	–	4
Core Elective I	1. Modern Pharmaceutical Analytical Techniques 2. Intellectual Property Rights	25	75	4	–	4
Open Elective I	1. Pharmacoepidemiology and Pharmacoeconomics 2. Drug Regulatory Affairs 3. Herbal Cosmetics Technology 4. Pharmaceutical Validation 5. Pharmaceutical Management	25	75	4	–	4
Laboratory I	Advanced physical Pharmaceutics Lab	25	75	–	6	3
Laboratory II	Applied Biopharmaceutics and Pharmacokinetics Lab	25	75	–	6	3
Seminar I	Seminar	100	–	–	4	2
<b>Total Credits</b>		<b>275</b>	<b>525</b>	<b>20</b>	<b>16</b>	<b>28</b>

I Year – II Semester

Category	Course Title	Int. marks	Ext. marks	L	P	C
Core Course IV	Advanced Drug Delivery Systems	25	75	4	–	4
Core Course V	Industrial Pharmacy	25	75	4	–	4
Core Course VI	Modern Pharmaceutics-II	25	75	4	–	4
Core Elective II	1. Biostatistics And Research Methodology 2. Stability of Drugs and Dosage Forms	25	75	4	–	4
Open Elective II	1. Screening Methods in Pharmacology 2. Nano Based Drug Delivery Systems 3. Nutraceuticals 4. Entrepreneurship management 5. Clinical Research And Pharmacovigilance	25	75	4	–	4
Laboratory III	Advanced Drug Delivery Systems Lab	25	75	–	6	3
Laboratory IV	Modern Pharmaceutics Lab	25	75	–	6	3
Seminar II	Seminar	100	–	–	4	2
<b>Total Credits</b>		<b>275</b>	<b>525</b>	<b>20</b>	<b>16</b>	<b>28</b>



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2018-2019

## JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

## M. Pharmacy (PHARMACEUTICAL REGULATORY AFFAIRS)

COURSE STRUCTURE AND SYLLABUS  
Effective from Academic Year 2018-19 Admitted Batch

## I Year – I Semester

Category	Course Title	Int. marks	Ext. marks	L	P	C
Core Course I	Good regulatory practices	25	75	4	--	4
Core Course II	Documentation and regulatory writing	25	75	4	--	4
Core Course III	Drug regulatory affairs	25	75	4	--	4
Core Elective I	1. Total Quality Management 2. Intellectual Property Rights	25	75	4	--	4
Open Elective I	1. Pharmacoepidemiology and Pharmacoeconomics 2. Herbal Cosmetics Technology 3. Phytochemistry 4. Pharmaceutical Formulation Technology 5. Pharmaceutical Validation	25	75	4	--	4
Laboratory I	Regulatory practices and documentation lab	25	75	--	6	3
Laboratory II	Drug regulations and registration lab	25	75	--	6	3
Seminar I	Seminar	100	--	--	4	2
<b>Total Credits</b>		<b>275</b>	<b>525</b>	<b>20</b>	<b>16</b>	<b>28</b>

## I Year – II Semester

Category	Course Title	Int. marks	Ext. marks	L	P	C
Core Course IV	Regulatory aspects of herbals and biologicals	25	75	4	--	4
Core Course V	Regulatory aspects of medical devices	25	75	4	--	4
Core Course VI	Regulatory aspects of foods and nutraceuticals	25	75	4	--	4
Core Elective II	1. Biostatistics And Research Methodology 2. Stability of Drugs and Dosage Forms	25	75	4	--	4
Open Elective II	1. Screening Methods in Pharmacology 2. Nano Based Drug Delivery Systems 3. Nutraceuticals 4. Advanced Drug Delivery Systems 5. Clinical Research and Pharmacovigilance	25	75	4	--	4
Laboratory III	Regulatory aspects herbals and biological practical lab	25	75	--	6	3
Laboratory IV	Regulatory aspects food and medical devices practical lab	25	75	--	6	3
Seminar II	Seminar	100	--	--	4	2
<b>Total Credits</b>		<b>275</b>	<b>525</b>	<b>20</b>	<b>16</b>	<b>28</b>



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## JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

## M. Pharmacy (PHARMACEUTICAL ANALYSIS )

COURSE STRUCTURE AND SYLLABUS  
Effective from Academic Year 2018-19 Admitted Batch

## I Year – I Semester

Category	Course Title	Int. marks	Ext. marks	L	P	C
Core Course I	Advanced Pharmaceutical Analysis	25	75	4	–	4
Core Course II	Food Analysis	25	75	4	–	4
Core Course III	Modern Pharmaceutical Analytical Techniques	25	75	4	–	4
Core Elective I	1. Pharmaceutical Validation 2. Intellectual Property Rights	25	75	4	–	4
Open Elective I	1. Drug Regulatory Affairs 2. Pharmacoepidemiology and Pharmacoeconomics 3. Pharmaceutical Management 4. Herbal Cosmetics Technology 5. Pharmaceutical Formulation Technology	25	75	4	–	4
Laboratory I	Modern Pharmaceutical Analytical Techniques Lab	25	75	–	–6	3
Laboratory II	Advanced Pharmaceutical Analysis Lab	25	75	–	6	3
Seminar I	Seminar	100	–	–	4	2
<b>Total Credits</b>		<b>275</b>	<b>525</b>	<b>20</b>	<b>16</b>	<b>28</b>

## I Year – II Semester

Category	Course Title	Int. marks	Ext. marks	L	P	C
Core Course IV	Advanced Instrumental Analysis	25	75	4	–	4
Core Course V	Quality Control and Quality Assurance	25	75	4	–	4
Core Course VI	Modern Bio analytical Techniques	25	75	4	–	4
Core Elective II	1. Biostatistics And Research Methodology 2. Spectral Analysis	25	75	4	–	4
Open Elective II	1. Screening Methods in Pharmacology 2. Stability of Drugs and Dosage Forms 3. Entrepreneurship management 4. Nano Based Drug Delivery Systems 5. Herbal & Cosmetics Analysis	25	75	4	–	4
Laboratory III	Advanced Instrumental Analysis Lab	25	75	–	6	4
Laboratory IV	Quality Control and Quality Assurance Lab	25	75	–	6	2
Seminar II	Seminar	100	–	–	4	2
<b>Total Credits</b>		<b>275</b>	<b>525</b>	<b>20</b>	<b>16</b>	<b>28</b>



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2019-20

R10 B.PHARMACY IV YEAR

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD  
B.PHARM. IV YEAR COURSE STRUCTURE & SYLLABUS (R10)

Applicable From 2016-17 Admitted Batch

## IV Year I Semester

S. No.	Course Code	Course Title	L	T	P	Credits
1	PS701	Pharmaceutical Analysis - II	4	1	0	4
2	PS702	Biopharmaceutics and Pharmacokinetics	4	1	0	4
3	PS703	Pharmacology - III	3	1	0	3
4	PS704	Medicinal Chemistry - II	4	1	0	4
5	HS705	Pharmacy Administration	3	1	0	3
6	PS706	Pharmaceutical Analysis - II Lab	0	0	3	2
7	PS707	Biopharmaceutics and Pharmacokinetics Lab	0	0	3	2
8	PS708	Medicinal Chemistry - II Lab	0	0	3	2
9	PS709	Seminar and Industrial visit	0	0	2	1
<b>Total</b>			<b>18</b>	<b>5</b>	<b>11</b>	<b>25</b>

## IV Year II Semester

S. No.	Course Code	Course Title	L	T	P	Credits
1	PS801	Novel Drug Delivery Systems	3	1	0	3
2	PS802	Clinical Pharmacy	3	1	0	3
3	PS803	Pharmaceutical Biotechnology	3	1	0	3
4	PS804	Pharmacognosy - III	3	1	0	3
5		<b>Open Elective - III</b>	3	1	0	3
	PS805	1. Nano Technology ✓				
	PS806	2. Pharmacoepidemiology, Pharmacoeconomics and pharmacovigilance				
	PS807	3. Medicinal Plant Biotechnology				
6	PS808	Novel Drug Delivery Systems and Regulatory Affairs Lab	0	0	3	2
7	PS809	Pharmacognosy - III Lab	0	0	3	2
8	PS810	Major Project	0	0	10	5
<b>Total</b>			<b>15</b>	<b>5</b>	<b>16</b>	<b>24</b>



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2019-20

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**  
**B. PHARMACY III YEAR COURSE STRUCTURE AND SYLLABUS**

Effective from Academic Year 2017-18 Admitted Batch


**III Year I Semester**

S. No.	Course Code	Course Title	L	T	P	Credits
1	PS501	Medicinal Chemistry II	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		<b>Open Elective - I</b>	3	1	0	4
	PS505	I. Generic Product Development ✓				
	PS506	II. Green Chemistry				
	PS507	III. Cell and Molecular Biology				
	PS508	IV. Cosmetic science ✓				
6	PS509	Industrial Pharmacy lab	0	0	4	2
7	PS510	Pharmacology - II lab	0	0	4	2
8	PS511	Pharmacognosy and Phytochemistry - II lab	0	0	4	2
9	*MC500	Environmental sciences	1	0	0	0
		<b>Total</b>	<b>16</b>	<b>05</b>	<b>12</b>	<b>26</b>

**III Year II Semester**

S. No.	Course Code	Course Title	L	T	P	Credits
1	PS601	Medicinal Chemistry - III	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		<b>Open Elective - II</b>	3	1	0	4
	PS605	I. Pharmaceutical Quality Assurance ✓				
	PS606	II. Pharmaceutical Biotechnology				
	PS607	III. Bioinformatics				
	PS608	IV. Screening Methods in Pharmacology				
6	PS609	Medicinal chemistry - III 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	*MC600	Human Values and Professional Ethics	1	0	0	0
		<b>Total</b>	<b>16</b>	<b>05</b>	<b>12</b>	<b>26</b>



  
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2019-20

## JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

## M.PHARMACY (PHARMACEUTICS / PHARMACEUTICAL TECHNOLOGY)

**COURSE STRUCTURE AND SYLLABUS**  
Effective from Academic Year 2019-20 Admitted Batch

**I YEAR I Semester**

Course Code	Course Title	L	T	P	Credits
Professional Core-I	Modern Pharmaceutics-I	3	0	0	3
Professional Core-II	Applied Biopharmaceutics and Pharmacokinetics	3	0	0	3
Professional Elective-I	1. Advanced Physical Pharmaceutics ✓ 2. Drug Regulatory affairs 3. Total Quality Management	3	0	0	3
Professional Elective-II	1. Cosmetics and Cosmeceuticals 2. Pharmaceutical Validation ✓ 3. Stability of Drugs and Dosage Forms	3	0	0	3
	Research methodology and IPR	2	0	0	2
Laboratory- I	Modern Pharmaceutics – I Lab	0	0	4	2
Laboratory- II	Applied Biopharmaceutics and Pharmacokinetics Lab	0	0	4	2
Audit - I	Audit Course - I	2	0	0	0
	<b>TOTAL</b>	<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>

**I YEAR II Semester**

Course Code	Course Title	L	T	P	Credits
Professional Core-III	Modern Pharmaceutics - II	3	0	0	3
Professional Core-IV	Advanced Drug Delivery Systems	3	0	0	3
Professional Elective-III	1. Industrial Pharmacy ✓ 2. Herbal Cosmetics 3. Pharmaceutical Management	3	0	0	3
Professional Elective-IV	1. Nano based Drug Delivery Systems ✓ 2. Nutraceuticals 3. Clinical Research and Pharmacovigilance	3	0	0	3
Laboratory- III	Modern Pharmaceutics – II Lab	0	0	4	2
Laboratory- IV	Advanced Drug Delivery System Lab	0	0	4	2
	Mini Project with Seminar	2	0	0	2
Audit - II	Audit Course - II	2	0	0	0
	<b>TOTAL</b>	<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>



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## JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

## M.PHARMACY (PHARMACEUTICAL ANALYSIS)

R19 COURSE STRUCTURE AND SYLLABUS  
Effective from Academic Year 2019-20 Admitted Batch

## I YEAR I Semester

Course Code	Course Title	L	T	P	Credits
Professional Core-I	Modern Pharmaceutical Analytical Techniques	3	0	0	3
Professional Core-II	Pharmaceutical and Food Analysis	3	0	0	3
Professional Elective-I	1. Advanced Pharmaceutical Analysis ✓ 2. Drug Regulatory Affairs 3. Phytochemistry	3	0	0	3
Professional Elective-II	1. Quality control and Quality Assurance ✓ 2. Cosmetics and Cosmeceuticals 3. Stability of Drugs and Dosage forms ✗	3	0	0	3
	Research Methodology & IPR	2	0	0	2
Laboratory-I	Modern Pharmaceutical Analytical Techniques lab	0	0	4	2
Laboratory-II	Pharmaceutical and food Analysis Lab	0	0	4	2
Audit - II	Audit course - I	2	0	0	0
	<b>TOTAL</b>	<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>

## I YEAR II Semester

Course Code	Course Title	L	T	P	Credits
Professional Core-III	Advanced Instrumental Analysis I	3	0	0	3
Professional Core-IV	Modern Bio-analytical Techniques	3	0	0	3
Professional Elective-III	1. Pharmaceutical Validation ✓ 2. Herbal Cosmetics 3. Pharmacoepidemiology and Pharmacoeconomics	3	0	0	3
Professional Elective-IV	1. Advanced Instrumental Analysis - II ✓ 2. Nutraceuticals 3. Clinical Research and Pharmacovigilance	3	0	0	3
Laboratory-III	Advanced Instrumental Analysis I Lab	0	0	4	2
Laboratory-IV	Modern Bio analytical Techniques Lab	0	0	4	2
	Mini Project with Seminar	2	0	0	2
Audit - II	Audit Course - II	2	0	0	0
	<b>TOTAL</b>	<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>



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## JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

## M.PHARMACY (PHARMACEUTICAL REGULATORY AFFAIRS)

R19 COURSE STRUCTURE AND SYLLABUS  
Effective from Academic Year 2019-20 Admitted Batch

## I YEAR I Semester

Course Code	Course Title	L	T	P	Credits
Professional Core-I	Good Regulatory Practice	3	0	0	3
Professional Core-II	Drug Regulatory Affairs	3	0	0	3
Professional Elective-I	1. Intellectual Property Rights 2. Total Quality Management 3. Pharmaceutical Validation	3	0	0	3
Professional Elective-II	1. Stability of Drugs and Dosage forms 2. Pharmaceutical Formulation Technology 3. Documentation and Regulatory Writing	3	0	0	3
	Research methodology and IPR	2	0	0	2
Laboratory- I	Regulatory Practice and Documentation Lab	0	0	4	2
Laboratory- II	Drug Regulation and Registration Lab	0	0	4	2
Audit - I	Audit Course - I	2	0	0	0
	<b>Total</b>	<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>

## I YEAR II Semester

Course Code	Course Title	L	T	P	Credits
Professional Core-III	Regulatory aspects of medical devices	3	0	0	3
Professional Core-IV	Regulatory aspects of herbals and biologicals	3	0	0	3
Professional Elective-III	1. Regulatory aspects of food and Nutraceuticals 2. Biostatistics and Research Methodology 3. Nano based Drug delivery systems	3	0	0	3
Professional Elective-IV	1. Clinical research and Pharmacovigilance 2. Nutraceuticals 3. Advanced Drug Delivery Systems	3	0	0	3
Laboratory- III	Regulatory aspects of herbals and biologicals Lab	0	0	4	2
Laboratory- IV	Regulatory aspects of medical devices Lab	0	0	4	2
	Mini Project with Seminar	2	0	0	2
Audit - II	Audit Course - II	2	0	0	0
	<b>Total</b>	<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>



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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**  
**B. PHARMACY IV YEAR COURSE STRUCTURE AND SYLLABUS**

Effective from Academic Year 2017-18 Admitted Batch


**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	Novel Drug Delivery Systems	3	1	0	4
5		<b>Open Elective - III</b>	3	1	0	4
	PS705	i. Pharmaceutical Marketing				
	PS706	ii. Pharmaceutical Regulatory Science				
	PS707	iii. Pharmacovigilance				
	PS708	iv. Quality Control and Standardization of Herbsals ✓				
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	2	1
		<b>Total</b>	<b>15</b>	<b>5</b>	<b>10</b>	<b>25</b>

**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	Pharmaceutical Jurisprudence	3	0	0	3
4		<b>Open Elective - IV</b>	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	Project Work	0	0	6	3
		<b>Total</b>	<b>12</b>	<b>3</b>	<b>6</b>	<b>18</b>



  
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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**  
**B. PHARMACY III YEAR COURSE STRUCTURE AND SYLLABUS**

Effective from Academic Year 2017-18 Admitted Batch

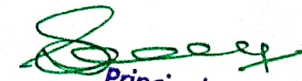
**III Year I Semester**

S. No.	Course Code	Course Title	L	T	P	Credits
1	PS501	Medicinal Chemistry II	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		<b>Open Elective - I</b>	3	1	0	4
	PS505	I. Generic Product Development				
	PS506	II. Green Chemistry				
	PS507	III. Cell and Molecular Biology				
	PS508	IV. Cosmetic science				
6	PS509	Industrial Pharmacy lab	0	0	4	2
7	PS510	Pharmacology - II lab	0	0	4	2
8	PS511	Pharmacognosy and Phytochemistry - II lab	0	0	4	2
9	*MC500	Environmental sciences	1	0	0	0
		<b>Total</b>	<b>16</b>	<b>05</b>	<b>12</b>	<b>26</b>

**III Year II Semester**

S. No.	Course Code	Course Title	L	T	P	Credits
1	PS601	Medicinal Chemistry - III	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		<b>Open Elective - II</b>	3	1	0	4
	PS605	I. Pharmaceutical Quality Assurance				
	PS606	II. Pharmaceutical Biotechnology				
	PS607	III. Bioinformatics				
	PS608	IV. Screening Methods in Pharmacology				
6	PS609	Medicinal chemistry - III 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	*MC600	Human Values and Professional Ethics	1	0	0	0
		<b>Total</b>	<b>16</b>	<b>05</b>	<b>12</b>	<b>26</b>



  
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2020-21

## JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

## M.PHARMACY (PHARMACEUTICAL ANALYSIS)

R19 COURSE STRUCTURE AND SYLLABUS  
Effective from Academic Year 2019-20 Admitted Batch

## I YEAR I Semester

Course Code	Course Title	L	T	P	Credits
Professional Core-I	Modern Pharmaceutical Analytical Techniques	3	0	0	3
Professional Core-II	Pharmaceutical and Food Analysis	3	0	0	3
Professional Elective-I	1. Advanced Pharmaceutical Analysis 2. Drug Regulatory Affairs 3. Phytochemistry	3	0	0	3
Professional Elective-II	1. Quality control and Quality Assurance 2. Cosmetics and Cosmeceuticals 3. Stability of Drugs and Dosage forms	3	0	0	3
	Research Methodology & IPR	2	0	0	2
Laboratory-I	Modern Pharmaceutical Analytical Techniques lab	0	0	4	2
Laboratory-II	Pharmaceutical and food Analysis Lab	0	0	4	2
Audit - II	Audit course - I	2	0	0	0
	<b>TOTAL</b>	<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>

## I YEAR II Semester

Course Code	Course Title	L	T	P	Credits
Professional Core-III	Advanced Instrumental Analysis I	3	0	0	3
Professional Core-IV	Modern Bio-analytical Techniques	3	0	0	3
Professional Elective-III	1. Pharmaceutical Validation 2. Herbal Cosmetics 3. Pharmacoepidemiology and Pharmacoeconomics	3	0	0	3
Professional Elective-IV	1. Advanced Instrumental Analysis - II 2. Nutraceuticals 3. Clinical Research and Pharmacovigilance	3	0	0	3
Laboratory-III	Advanced Instrumental Analysis I Lab	0	0	4	2
Laboratory-IV	Modern Bio analytical Techniques Lab	0	0	4	2
	Mini Project with Seminar	2	0	0	2
Audit - II	Audit Course - II	2	0	0	0
	<b>TOTAL</b>	<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>



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**II YEAR I Semester**

Course Code	Course Title	L	T	P	Credits
Professional Elective-V	1. Biostatistics	3	0	0	3
	2. Scale up and Technology Transfer ✓				
	3. Production Area Design and Packaging Development				
Open Elective	Open Elective	3	0	0	3
Dissertation	Dissertation Work Review - II	0	0	12	6
	<b>Total</b>	<b>6</b>	<b>0</b>	<b>12</b>	<b>12</b>

**II YEAR II SEMESTER**

Course Code	Course Title	L	T	P	Credits
Dissertation	Dissertation Work Review - III	0	0	12	6
Dissertation	Dissertation Viva-Voce	0	0	28	14
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>20</b>

\*For Dissertation Work Review - I, Please refer 7.8 in R19 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 REGULATORY AFFAIRS)

**R19 COURSE STRUCTURE AND SYLLABUS**  
Effective from Academic Year 2019-20 Admitted Batch

**I YEAR I Semester**

Course Code	Course Title	L	T	P	Credits
Professional Core-I	Good Regulatory Practice	3	0	0	3
Professional Core-II	Drug Regulatory Affairs	3	0	0	3
Professional Elective-I	1. Intellectual Property Rights 2. Total Quality Management 3. Pharmaceutical Validation	3	0	0	3
Professional Elective-II	1. Stability of Drugs and Dosage forms 2. Pharmaceutical Formulation Technology 3. Documentation and Regulatory Writing	3	0	0	3
	Research methodology and IPR	2	0	0	2
Laboratory- I	Regulatory Practice and Documentation Lab	0	0	4	2
Laboratory- II	Drug Regulation and Registration Lab	0	0	4	2
Audit - I	Audit Course - I	2	0	0	0
	<b>Total</b>	<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>

**I YEAR II Semester**

Course Code	Course Title	L	T	P	Credits
Professional Core-III	Regulatory aspects of medical devices	3	0	0	3
Professional Core-IV	Regulatory aspects of herbals and biologicals	3	0	0	3
Professional Elective-III	1. Regulatory aspects of food and Nutraceuticals 2. Biostatistics and Research Methodology 3. Nano based Drug delivery systems	3	0	0	3
Professional Elective-IV	1. Clinical research and Pharmacovigilance 2. Nutraceuticals 3. Advanced Drug Delivery Systems	3	0	0	3
Laboratory- III	Regulatory aspects of herbals and biologicals Lab	0	0	4	2
Laboratory- IV	Regulatory aspects of medical devices Lab	0	0	4	2
	Mini Project with Seminar	2	0	0	2
Audit - II	Audit Course - II	2	0	0	0
	<b>Total</b>	<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>



**II YEAR I Semester**

Course Code	Course Title	L	T	P	Credits
Professional	1. Analytical Method validation	3	0	0	3
Elective-V	2. Pharmaceutical Industry Management 3. Pharmaceutical Production technology				
Open Elective	Open Elective	3	0	0	3
Dissertation	Dissertation Work Review - II	0	0	12	6
	<b>Total</b>	<b>6</b>	<b>0</b>	<b>12</b>	<b>12</b>

**II YEAR II SEMESTER**


Course Code	Course Title	L	T	P	Credits
Dissertation	Dissertation Work Review - III	0	0	12	6
Dissertation	Dissertation Viva-Voce	0	0	28	14
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>20</b>

\*For Dissertation Work Review - I, Please refer 7.8 in R19 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 (PHARMACEUTICS / PHARMACEUTICAL TECHNOLOGY)

2020-21

**COURSE STRUCTURE AND SYLLABUS**  
Effective from Academic Year 2019-20 Admitted Batch


**I YEAR I Semester**

Course Code	Course Title	L	T	P	Credits
Professional Core-I	Modern Pharmaceutics-I	3	0	0	3
Professional Core-II	Applied Biopharmaceutics and Pharmacokinetics	3	0	0	3
Professional Elective-I	1. Advanced Physical Pharmaceutics 2. Drug Regulatory affairs 3. Total Quality Management	3	0	0	3
Professional Elective-II	1. Cosmetics and Cosmeceuticals 2. Pharmaceutical Validation 3. Stability of Drugs and Dosage Forms	3	0	0	3
	Research methodology and IPR	2	0	0	2
Laboratory- I	Modern Pharmaceutics – I Lab	0	0	4	2
Laboratory- II	Applied Biopharmaceutics and Pharmacokinetics Lab	0	0	4	2
Audit - I	Audit Course - I	2	0	0	0
	<b>TOTAL</b>	<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>

**I YEAR II Semester**

Course Code	Course Title	L	T	P	Credits
Professional Core-III	Modern Pharmaceutics - II	3	0	0	3
Professional Core-IV	Advanced Drug Delivery Systems	3	0	0	3
Professional Elective-III	1. Industrial Pharmacy 2. Herbal Cosmetics 3. Pharmaceutical Management	3	0	0	3
Professional Elective-IV	1. Nano based Drug Delivery Systems 2. Nutraceuticals 3. Clinical Research and Pharmacovigilance	3	0	0	3
Laboratory- III	Modern Pharmaceutics – II Lab	0	0	4	2
Laboratory- IV	Advanced Drug Delivery System Lab	0	0	4	2
	Mini Project with Seminar	2	0	0	2
Audit - II	Audit Course - II	2	0	0	0
	<b>TOTAL</b>	<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>



  
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**II YEAR I Semester**

Course Code	Course Title	L	T	P	Credits
Professional Elective-V	1. Biostatistics	3	0	0	3
	2. Scale up and Technology Transfer ✓				
	3. Production area, Design and Packaging Development				
Open Elective	Open Elective	3	0	0	3
Dissertation	Dissertation Work Review - II	0	0	12	6
	<b>TOTAL</b>	<b>6</b>	<b>0</b>	<b>12</b>	<b>12</b>


**II YEAR II Semester**

Course Code	Course Title	L	T	P	Credits
Dissertation	Dissertation Work Review - III	0	0	12	6
Dissertation	Dissertation Viva-Voce	0	0	28	14
	<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>20</b>

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