



Geethanjali

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## Geethanjali College of Pharmacy

Approved By AICTE, PCI New Delhi, Permanently Affiliated to JNTUH & Accredited by NBA (B. Pharmacy)

Recognized Under UGC Section 2F & 12B of UGC Act, 1956, by DSIR-SIRO & HI/BI of MSME Certified by ISO 9001:2015

Cheeryal (V), Keesara (M), Medchal-Malkajgiri District, Telangana State - 501 301.

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S. No.	List of Documents
1.	JNTUH, Hyderabad (Affiliating University) prescribed syllabus copies showing courses that include experimental learning through project work/field work/internship for the year 2016-17, 2017-18, 2018-19, 2019-20, and 2020-21.
2.	Minutes of the College Academic Committee meetings with approvals for courses that include experimental learning through project work/field work/internship for the year 2016-17, 2017-18, 2018-19, 2019-20, and 2020-21.

  
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Sponsored by : **TEJA EDUCATIONAL SOCIETY, HYDERABAD.**

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Mobile : 9866308259

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# JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

## B. PHARMACY I YEAR COURSE STRUCTURE AND SYLLABUS

Effective from Academic Year 2017-18 Admitted Batch

### I Year I semester

S. No	Course Code	Subject	L	T	P	Credits
1	PS101	Human Anatomy and Physiology I	3	1	-	3
2	PS102	Pharmaceutical Analysis I	3	1	-	3
3	PS103	Pharmaceutics I	3	1	-	3
4	PS104	Pharmaceutical Inorganic Chemistry-I	3	1	-	3
5	HS105	Communication skills	2	-	-	2
6	BS106/BS107	Remedial Biology <sup>#</sup> / Remedial Mathematics <sup>§</sup>	2 <sup>#</sup> /3 <sup>§</sup>	-	-	2 <sup>#</sup> /3 <sup>§</sup>
7	PS108	Human Anatomy and Physiology-I lab	-	-	4	2
8	PS109	Pharmaceutical Analysis-I lab	-	-	4	2
9	PS110	Pharmaceutics I lab	-	-	4	2
10	PS111	Pharmaceutical Inorganic Chemistry-I lab	-	-	4	2
11	HS112	Communication skills lab	-	-	2	1
12	BS113	Remedial Biology lab	-	-	2	1
		<b>Total</b>	<b>16/17</b>	<b>4</b>	<b>20</b>	<b>26<sup>#</sup>/26<sup>§</sup></b>

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

<sup>§</sup>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	-	3
2	PS202	Pharmaceutical Organic Chemistry I	4	1	-	4
3	BS203	Biochemistry	3	1	-	3
4	BS204	Pathophysiology	3	1	-	3
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	-	-	-	-
		<b>Total</b>	<b>16</b>	<b>4</b>	<b>14</b>	<b>23</b>

\*MC - Mandatory Course - Satisfactory/ Unsatisfactory.

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# JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

## B. PHARMACY II YEAR SYLLABUS (R17)

Effective from Academic Year 2017-18 Admitted Batch

### 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
9	*MC300	NSO	0	0	0	0
		<b>Total Credits</b>	<b>12</b>	<b>04</b>	<b>17</b>	<b>24</b>

### 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	Medicinal Chemistry-I	3	1	0	4
3	PS403	Physical Pharmaceutics-II	3	1	0	4
4	PC404	Pharmacology-I	3	1	0	4
5	PC405	Pharmacognosy and Phytochemistry-I	3	1	0	4
6	PC406	Medicinal Chemistry-I Lab	0	0	4	2
7	PS407	Physical Pharmaceutics-II Lab	0	0	4	2
8	PC408	Pharmacology-I Lab	0	0	4	2
9	PC409	Pharmacognosy and Phytochemistry-I Lab	0	0	4	2
10	*MC400	Gender Sensitization Lab	1	0	0	0
		<b>Total Credits</b>	<b>16</b>	<b>05</b>	<b>16</b>	<b>28</b>

\*MC-Satisfactory/Dissatisfactory

  
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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>

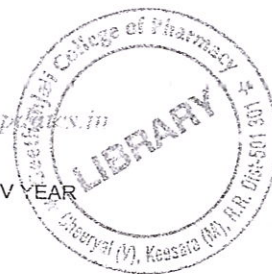
**III Year II Semester**

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>

*Signature of*  
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R16 B.PHARMACY IV YEAR

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD  
B.PHARM. IV YEAR COURSE STRUCTURE & SYLLABUS (R16)**

Applicable From 2016-17 Admitted Batch

IV Year I Semester

S. No.	Course Code	Course Title	L	T	P	Credits
1	PC701	Pharmaceutical Analysis – II	4	1	0	4
2	PC702	Biopharmaceutics and Pharmacokinetics	4	1	0	4
3	PC703	Pharmacology - III	3	1	0	3
4	PC704	Medicinal Chemistry – II	4	1	0	4
5	HS705	Pharmacy Administration	3	1	0	3
6	PC706	Pharmaceutical Analysis – II Lab	0	0	3	2
7	PC707	Biopharmaceutics and Pharmacokinetics Lab	0	0	3	2
8	PC708	Medicinal Chemistry – II Lab	0	0	3	2
9	PC709	Seminar and Industrial visit	0	0	2	1
		<b>Total</b>	<b>18</b>	<b>5</b>	<b>11</b>	<b>25</b>

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R16 B.PHARMACY IV YEAR

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**  
**B.PHARM. IV YEAR COURSE STRUCTURE & SYLLABUS (R16)**

Applicable From 2016-17 Admitted Batch

**IV Year II Semester**

S. No.	Course Code	Course Title	L	T	P	Credits
1	PC801	Novel Drug Delivery Systems	3	1	0	3
2	PC802	Clinical Pharmacy	3	1	0	3
3	PC803	Pharmaceutical Biotechnology	3	1	0	3
4	PC804	Pharmacognosy - III	3	1	0	3
5	OE805 OE806 OE807	I : Nano Technology II : Pharmacoepidemiology, Pharmacoeconomics and pharmacovigilance III : Medicinal Plant Biotechnology	3	1	0	3
6	PC808	Novel Drug Delivery Systems and Regulatory Affairs Lab	0	0	3	2
7	PC809	Pharmacognosy - III Lab	0	0	3	2
8	PC810	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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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 a pharmacist to practice the profession under the Pharmacy Act, 1948.

  
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**CHAPTER-II**

## 3. Duration of the course. –

- a) Pharm.D: The duration of the course shall be six academic years (five years of study and one year of internship or residency) full time with each academic year spread over a period of not less than two hundred working days. The period of six years duration is divided into two phases –

Phase I – consisting of First, Second, Third, Fourth and Fifth academic year.

Phase II – consisting of internship or residency training during sixth year involving posting in speciality units. It is a phase of training wherein a student is exposed to actual pharmacy practice or clinical pharmacy services and acquires skill under supervision so that he or she may become capable of functioning independently.

- b) Pharm.D. (Post Baccalaureate): The duration of the course shall be for three academic years (two years of study and one year internship or residency) full time with each academic year spread over a period of not less than two hundred working days. The period of three years duration is divided into two phases –

Phase I – consisting of First and Second academic year.

Phase II – consisting of Internship or residency training during third year involving posting in speciality units. It is a phase of training wherein a student is exposed to actual pharmacy practice or clinical pharmacy services, and acquires skill under supervision so that he or she may become capable of functioning independently.

## 4. Minimum qualification for admission to. –

- a) Pharm.D. Part-I Course – A pass in any of the following examinations -

(1) 10+2 examination with Physics and Chemistry as compulsory subjects along with one of the following subjects:

Mathematics or Biology.

(2) A pass in D.Pharm course from an institution approved by the Pharmacy Council of India under section 12 of the Pharmacy Act.

(3) Any other qualification approved by the Pharmacy Council of India as equivalent to any of the above examinations.

Provided that a student should complete the age of 17 years on or before 31<sup>st</sup> December of the year of admission to the course.

Provided that there shall be reservation of seats for the students belonging to the Scheduled Castes, Scheduled Tribes and other Backward Classes in accordance with the instructions issued by the Central Government/State Government/Union Territory Administration as the case may be from time to time.

  
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## b) Pharm.D. (Post Baccalaureate) Course -

A pass in B.Pharm from an institution approved by the Pharmacy Council of India under section 12 of the Pharmacy Act:

Provided that there shall be reservation of seats for the students belonging to the Scheduled Castes, Scheduled Tribes and other Backward Classes in accordance with the instructions issued by the Central Government/State Government/Union Territory Administration as the case may be from time to time.

5. Number of admissions in the above said programmes shall be as prescribed by the Pharmacy Council of India from time to time and presently be restricted as below –
  - i) Pharm.D. Programme – 30 students.
  - ii) Pharm.D. (Post Baccalaureate) Programme – 10 students.
6. Institutions running B.Pharm programme approved under section 12 of the Pharmacy Act, will only be permitted to run Pharm.D. programme. Pharm.D. (Post Baccalaureate) programme will be permitted only in those institutions which are permitted to run Pharm.D. programme.
7. Course of study. – The course of study for Pharm.D. shall include the subjects as given in the Tables below. The number of hours in a week, devoted to each subject for its teaching in theory, practical and tutorial shall not be less than that noted against it in columns (3), (4) and (5) below.

### TABLES

#### First Year :

S.No.	Name of Subject	No. of hours of Theory	No. of hours of Practical	No. of hours of Tutorial
(1)	(2)	(3)	(4)	(5)
1.1	Human Anatomy and Physiology	3	3	1
1.2	Pharmaceutics	2	3	1
1.3	Medicinal Biochemistry	3	3	1
1.4	Pharmaceutical Organic Chemistry	3	3	1
1.5	Pharmaceutical Inorganic Chemistry	2	3	1
1.6	Remedial Mathematics/ Biology	3	3*	1
	<b>Total hours</b>	<b>16</b>	<b>18</b>	<b>6 = (40)</b>

\* For Biology

  
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**Second Year:**

S.No	Name of Subject	No. of hours of Theory	No. of hours of Practical	No. of hours of Tutorial
(1)	(2)	(3)	(4)	(5)
2.1	Pathophysiology	3	-	1
2.2	Pharmaceutical Microbiology	3	3	1
2.3	Pharmacognosy & Phytopharmaceuticals	3	3	1
2.4	Pharmacology-I	3	-	1
2.5	Community Pharmacy	2	-	1
2.6	Pharmacotherapeutics-I	3	3	1
	<b>Total Hours</b>	<b>17</b>	<b>9</b>	<b>6 = 32</b>

**Third Year:**

S.No.	Name of Subject	No. of hours of Theory	No. of hours of Practical	No. of hours of Tutorial
(1)	(2)	(3)	(4)	(5)
3.1	Pharmacology-II	3	3	1
3.2	Pharmaceutical Analysis	3	3	1
3.3	Pharmacotherapeutics-II	3	3	1
3.4	Pharmaceutical Jurisprudence	2	-	-
3.5	Medicinal Chemistry	3	3	1
3.6	Pharmaceutical Formulations	2	3	1
	<b>Total hours</b>	<b>16</b>	<b>15</b>	<b>5 = 36</b>

  
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**Fourth Year:**

S.No.	Name of Subject	No. of hours of Theory	No. of hours of Practical/Hospital Posting	No. of hours of Tutorial
(1)	(2)	(3)	(4)	(5)
4.1	Pharmacotherapeutics-III	3	3	1
4.2	Hospital Pharmacy	2	3	1
4.3	Clinical Pharmacy	3	3	1
4.4	Biostatistics & Research Methodology	2	-	1
4.5	Biopharmaceutics & Pharmacokinetics	3	3	1
4.6	Clinical Toxicology	2	-	1
	<b>Total hours</b>	<b>15</b>	<b>12</b>	<b>6 = 33</b>

**Fifth Year:**

S.No.	Name of Subject	No. of hours of Theory	No. of hours of Hospital posting*	No. of hours of Seminar
(1)	(2)	(3)	(4)	(5)
5.1	Clinical Research	3	-	1
5.2	Pharmacoepidemiology and Pharmacoeconomics	3	-	1
5.3	Clinical Pharmacokinetics & Pharmacotherapeutic Drug Monitoring	2	-	1
5.4	Clerkship *	-	-	1
5.5	Project work (Six Months)	-	20	-
	<b>Total hours</b>	<b>8</b>	<b>20</b>	<b>4 = 32</b>

\* Attending ward rounds on daily basis.

  
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**Sixth Year:**

Internship or residency training including postings in speciality units. Student should independently provide the clinical pharmacy services to the allotted wards.

- (i) Six months in General Medicine department, and
- (ii) Two months each in three other speciality departments

8. Syllabus. – The syllabus for each subject of study in the said Tables shall be as specified in Appendix -A to these regulations.
9. Approval of the authority conducting the course of study. – (1) No person, institution, society or university shall start and conduct Pharm.D or Pharm.D. (Post Baccalaureate) programme without the prior approval of the Pharmacy Council of India.
- (2) Any person or pharmacy college for the purpose of obtaining permission under sub-section (1) of section 12 of the Pharmacy Act, shall submit a scheme as prescribed by the Pharmacy Council of India.
- (3) The scheme referred to in sub-regulation (2) above, shall be in such form and contain such particulars and be preferred in such manner and be accompanied with such fee as may be prescribed:
- Provided that the Pharmacy Council of India shall not approve any institution under these regulations unless it provides adequate arrangements for teaching in regard to building, accommodation, labs., equipments, teaching staff, non-teaching staff, etc., as specified in Appendix-B to these regulations.
10. Examination. – (1) Every year there shall be an examination to examine the students.
- (2) Each examination may be held twice every year. The first examination in a year shall be the annual examination and the second examination shall be supplementary examination.
- (3) The examinations shall be of written and practical (including oral nature) carrying maximum marks for each part of a subject as indicated in Tables below :

**T A B L E S****First Year examination :**

S.No.	Name of Subject	Maximum marks for Theory			Maximum marks for Practicals		
		Examination	Sessional	Total	Examination	Sessional	Total
1.1	Human Anatomy and Physiology	70	30	100	70	30	100
1.2	Pharmaceutics	70	30	100	70	30	100
1.3	Medicinal Biochemistry	70	30	100	70	30	100
1.4	Pharmaceutical Organic Chemistry	70	30	100	70	30	100
1.5	Pharmaceutical Inorganic Chemistry	70	30	100	70	30	100
1.6	Remedial Mathematics/ Biology	70	30	100	70*	30*	100*
				600			600 = 1200

\* for Biology.

  
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**All the Examining Authorities conducting Pharm.D & Pharm.D  
(Post Baccalaureate) examinations**

**Sub: Inclusion of Pharmacotherapeutics I & II in IV<sup>th</sup> year for Pharm.D. (Post Baccalaureate) students.**

Sir

This has a reference to the subject cited above. In this connection, I am directed to state that the subject of Pharmacotherapeutics I & II be included in the course of study and examination of IV<sup>th</sup> year for Pharm.D. (Post Baccalaureate) students. A copy of the Pharmacotherapeutics syllabus I & II is enclosed herewith for your ready reference and also available on Council's website "www.pci.nic.in".

Yours faithfully

Sd/-

**(ARCHNA MUDGAL)**  
**Registrar-cum-Secretary**

  
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## PHARM. D. POST BACCALAUREATE PROGRAM

(Inclusion of Pharmacotherapeutics I & II subject in the fourth year of the program)

### SYLLABUS FOR PHARMACOTHERAPEUTICS I & II (THEORY)

Theory: 3Hrs/week

- Etiopathogenesis and pharmacotherapy of diseases associated with following systems/ diseases.

1.	<b>Cardiovascular system:</b> Hypertension, Congestive cardiac failure, Angina Pectoris, Myocardial infarction, Hyperlipidaemias, Electrophysiology of heart and Arrhythmias	<b>Total = 13 hrs</b> <b>(3+2+2+2+2+2)</b>
2.	<b>Respiratory system :</b> Introduction to Pulmonary function test, Asthma, Chronic obstructive airways disease, Drug induced pulmonary diseases	<b>Total = 6</b> <b>(1+2+2+1)</b>
3.	<b>Endocrine system :</b> Diabetes, Thyroid diseases, Oral contraceptives, Hormone replacement therapy, Osteoporosis	<b>Total = 8</b> <b>(3+2+1+1+1)</b>
4.	<b>General prescribing guidelines for</b> a. Paediatric patients b. Geriatric patients c. Pregnancy and breast feeding	<b>Total = 4hrs</b> <b>(1+1+2)</b>
5.	<b>Ophthalmology:</b> Glaucoma, Conjunctivitis- viral & bacterial	<b>(3 hrs)</b>
6.	<b>Introduction to rational drug use</b> Definition, Role of pharmacist Essential drug concept Rational drug formulations	<b>Total = 2 hrs</b> <b>(1+1)</b>

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7.	<b>Infectious disease:</b> Guidelines for the rational use of antibiotics and surgical Prophylaxis, Tuberculosis, Meningitis, Respiratory tract infections, Gastroenteritis, Endocarditis, Septicemia, Urinary tract infections, Protozoal infection- Malaria, HIV & Opportunistic infections, Fungal infections, Viral infections, Gonorrhoea and Syphilis	<b>Total = 18 hrs.</b> (2+1+1+2+1+1+1+2+1+2+1+1+1+1)
8.	<b>Musculoskeletal disorders</b> Rheumatoid arthritis, Osteoarthritis, Gout, Spondylitis, Systemic lupus erythematosus.	<b>Total = 6hrs.</b> (2+1+1+1+1)
9.	<b>Renal system</b> Acute Renal Failure, Chronic Renal Failure, Renal Dialysis, Drug induced renal disorders	<b>Total = 05hrs.</b> (2+1+1+1)
10.	<b>Oncology:</b> Basic principles of Cancer therapy, General introduction to cancer chemotherapeutic agents, Chemotherapy of breast cancer, leukemia. Management of chemotherapy nausea and emesis	<b>Total = 06 hrs.</b> (2+1+2+1)
11.	<b>Dermatology:</b> Psoriasis, Scabies, Eczema, Impetigo	<b>Total = 4hrs.</b>

### PHARMACOTHERAPEUTICS – I & II (PRACTICAL)

**Practicals: 3 Hrs./Week**

**Practicals:**

Hospital postings in various departments designed to complement the lectures by providing practical clinical discussion; attending ward rounds; follow up the progress and changes made in drug therapy in allotted patients; case presentation upon discharge. Students are required to maintain a record of cases presented and the same should be submitted at

the end of the course for evaluation. A minimum of 20 cases should be presented and recorded covering most common diseases.

**Assignments:**

Students are required to submit written assignments on the topics given to them. Topics allotted should cover recent developments in drug therapy of various diseases. A minimum of THREE assignments [1500 – 2000 words] should be submitted for evaluation.

**Format of the assignment:**

1. Minimum & Maximum number of pages.
2. Reference(s) shall be included at the end.
3. Assignment can be a combined presentation at the end of the academic year.
4. It shall be computer draft copy.
5. Name and signature of the student.
6. Time allocated for presentation may be 8+2 Min.

**Scheme of Practical Examination:**

	<b>Sessionals</b>	<b>Annual</b>
Synopsis	05	15
Major Experiment	10	25
Minor Experiment	03	15
Viva	02	15
<b>Max Marks</b>	<b>20</b>	<b>70</b>
<b>Duration</b>	<b>03hrs</b>	<b>04hrs</b>

**Note:** Total sessional marks is 30 (20 for practical sessional plus 10 marks for regularity, promptness, viva-voce and record maintenance).

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**R19 M. PHARMACY LIST OF OPEN ELECTIVES**

Pharmacy Practice	Pharmaceutical Regulatory Affairs	Industrial Pharmacy	Pharmaceutical Chemistry	Pharmaceuticals/ Pharmaceutical Technology	Pharmaceutical Quality Assurance	Pharmacology	Pharmaceutical Analysis
<ol style="list-style-type: none"> <li>1. Cosmeticology</li> <li>2. Pharmaceutical Administration</li> <li>3. Hazards and Safety management</li> <li>4. Project Management</li> <li>5. Audits and regulatory compliance</li> </ol>	<ol style="list-style-type: none"> <li>1. Screening methods in pharmacology</li> <li>2. Entrepreneurship Management</li> <li>3. Cosmetic science</li> <li>4. Hazards and Safety management</li> <li>5. Audits and regulatory compliance</li> </ol>	<ol style="list-style-type: none"> <li>1. Screening methods in pharmacology</li> <li>2. Entrepreneurship Management</li> <li>3. Cosmetic science</li> <li>4. Hazards and Safety management</li> <li>5. Audits and regulatory compliance</li> </ol>	<ol style="list-style-type: none"> <li>1. Entrepreneurship Management</li> <li>2. Hazards and Safety management</li> <li>3. Audits and regulatory compliance</li> <li>4. Pharmaceutical validation</li> <li>5. Nutraceuticals</li> </ol>	<ol style="list-style-type: none"> <li>1. Screening methods in pharmacology</li> <li>2. Entrepreneurship Management</li> <li>3. Cosmetic science</li> <li>4. Hazards and Safety management</li> <li>5. Audits and regulatory compliance</li> </ol>	<ol style="list-style-type: none"> <li>1. Entrepreneurship Management</li> <li>2. Cosmetic Science</li> <li>3. Nutraceuticals</li> <li>4. Nano Based Drug Delivery Systems</li> <li>5. Pharmacoeconomics</li> </ol>	<ol style="list-style-type: none"> <li>1. Cosmeticology</li> <li>2. Pharmaceutical Administration</li> <li>3. Drug Regulatory affairs</li> <li>4. Project Management</li> <li>5. Audits and regulatory compliance</li> </ol>	<ol style="list-style-type: none"> <li>1. Screening Methods in Pharmacology</li> <li>2. Entrepreneurship Management</li> <li>3. Cosmetic Science</li> <li>4. Hazards and Safety</li> <li>5. Audits and Regulatory Compliance</li> </ol>

  
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## 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 Title	Int. marks	Ext. marks	L	P	C
Comprehensive Viva-Voce	--	100	--	--	4
Project work Review II	100	--	--	24	12
<b>Total Credits</b>	<b>100</b>	<b>100</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 III	100	--	--	8	4
Project Evaluation (Viva-Voce)	--	100	--	16	12
<b>Total Credits</b>	<b>100</b>	<b>100</b>	<b>--</b>	<b>24</b>	<b>16</b>

\$ For Project review I, please refer 7.9 in R17 Academic Regulations

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

### 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>			--	24	16

University Updates

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

## 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>			--	24	16

University Updates

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**GEETHANJALI COLLEGE OF PHARMACY**

**Cheeryal (V), Keesara (M), Medchal (D)-501301**

Date: 04/09/2019

**CIRCULAR**

**Subject:** College Academic Committee meeting for the A.Y.2019-20- Reg.

The College Academic Committee meeting is scheduled at 2.00 P.M on 04/09/2019 in board room. All the board members are requested to attend the same.

**Agenda Points**

- Consideration of the important communications, policy decisions received from the University, State Government, AICTE/PCI, etc., from time to time.
- Discussion regarding establishment of institution's innovation council.
- To monitor the students' performance.
- To discuss the approval of performance appraisal of faculty.
- To discuss about upcoming national conference Dravyaka and national pharmacy week.
- To monitor the steps taken for Students Training and Placement Activities.
- Any other relevant matter to be discussed.



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**GEETHANJALI COLLEGE OF PHARMACY**

**Cheeryal (V), Keesara (M), Medchal (D)**

Date: 04/09/2019

**COLLEGE ACADEMIC COMMITTEE (CAC) MINUTES OF MEETING**

**Ref: GCPK/CAC/MOM/01**

**DATE AND TIME OF THE MEETING: 04/09/2019; 2:00PM**

The 5<sup>st</sup> meeting of the College Academic Committee (CAC) of GCPK was held on 4th Sep 2019 at Board Room, GCPK. The meeting was chaired by Dr. M. Ravi Kumar, Principal and Chair Person, CAC, GCPK. The list of members attended the meeting is enclosed.

The meeting commenced with a word of welcome by Dr. M. Ravi Kumar, Principal and Chair Person of CAC. The following agendas were discussed.

**1. Agenda: Curriculum Revision, Academic Regulation.**

The Chairperson reported that the references or opinions on the revised curriculum were received from the Jawaharlal Nehru Technological University Hyderabad and the same is to be followed by the college. The Incharge discussed about the academic calendars given by the university and college for all the years batch wise are to be implemented and followed accordingly. The chair person declared approval for Pharm D under sec 12 from PCI.

**Experiential learning courses:**

The chair person person discussed about experiential learning courses in B.Pharmacy [Project work and field work (Industry Training)], Pharm D[internship], Pharm D (PB) [internship] and M. Pharmacy programmes [Project work] with all members. The members approved and the list of courses are enclosed in Annexure A

**2. Agenda: Institution's Innovation Council.**

The Chairperson reported that IIC was established to promote innovation for the betterment of mankind. IIC have several coordinators including R&D, incubation cell, IPR and

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entrepreneur cell etc. One of the institute representatives registered for the participation of 1<sup>st</sup> annual innovation festival of MIC (MHRD innovation cell), AICTE New Delhi dated 11/09/2019.

**3. Agenda: Monitoring students' performance.**

The chairperson discussed regarding 2018-19 end results. He informed to examination incharge to list out more than 10 failures in each subject and collect explanation letter from concern faculty.

**4. Agenda: The approval of performance appraisal of faculty.**

The chairperson informed to examination branch incharge to circulate the faculty appraisal forms for the academic year of 2018-19.

**5. Agenda: Conduct national conference Dravyaka and national Pharmacy week.**

The chairperson proposed to plan national conference Dravyaka in the month of November/ December. He also informed to participate in national pharmacy week to be held in the month of November.

**6. Agenda: Training and Placement Cell**

**Resolution:**

The chair person suggested to conductance of guest lectures, workshops, seminars, industrial visits & educational tours for students. He also proposed a team for organizing campus placement drives and off – campus interviews.

**7. Agenda: Status of NBA.**



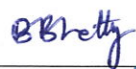



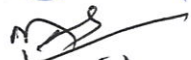
The chairperson discussed the NBA progress till date.

  
CHAIR PERSON


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Board Chair Person: Dr. M. Ravi Kumar, Professor & Principal

Board Members:

S.No.	Name	Designation	Nature	Signature
1	Dr. M. Ravi Kumar	Professor & Principal	Coordinator	
2	Dr. M. Srinivas	HOD, Pharmaceutical Chemistry	Member Incharge	
3	Dr. B. Battacharya	HOD, Pharmacology	Member	
4	Dr. T. Mangilal	HOD, Pharmaceutics	Member	
5	Dr. Bharat Bhushan Mohapatra	HOD, Pharmacognosy	Member	
6	Dr. R. Sivakumar	Incharge, Exam branch	Member	
7	Dr. B. Rambabu	HOD, PharmD	Member	

Copy to: Principal/Secretary for kind Information

  
Dr. M. Ravi Kumar  
(Chair Person) 8-9-19

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# GEETHANJALI COLLEGE OF PHARMACY

Approved by AICTE, PCI New Delhi, Permanently Affiliated to JNTUH  
Recognized Under UGC Section 2F & 12B of UGC Act, 1956, by DSIR-SIRO  
Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist., Telangana State- 501301

## ANNEXURE-A

The following courses that include experiential learning through project work and field work (Industry Training) for B. Pharmacy (Program Code: Z51R; JNTUH Regulation: R16) are approved by the College Academic Committee for the Academic Year 2019-20.

S.No.	Year of Study	Name of the Course	Course Code
1	I Year	Dispensing and General Pharmacy	PS103
2		Anatomy, Physiology and Health Education	PS104
3		Pharmaceutical Organic Chemistry – I	BS105
4		Dispensing and General Pharmacy Lab	PS107
5		Anatomy, Physiology and Health Education – I Lab	PS108
6		Pharmaceutical Organic Chemistry -I Lab	BS109
7		Pharmaceutical Inorganic Chemistry	BS201
8		Pharmaceutical Organic Chemistry – II	BS202
9		Physical Pharmacy - I	PS203
10		Statistical Methods and Computer Applications	BS204
11		Anatomy, Physiology and Health Education – II	PS205
12		Pharmaceutical Inorganic Chemistry Lab	BS206
13		Statistical Methods and Computer Applications Lab	BS207
14		Physical Pharmacy – I Lab	PS208
15	II Year	Pharmaceutical Organic Chemistry – III	PS301
16		Pharmaceutical Unit Operations – I	PS302
17		Hospital and Community Pharmacy	PS303
18		Pharmacognosy – I	PS304
19		Pharmaceutical Analysis – I	PS305
20		Pharmaceutical Organic Chemistry – III Lab	PS306
21		Pharmacognosy – I Lab	PS307
22		Pharmaceutical Analysis – I Lab	PS308
23		Pharmaceutical Unit Operations - II	PS401
24		Biochemistry	BS402
25		Physical Pharmacy – II	PS404
26		Intellectual Property Rights	PS405
27		Herbal Drugs Technology	PS405
28		Green Chemistry	PS405
29		Pharmaceutical Unit Operations-II Lab	PS406

  
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30		Biochemistry Lab	PS407	
31		Physical Pharmacy – II Lab	PS408	
32	<b>III Year</b>	Pharmaceutical Microbiology	PS501	
33		Pharmaceutical Technology - I	PS502	
34		Pharmacology – I	PS503	
35		Pharmacognosy – II	PS504	
36		Drug Regulatory Affairs	PS505	
37		Active Pharmaceutical Ingredient Process Development	PS506	
38		Entrepreneurship and Business Enterprises	MS507	
39		Pharmaceutical Microbiology Lab	PS508	
40		Pharmaceutical Technology - I Lab	PS509	
41		Pharmacology – I Lab	PS510	
42		Medicinal Chemistry - I	PS601	
43		Pharmaceutical Technology – II	PS602	
44		Pharmacology – II	PS603	
45		Chemistry of Natural Products	PS604	
46		Generic Product Development	PS605	
47		Drug Design and Discovery	PS606	
48		Screening Methods in Pharmacology	PS607	
49		Medicinal Chemistry - I Lab	PS608	
50		Pharmaceutical Technology – II Lab	PS609	
51		Pharmacology – II Lab	PS610	
52		<b>IV Year</b>	Pharmaceutical Analysis – II	PS701
53			Biopharmaceutics and Pharmacokinetics	PS702
54			Pharmacology - III	PS703
55			Medicinal Chemistry – II	PS704
56	Pharmaceutical Analysis – II Lab		PS706	
57	Biopharmaceutics and Pharmacokinetics Lab		PS707	
58	Medicinal Chemistry – II Lab		PS708	
59	Seminar and Industrial Visit		PS709	
60	Novel Drug Delivery Systems		PC801	
61	Clinical Pharmacy		PC802	
62	Pharmaceutical Biotechnology		PC803	
63	Pharmacognosy – III		PC804	
64	Nano Technology		PS805	
65	Pharmacoepidemiology, Pharmacoeconomics And Pharmacovigilance		OE806	
66	Medicinal Plant Biotechnology		OE807	
67	Novel Drug Delivery Systems and Regulatory Affairs Lab		PC808	
68	Pharmacognosy – III Lab		PC809	
69	Major Project		PC810	

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The following courses that include experiential learning through internship for Pharm. D (Program Code: Z51T JNTUH Regulation: R08) are approved by the College Academic Committee for the Academic Year 2019-20.

S.No.	Year of Study	Name of the Course	Course Code
1	I Year	Human Anatomy & Physiology	PD.C11
2		Pharmaceutics	PD.C12
3		Medicinal Biochemistry	PD.C13
4		Pharmaceutical Organic Chemistry	PD.C14
5		Pharmaceutical Inorganic Chemistry	PD.C15
6		Human Anatomy & Physiology Lab	PD.C19
7		Pharmaceutics Lab	PD.C110
8		Medicinal Biochemistry Lab	PD.C111
9		Pharmaceutical Organic Chemistry Lab	PD.C112
10		Pharmaceutical Inorganic Chemistry Lab	PD.C113
11	II Year	Pathophysiology	PD.C21
12		Pharmaceutical Microbiology	PD.C22
13		Pharmacognosy & Phyto Pharmaceuticals	PD.C23
14		Pharmacology-I	PD.C24
15		Community Pharmacy	PD.C25
16		Pharmacotherapeutics-I	PD.C26
17		Pharmaceutical Microbiology Lab	PD.C27
18		Pharmacognosy & Phyto Pharmaceuticals Lab	PD.C28
19		Pharmacotherapeutics-I Lab	PD.C29
20		Pharmacology-I Lab	PD.C210
21	III Year	Pharmacology-II	PD.C31
22		Pharmaceutical Analysis	PD.C32
23		Pharmacotherapeutics-II	PD.C33
24		Medicinal Chemistry	PD.C35
25		Pharmaceutical Formulations	PD.C36
26		Pharmacology -II Lab	PD.C37
27		Pharmaceutical Analysis Lab	PD.C38
28		Pharmacotherapeutics-II Lab	PD.C39
29		Medicinal Chemistry Lab	PD.C310
30		Pharmaceutical Formulations Lab	PD.C311
31	IV Year	Pharmacotherapeutics-III	PD.C41
32		Hospital Pharmacy	PD.C42
33		Clinical Pharmacy	PD.C43
34		Biostatistics & Research Methodology	PD.C44
35		Biopharmaceutics & Pharmacokinetics	PD.C45



36		Clinical Toxicology	PD.C46
37		Pharmacotherapeutics-III Lab	PD.C47
38		Hospital Pharmacy Lab	PD.C48
39		Clinical Pharmacy Lab	PD.C49
40		Biopharmaceutics & Pharmacokinetics Lab	PD.C410
41	<b>V Year</b>	Clinical Research	PD.C51
42		Pharmacoepidemiology & Pharmacoeconomics	PD.C52
43		Clinical Pharmacokinetics & Pharmacotherapeutic Drug Monitoring	PD.C53
44		Clerkship	PD.C54
45		Project Work	PD.C55
46	<b>VI Year</b>	Internship	PD.C61



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The following courses that include experiential learning through internship for Pharm. D (PB) (Program Code: Z55T; JNTUH Regulation: R08) are approved by the College Academic Committee for the Academic Year 2019-20.

S.No.	Year of Study	Name of the Course	Course Code
1	I Year	Pharmacotherapeutics-III	PD.C41
2		Hospital Pharmacy	PD.C42
3		Clinical Pharmacy	PD.C43
4		Biostatistics & Research Methodology	PD.C44
5		Biopharmaceutics & Pharmacokinetics	PD.C45
6		Clinical Toxicology	PD.C46
7		Pharmacotherapeutics-III Lab	PD.C47
8		Hospital Pharmacy Lab	PD.C48
9		Clinical Pharmacy Lab	PD.C49
10		Biopharmaceutics & Pharmacokinetics Lab	PD.C410
11		Pharmacotherapeutics I&II	PD.C411
12		Pharmacotherapeutics I&II LAB	PD.C412
13	II Year	Clinical Research	PD.C51
14		Pharmacoepidemiology & Pharmacoeconomics	PD.C52
15		Clinical Pharmacokinetics & Pharmacotherapeutic Drug Monitoring	PD.C53
16		Clerkship	PD.C54
17		Project Work	PD.C55
18	III Year	Internship	PD.C61



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University (V), Keesara (M), Medchal (M), Dist. T.S. - 501301.

The following courses that include experiential learning through Project work for M. Pharm-Pharmaceutics (Program Code: Z51S03; JNTUH Regulation: R17) are approved by the College Academic Committee for the Academic Year 2019-20.

S.No.	Year of Study	Name of the Course	Course Code
1	I Year	Advanced Physical Pharmaceutics	MPT.C111
2		Modern Pharmaceutics-I	MPT.C112
3		Applied Biopharmaceutics and Pharmacokinetics	MPT.C113
4		Modern Pharmaceutical Analytical Techniques	MPT.C114
5		Intellectual Property Rights	MPT.C115
6		Pharmacoepidemiology And Pharmacoeconomics	MPT.C116
7		Drug Regulatory Affairs	MPT.C117
8		Herbal Cosmetics Technology	MPT.C118
9		. Pharmaceutical Validation	MPT.C119
10		Pharmaceutical Management	MPT.C120
11		Advanced Physical Pharmaceutics Lab	MPT.C121
12		Applied Biopharmaceutics and Pharmacokinetics Lab	MPT.C122
13		Seminar	MPT.C123
14		Advanced Drug Delivery Systems	MPT.C121
15		Industrial Pharmacy	MPT.C122
16		Modern Pharmaceutics-II	MPT.C123
17		Biostatistics and Research Methodology	MPT.C124
18		Stability of Drugs and Dosage Forms	MPT.C125
19		Screening Methods in Pharmacology	MPT.C126
20		Nano Based Drug Delivery Systems	MPT.C127
21		Nutraceuticals	MPT.C128
22		Entrepreneurship Management	MPT.C129
23		Clinical Research and Pharmacovigilance	MPT.C130
24		Advanced Drug Delivery Systems Lab	MPT.C131
25		Modern Pharmaceutics Lab	MPT.C132
26		Seminar	MPT.C133
27	II Year	Comprehensive Viva-Voce	MPT.C211
28		Project Work Review II	MPT.C212
29		Project Work Review III	MPT.C211
30		Project Evaluation (Viva-Voce)	MPT.C212



*Sanjiv K*  
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The following courses that include experiential learning through Project work for M. Pharm-Pharmaceutical Regulatory Affairs (Program Code: Z51S13, JNTUH Regulation: R17) are approved by the College Academic Committee for the Academic Year 2019-20.

S.No.	Year of Study	Name of the Course	Course Code
1	<b>I Year</b>	Pharmaceutical management -I (general & personnel)	MP.C111
2		Drug Regulatory Affairs	MP.C112
3		Modern Pharmaceutical analytical techniques	MP.C113
4		Total Quality Management	MP.C114
5		Intellectual Property Rights	MP.C115
6		Pharmacoepidemiology And Pharmacoeconomics	MP.C116
7		Herbal Cosmetics Technology	MP.C117
8		Phytochemistry	MP.C118
9		Pharmaceutical Formulation Technology	MP.C119
10		Pharmaceutical Validation	MP.C120
11		Modern Pharmaceutical Analytical Techniques Lab	MP.C121
12		Pharmaceutical Management Lab	MP.C122
13		Seminar	MP.C123
14		Pharmaceutical Managemnt -II (PRODUCTION, MARKETING & FINANCE)	MP.C124
15		Analytical Method Validation and copyrights and trademarks	MP.C125
16		Pharmaceutical Market research and Analysis	MP.C126
17		Biostatistics and Research Methodology	MP.C127
18		Stability of Drugs and Dosage forms	MP.C128
19		Screening Methods in Pharmacology	MP.C129
20		Nano Based Drug Delivery Systems	MP.C130
21		Neutraceuticals	MP.C131
22		Advanced drug delivery systems	MP.C132
23		Clnical Research and Pharmacovigilance	MP.C133
24		Analytical Method Validation	MP.C134

25		Pharmaceutical Market research and Analysis Lab	MP.C135
26		Seminar	MP.C136
27	<b>II Year</b>	Comprehensive Viva-Voce	MP.C221
28		Project Work Review II	MP.C222
29		Project Work Review III	MP.C221
30		Project Evaluation (Viva-Voce)	MPC222



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The following courses that include experiential learning through Project work for M. Pharm-Pharmaceutical Analysis (Program Code: Z51S12; JNTUH Regulation: R17) are approved by the College Academic Committee for the Academic Year 2019-20.

S.No.	Year of Study	Name of the Course	Course Code
1	I Year	Advanced Pharmaceutical Analysis	MPA.C111
2		Food Analysis	MPA.C112
3		Modern Pharmaceutical Analytical Techniques	MPA.C113
4		Pharmaceutical Validation	MPA.C114
5		Intellectual Property Rights	MPA.C115
6		Drug Regulatory Affairs	MPA.C116
7		Pharmacoepidemiology And Pharmacoeconomics	MPA.C117
8		Pharmaceutical Management	MPA.C119
9		Herbal Cosmetics Technology	MPA.C120
10		Pharmaceutical Formulation Technology	MPA.C121
11		Modern Pharmaceutical Analytical Techniques Lab	MPA.C121
12		Advanced Pharmaceutical Analysis Lab	MPA.C121
13		Seminar	MPA.C122
14		Advanced Instrumental Analysis	MPA.C121
15		Quality Control and Quality Assurance	MPA.C122
16		Modern Bio Analytical Techniques	MPA.C123
17		Biostatistics and Research Methodology	MPA.C124
18		Spectral Analysis	MPA.C125
19		Screening Methods in Pharmacology	MPA.C126
20		Stability of Drugs and Dosage Forms	MPA.C127
21		Entrepreneurship Management	MPA.C128
22		Nano Based Drug Delivery Systems	MPA.C129
23		Herbal & Cosmetics Analysis	MPA.C130
24		Advanced Instrumental Analysis Lab	MPA.C131
25		Quality Control and Quality Assurance Lab	MPA.C132
26		Seminar	MPA.C133
27	II Year	Comprehensive Viva-Voce	MPA.C221
28		Project Work Review II	MPA.C222
29		Project Work Review III	MPA.C221
30		Project Evaluation (Viva-Voce)	MPA.C222



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