MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY

(Formerly West Bengal University of Technology)

B.PHARM Syllabus

(Effective from 2021-2022 Admission Session)

Curriculum Structure
Semester I

Course Code	Name of the course	No. of hours	Tutorial	Full Marks	Credit points
THEORY					
PT105	Human Anatomy and Physiology I– Theory	3	1	100	4
PT101	Pharmaceutical Analysis I – Theory	3	1	100	4
PT106	Pharmaceutics I – Theory	3	1	100	4
PT103	Pharmaceutical Inorganic Chemistry – Theory	3	1	100	4
PRACTICAL					
PT195	Human Anatomy and Physiology– Practical	4	-	100	2
PT191	Pharmaceutical Analysis I – Practical	4	-	100	2
PT196	Pharmaceutics I – Practical	4	-	100	2
PT193	Pharmaceutical Inorganic Chemistry – Practical	4	-	100	2
SESSIONAL*					
PTB184 & PTB185 **OR** PTM183	Remedial Biology – Theory & Remedial Biology – Practical **OR** Remedial Mathematics – Theory	2 + 2 2	-	50 + 50 100	2 + 1 3
Total		**36**	**4**		**27**

The students who have studied Mathematics / Physics / Chemistry at HSC will be appearing for Remedial Biology Theory & Practical.

The students who have studied Physics / Chemistry / Biology (Botany / Zoology) at HSC will be appearing for Remedial Mathematics course. * Non University Examination (NUE)

Semester II

Table-II: Course of study for semester II Course Code	Name of the course	No. of hours	Tutorial	Full Marks	Credit points
THEORY					
PT215	Human Anatomy and Physiology II – Theory	3	1	100	4
PT213	Pharmaceutical Organic Chemistry I – Theory	3	1	100	4
PT214	Biochemistry – Theory	3	1	100	4
PT216	Pathophysiology – Theory	3	1	100	4
PRACTICAL					
PT298	Human Anatomy and Physiology II –Practical	4	-	100	2
PT296	Pharmaceutical Organic Chemistry I– Practical	4	-	100	2
PT297	Biochemistry – Practical	4	-	100	2
SESSIONAL*					
HU282	Environmental sciences – Theory	3	-	100	3
Total		**34**	**4**		**25**

*Non university examination

Semester III

Course code	Name of the course	No. of Hours/ week	Tutorial/ week	Credit points
PT 314	Pharmaceutical Organic Chemistry II – Theory	3	1	4
PT 316	Physical Pharmaceutics I – Theory	3	1	4
PT 319	Pharmaceutical Microbiology – Theory	3	1	4
PT 317	Pharmaceutical Engineering – Theory	3	1	4
Sessional				
PT381	Computer Applications In Pharmacy Theory	3		3
PT382	Computer Applications In Pharmacy Practical	4		2
Practical				
PT 394	Pharmaceutical Organic Chemistry II – Practical	4	-	2
PT 396	Physical Pharmaceutics I – Practical	4	-	2
PT 399	Pharmaceutical Microbiology – Practical	4	-	2
PT 397	Pharmaceutical Engineering – Practical	4	-	2
	Total	**35**	**4**	**29**

Semester IV

Course code	Name of the course	No. of hours	Tutorial	Credit points
PT 414	Pharmaceutical Organic Chemistry III– Theory	3	1	4
PT413	**Medicinal Chemistry I – Theory**	3	1	4
PT416	Physical Pharmaceutics II – Theory	3	1	4
PT418	Pharmacology I – Theory	3	1	4
PT412	Pharmacognosy and Phytochemistry I– Theory	3	1	4
Sessional				
HU 481	Communication skills – Theory	2		2
HU 482	Communication skills – Practical	2		1
Practical				
PT493	**Medicinal Chemistry I – Practical**	4	-	2
PT496	Physical Pharmaceutics II – Practical	4		2
PT498	Pharmacology I – Practical	4	-	2
PT492	Pharmacognosy and Phytochemistry I – Practical	4	-	2
	Total	**35**	**5**	**31**

Semester V

Course code	Name of the course	No. of hours	Tutorial	Credit points
THEORY				
PT513	Medicinal Chemistry II – Theory	3	1	4
PT516	**Industrial Pharmacy I – Theory**	3	1	4
PT518	Pharmacology II – Theory	3	1	4
PT512	Pharmacognosy and Phytochemistry II– Theory	3	1	4
PT515	Pharmaceutical Jurisprudence - Theory	3	1	4
PRACTICAL				
PT596	Industrial Pharmacy I – Practical	4	-	2
PT598	Pharmacology II – Practical	4	-	2
PT 592	Pharmacognosy and Phytochemistry II – Practical	4	-	2
Total		**27**	**5**	**26**

Semester VI

Course code	Name of the course	No. of hours	Tutorial	Credit points
THEORY				
PT 613	Medicinal Chemistry III – Theory	3	1	4
PT618	Pharmacology III – Theory	3	1	4
PT612	Herbal Drug Technology – Theory	3	1	4
PT 616	Biopharmaceutics and Pharmacokinetics – Theory	3	1	4
PT-619	Pharmaceutical Biotechnology – Theory	3	1	4
PT 611	Quality Assurance –Theory	3	1	4
PRACTICAL				
PT693	Medicinal chemistry III – Practical	4	-	2
PT698	Pharmacology III – Practical	4	-	2
PT692	Herbal Drug Technology – Practical	4	-	2
	Total	**30**	**6**	**30**

Semester VII

Course code	Name of the course	No. of hours	Tutorial	Credit points
THEORY				
PT711	Instrumental Methods of Analysis – Theory	3	1	4
PT716A	Industrial Pharmacy II – Theory	3	1	4
PT718	Pharmacy Practice – Theory	3	1	4
PT716B	Novel Drug Delivery System – Theory	3	1	4
PRACTICAL				
PT791	Instrumental Methods of Analysis – Practical	4	-	2
SESSIONAL				
PT- 781	Practice School*	12	-	6
	Total	**28**	**4**	**24**

* Non University Examination (NUE)

Semester VIII

Course code	Name of the course	No. of hours	Tutorial	Credit points
THEORY				
PT 817	Biostatistics and Research Methodology	3	1	4
PT818	Social and Preventive Pharmacy	3	1	4
PT810A	Pharma Marketing Management(Elective)*	**3×2=6**	**1×2=2**	**4×2=8**
PT810B	Computer Aided Drug Design(Elective)*			
PT810C	Advanced Instrumentation Techniques(Elective)*			
PT810D	Life Science Skill Development *			
SESSIONAL				
PT 883	Project Work	12	-	6
	Total	**24**	**4**	**22**

*** A student has to opt any two(2) electives**

Table-IX: Semester wise credits distribution

Semester	Credit Points
I	**27**
II	25
III	29
IV	31
V	26
VI	30
VII	24
VIII	22
Extracurricular/ Co curricular activities	01*
Total credit points for the program	**215**

* The credit points assigned for extracurricular and or co-curricular activities shall be given by the Principals of the colleges and the same shall be submitted to the University. The criteria to acquire this credit point shall be defined by the colleges from time to time.
* This (Extracurricular/ Co curricular activities) credit point will be awarded to the student who will qualify the MAR(Mandatory Additional Requirement).
* To obtain B.Pharm degree with honours minimum of additional 8 credits has to be earned in minimum three subjects from MOOCs Platform as recognized by MAKAUT, WB.

Note: For Lateral Entry Students

* Lateral Entry students will carry 52credits from D.Pharm as per norms of PCI.

NOTES:

1. Academic (Program) Committee

The B. Pharm. program shall have an Academic (Program) Committee constituted by the Head of the institution.

2. Project work

All the students shall undertake a project under the supervision of a teacher and submit a report. The area of the project shall be decided by the supervisor in consultation with the student. The project may be carried out in group not exceeding 3 in number.

The internal and external examiner appointed by the University shall evaluate the project at the time of the Practical examinations of other semester(s).

3. Industrial training (Desirable)

Every candidate shall be required to work for at least 150 hours spread over four weeks in a Pharmaceutical Industry/Hospital. It includes Production unit, Quality Control department, Quality Assurance department, Analytical laboratory, Chemical manufacturing unit, Pharmaceutical R&D, Hospital (Clinical Pharmacy), Clinical Research Organization, Community Pharmacy, etc. After the Semester – VI and before the commencement of Semester – VII, and shall submit satisfactory report of such work and certificate duly signed by the authority of training organization to the head of the institute.

4. Practice School

In the VII semester, every candidate shall undergo practice school for a period of 150 hours evenly distributed throughout the semester. The student shall opt any one of the domains for practice school declared by the academic (program) committee from time to time.

At the end of the practice school, every student shall submit a printed report (in triplicate) on the practice school he/she attended (not more than 25 pages). Along with the exams of semester VII, the report submitted by the student. The knowledge and skills acquired by the student through practice school shall be evaluated by the subject experts at college level and grade point shall be awarded.