

## 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>

**II YEAR I Semester**

Course Code	Course Title	L	T	P	Credits
Professional Elective-V	1. Biostatistics 2. Scale up and Technology Transfer 3. Production area, Design and Packaging Development	3	0	0	3
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

## 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>

**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
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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 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	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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Ministry of Health and Family Welfare  
(Pharmacy Council of India)

New Delhi, 10<sup>th</sup> May, 2008

### **Pharm.D. Regulations 2008**

Regulations framed under section 10 of the Pharmacy Act, 1948 (8 of 1948),

(As approved by the Government of India, Ministry of Health vide, letter No.V.13013/1/2007-PMS, dated the 13<sup>th</sup> March, 2008 and notified by the Pharmacy Council of India).

No.14-126/2007-PCI.— In exercise of the powers conferred by section 10 of the Pharmacy Act, 1948 (8 of 1948), the Pharmacy Council of India, with the approval of the Central Government, hereby makes the following regulations, namely:—

#### **CHAPTER-I**

1. Short title and commencement. — (1) These regulations may be called the Pharm.D. Regulations 2008.  
(2) They shall come into force from the date of their publication in the official Gazette.
2. Pharm.D. shall consist of a certificate, having passed the course of study and examination as prescribed in these regulations, for the purpose of registration as pharmacist to practice the profession under the Pharmacy Act, 1948.



**Fifth Year examination :**

S.No.	Name of Subject	Maximum marks for Theory			Maximum marks for Practicals		
		Examination	Sessional	Total	Examination	Sessional	Total
5.1	Clinical Research	70	30	100	-	-	-
5.2	Pharmacoepidemiology and Pharmacoeconomics	70	30	100	-	-	-
5.3	Clinical Pharmacokinetics & Pharmacotherapeutic Drug Monitoring	70	30	100	-	-	-
5.4	Clerkship *	70	30	100	-	-	-
5.5	Project work (Six Months)	-	-	-	100**	-	100
				300			200 = 500

\* Attending ward rounds on daily basis.

\*\* 30 marks – viva-voce (oral)

70 marks – Thesis work

11. Eligibility for appearing Examination.— Only such students who produce certificate from the Head of the Institution in which he or she has undergone the Pharm.D. or as the case may be, the Pharm.D. (Post Baccalaureate) course, in proof of his or her having regularly and satisfactorily undergone the course of study by attending not less than 80% of the classes held both in theory and in practical separately in each subject shall be eligible for appearing at examination.
12. Mode of examinations.— (1) Theory examination shall be of three hours and practical examination shall be of four hours duration.
- (2) A Student who fails in theory or practical examination of a subject shall re-appear both in theory and practical of the same subject.
- (3) Practical examination shall also consist of a viva –voce (Oral) examination.
- (4) Clerkship examination – Oral examination shall be conducted after the completion of clerkship of students. An external and an internal examiner will evaluate the student. Students may be asked to present the allotted medical cases followed by discussion. Students' capabilities in delivering clinical pharmacy services, pharmaceutical care planning and knowledge of therapeutics shall be assessed.
13. Award of sessional marks and maintenance of records.— (1) A regular record of both theory and practical class work and examinations conducted in an institution imparting training for Pharm.D. or as the case may be, Pharm.D. (Post Baccalaureate) course, shall be maintained for each student in the institution and 30 marks for each theory and 30 marks for each practical subject shall be allotted as sessional.
- (2) There shall be at least two periodic sessional examinations during each academic year and the highest aggregate of any two performances shall form the basis of calculating sessional marks.
- (3) The sessional marks in practicals shall be allotted on the following basis:-
- (i) Actual performance in the sessional examination (20 marks);
  - (ii) Day to day assessment in the practical class work, promptness, viva-voce record maintenance, etc. (10 marks).