

# MINUTES

## 21<sup>st</sup> Meeting of Board of Studies

for  
Pharm. Sciences

6<sup>th</sup> May, 2023

11.00 am



SVKM'S Narsee Monjee Institute of Management Studies (NMIMS)

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**Shobhaben Pratapbhai Patel**  
**School of Pharmacy & Technology Management, Mumbai**  
**and**  
**School of Pharmacy & Technology Management, Shirpur & Hyderabad**

21<sup>st</sup> Meeting of Board of Studies for Pharmaceutical Sciences was held on 6<sup>th</sup> May, 2023 at 11.00 am. The meeting was conducted in hybrid mode by using MS Teams platform and conference Room of Shobhaben Pratapbhai Patel School of Pharmacy & Technology Management (SPPSPTM), SVKM's NMIMS, Mumbai.

Following members and special invitees were present in the meeting :

1. Dr. R. S. Gaud
2. Dr. Jagannath Sahoo
3. Dr. Rahul Somani
4. Dr. Hemant Jadhav
5. Dr. B. Sateesh
6. Dr. C. Bonde
7. Dr. Vaishali Londhe
8. Dr. Pravin Shende
9. Dr. Yogesh Kulkarni
10. Dr. Kapil Juvale
11. Dr. Ashwini Deshpande
12. Dr. Sunil Kanvinde
13. Dr. Saritha Shetty
14. Dr. Amisha Vora
15. Dr. Sandip Auti
16. Dr. G. L. Gupta
17. Dr. Amit Page

Dr. Bhupinder Singh Bhoop, Dr. Payal Dande and Mr. Ashish Apte were granted leave of absence.

Dr. R. S. Gaud, Director, SVKM's Pharmacy Institutions welcomed the board members and special invitees for the meeting. He introduced Dr. Jagannath Sahoo, Dean, SPPSPTM to all members and shared his contribution in the field of Pharmacy and achievements.

Dr. Jagannath Sahoo presented the progress of Pharmacy and Technology Management Schools of Mumbai, Shirpur and Hyderabad campuses.

Further, the following agenda items were taken up for consideration.

1. **To confirm the minutes of the last meeting and action points arising out of minutes of previous meeting.**

The minutes of the last meetings were read and confirmed.

2. **To consider and approve changes in the existing course structure, syllabus, exam pattern, credit structure, etc. of Ph.D. programme.**

Dr. Sahoo informed members that Ph.D. course work will be of one year and few courses will be common for Ph.D. scholars across all schools of NMIMS. He requested Dr. Yogesh to present the details of proposed Ph.D. courses for Pharmaceutical Sciences.

Dr Yogesh informed members that the course work, shall be of 16 credits. The Ph.D. course work will be divided into 2 semesters. First semester (8 credits) shall comprise of three subjects - Research Methodology, Intellectual Property Rights and Research and Publication Ethics. He mentioned that the two subjects, Research Methodology and Research and Publication Ethics have been added as per UGC regulations.

Dr. Yogesh informed members that the syllabus of research methodology (4 credits) is divided into two parts. Part A (30 hours) shall be common for all Ph.D. scholars of NMIMS and Part B (30 hours) shall be specialisation specific.

Dr. Gaud suggested to look into sequence of units in part B in the syllabus. He also mentioned to look for foreign author books in references.

Dr. Yogesh presented the syllabus of Intellectual Property Rights before the board. Dr.Gaud suggested to add pharma case studies.

Dr. Yogesh informed members that semester 2 (8 credits) shall comprise of domain specific course, one elective, Biostatistics and Literature Review Seminar.

A domain specific course is Pharmaceutical Sciences Practical. In case of pharmaceutical practicals, each student will perform minimum 15 practicals in different areas in pharmaceutical sciences like pharmaceuticals, pharmacology, pharmaceutical chemistry and pharmacognosy, and these practicals shall not be regular practicals, but shall be

designed in such a way that Ph.D. students shall be learn new techniques useful in their proposed research work during the Ph.D. tenure.

Dr. Yogesh presented the syllabus of Biostatistics before the Board. Dr. Gaud suggested to add pharma case studies. Dr. Somani opined statistics is widely used in industry such as Clinical Research. He suggested to invite guest speakers who will discuss applicability of the statistics in industry.

Dr. Yogesh informed members that, the student can select one elective based on the M.Pharm. specialization or interest, which will be of two credits.

Dr. Yogesh presented the syllabus of Advanced Pharmaceutical Chemistry before the board. Dr. Jadhav suggested to remove UV, IR, NMR. The syllabus of Advanced Pharmacology & Toxicology was placed before the board. Dr. Gaud mentioned that new molecules may be mentioned.

Dr. Jadhav opined that drug discovery part may be curtailed. He suggested to add Medical Devices in the syllabus. Dr. Yogesh informed members that in case of literature review seminar, the student will do exhaustive literature search so that he/she can finalize the research work to be done during the Ph.D. sprogram and the presentation shall be made at the end of semester.

All proposed changes and additions were discussed and accepted by the Board members.

**3. Consideration of all the requisite parameters for starting of following programmes :**

- M.Pharm (Pharmaceutical Technology) at SPTM, Shirpur
- M.Pharm (Pharmacology) at SPTM, Shirpur
- M.Pharm (Pharmacology) at SPPSPTM, Mumbai

Dr. Sahoo informed members that new programmes M.Pharm (Pharmacology) shall be starting at SPPSPTM, Mumbai and SPTM, Shirpur. Dr Gaud mentioned that the proposal to start this programme has been approved by the SVKM's NMIMS and Management and syllabus given by Pharmacy Council of India will be followed for this new programmes.

Dr. Sahoo mentioned that the animal houses at both campuses have been approved by CPCSEA and infrastructure facilities are in place to start the programme. Dr. Sahoo informed that both schools have submitted application to Pharmacy Council of India to start the programme.

Dr. Jadhav mentioned that the pogramme is good and is being offered by other institutions.

Dr. Rahul Somani opined that M.Pharm. (Pharmacology) is a very unique program. He mentioned that marketing business development, pharmacovigilance, MSL or medical marketing, are the areas where these students, can get good placements. He informed that marketing people don't have that great knowledge about the molecule or understanding about the drug. Dr. Somani opined pharmacology plus MBA, if they go hand in hand, definitely industry will look forward for such knowledgeable candidates passing out from NMIMS.

Dr. Gaud suggested to revisit and activate the MOU with Cooper Hospital as far as pharmacovigilance is concerned. Students can visit this pharmacovigilance centre and join their team for hospital activities.

Dr. Sahoo informed that education system in the NMIMS is very dynamic. Whenever a gap are identified, those gaps are addressed, so that the students should be ready for the industry.

Dr. Sahoo mentioned that M.Pharm (Pharmaceutical Technology shall be starting at SPTM, Shirpur. This programme is being offered by SPPSPTM, Mumbai and the same teaching scheme and syllabus shall be followed at SPTM, Shirpur.

Board members recommended and approved to start above mentioned new programmes.

**4. Addition of experiments in practice school component.**

Dr. Sahoo informed members the practice school component of B.Pharm./ MBA (Pharma Tech), 4<sup>th</sup> year-Sem VII has 45 experiments. It is proposed to add 15 experiments in the current list of 45 experiments. Based on the availability of the instruments / equipment at school 45 experiments from this updated list shall be performed by students. The experiments which require instruments/equipment available only at Mumbai, videos will be recorded during the experiments and the videos will be shared with the students. The members accepted the proposal of addition of experiments based on availability of instrument/equipment at campuses.

**5. Any other item with the permission of chair.**

Dean informed that SVKM's NMIMS shall be establishing School of Pharmacy & Technology Management at Indore campus. The school shall offer B.Pharm / MBA (Pharma Tech) from the academic year 2023-24. He informed the board that application to start the programme has been submitted to Pharmacy Council of India. The course structure, syllabus, exam pattern, credit structure, etc. shall remain same.

Dr. Gaud informed members that Dr. Bala Prabhakar, former Dean, SPPSPTM retired from her services on 20<sup>th</sup> April 2023. He briefed members about the contribution of Dr. Bala Prabhakar who was a faculty since inception of the School and Dean of SPPSPTM since 2015. Dr. Gaud mentioned that Dr. Bala will be remembered for her contribution of more than 16 years for development of the school and in the history of SPPSPTM.

The meeting ended with thanks to the Board members.



**Dr. Jagannath Sahoo**  
Dean, SPPSPTM



MINUTES

19<sup>th</sup> Meeting of Board of Studies for  
Pharm. Tech. Management

3<sup>rd</sup> August, 2024

11.00 am



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**Shobhaben Pratapbhai Patel**  
**School of Pharmacy & Technology Management,**  
**Mumbai and**  
**School of Pharmacy & Technology Management, Shirpur &**  
**Hyderabad**

Minutes of 19<sup>th</sup> Meeting of Board of Studies for Pharm. Tech. Management held on 3<sup>rd</sup> August, 2024 at 11.00 am at Conference Room No. 3, NMIMS, Mumbai.

The meeting is attended by following members:

- |     |                         |                 |
|-----|-------------------------|-----------------|
| 1.  | Dr. Jagannath Sahoo     | Chairman        |
| 2.  | Dr. Suvakanta Dash      | Associate Dean  |
| 3.  | Dr. Yogesh Kulkarni     | Associate Dean  |
| 4.  | Dr. Ashwini Deshpande** | Associate Dean  |
| 5.  | Dr. Shyam Pancholi**    | Associate Dean  |
| 6.  | Mr. Jagadish Audipudy   | Member          |
| 7.  | Mr. Mehul Shah          | Member          |
| 8.  | Mr. Sudarshan Jain      | Member          |
| 9.  | Ms. Gauri Pathak        | Member          |
| 10. | Mr. Hemang Mehta        | Member          |
| 11. | Dr. Haresh Raulgaonkar  | Member          |
| 12. | Dr. Anshul Garg         | Member          |
| 13. | Mr. Ashish Apte         | Special Invitee |
| 14. | Mr. Ashutosh Inamdar    | Special Invitee |

(\*\* Attended the meeting in online mode using Teams platform)

Mr. Sanjiv Navangul, Mr. Amitabha Gangopadhyay, Mr. Jitendra Tyagi, Mr. Ronald Sequeira, Mr. Ashish Apte and Mr. Binesh Nair were granted leave of absence.

Dr. Jagannath Sahoo, Dean, SPPSPTM welcomed all for the 19<sup>th</sup> Board of Studies for Pharmaceutical Technology Management and introduced himself being a new member of the Board of Studies. All the present members introduced themselves to the gathering.

Dean Dr. Jagannath Sahoo began the meeting by giving an overview of the progress of the school.

Further, the following agenda items were taken into consideration:

**1. To confirm the minutes of the last meeting and Action Taken Report.**

Minutes and action taken report were read and confirmed by the members.



**2. Prof. Jagadish Audipudy, In-charge, Head Pharma Tech Management Department, presented the agenda of the meeting to the board.**

Agenda Points:

1. To consider and approve the introduction of new courses, combining of subjects, changes in their syllabi and course structures, exam patterns, credit structures, etc., along with their syllabi, exam patterns, and credit structures for the Pharma Tech Management component of the MBA Pharma Tech program.
2. Any other item with the permission of the Chair.

Prof. Jagadish Audipudy highlighted the following rationale that was followed for the below proposed changes,

- a) Introduction of courses relevant from current context to Pharma Industry.
- b) Strengthening of Marketing Concepts in the relevant subjects.
- c) Offering courses related to new age solutions in Pharma Industry.
- d) Providing optimum emphasis on Analytics.
- e) Introduction of new courses to provide students with adequate knowledge of the changing macro and micro business environment
- f) Alignment of courses required before students commence their 17-week Management Internship Program (MIP).

Prof. Jagadish Audipudy presented the proposed new courses for the MBA Pharma Tech program to the Board:

- Artificial Intelligence in Pharma and Healthcare
- Mergers and Acquisitions in Pharma and Healthcare

Prof. Jagadish Audipudy presented the proposed courses to be deleted from the MBA Pharma Tech program to the Board:

- Two courses, Health Economics and Pharmacoepidemiology, to be dropped and their content added to the new course "Pharmacoeconomics and Technology Assessment"

Prof. Jagadish Audipudy presented the proposed courses with nomenclature and/or syllabus changes :

Syllabus Changes:

- 'Emerging Trends in Pharma Marketing': To include Marketing of Diagnostics
- 'Marketing Analytics': Content to be added to 'Business & Health Analytics'
- 'Brand Plan': Syllabus and nomenclature to change to '**Brand Plan and Strategies**'
- 'Marketing Research Methodology': To include SPSS components for analysis
- 'Brand and Product Management': Enhanced content related to Product Management

- 'Statistics for Management': To include advanced Excel tools for analysing Pharma Data

Nomenclature Changes:

- 'Predictive Analytics': Syllabus and nomenclature to change to 'Machine Learning with Python'

Prof. Jagadish Audipudy presented a summary of all the proposed changes, including descriptions of changes in year and semester for all batches of MBA Pharma Tech program and applicable for 2024-29 onwards.

Prof. Jagadish Audipudy presented a snapshot of the proposed final course structure for the program to the board.

### **3. Discussion Points on the Proposed Changes for MBA Pharma Tech :**

Mr. Ashutosh Inamdar pointed out that the Financial Management course appears post-MIP and suggested it to be shifted to pre-MIP for students.

Prof. Jagadish Audipudy explained that Financial Accounting is placed before MIP to provide students with a basic understanding of finance.

Mr. Sudarshan Jain suggested that 'Marketing Management Concepts and Strategies' and Marketing Research are currently in the third year of the MBA Pharma Tech program could be moved to the second year. Mr. Ashutosh Inamdar agreed.

Dr. Anshul Garg explained that the second year introduces 'Pharma Business Environment' and 'Business Economics', which are crucial for understanding marketing in the context of the pharma industry. Therefore, the subject is placed in the third year.

Prof. Jagadish Audipudy noted that students undergo MIP after the fourth year, allowing sufficient time to learn marketing and related subjects like 'Brand and Product Management' and 'Brand Plan and Strategies' before MIP.

Mr. Sudarshan Jain and Mr. Ashutosh Inamdar were satisfied with the explanation.

Mr. Ashutosh Inamdar suggested that the 'Supply Chain Management in Pharma Business' course, currently scheduled post-MIP, should be moved to pre-MIP. Mr. Sudarshan Jain and Mr. Mehul Shah and all other members of the BOS, agreed with this suggestion.

After discussion, it was decided that Organizational Behavior will be shifted to semester X, post-MIP, and 'Supply Chain Management in Pharma Business' will be shifted to the semester VIII, pre-MIP.

The board discussed experiential-based practical learning for students through simulation programs. Dr. Haresh Raulgaonkar explained that 'Capstone', the simulation program used in the last academic year, was removed from the

course structure by Apex committee because it was not pharma industry-specific. The Pharma Tech Management Team is looking for an alternate simulation program relevant to the pharma industry. Mr. Ashutosh Inamdar pointed out that simulation-based courses enhance students' employability and suggested to connect with IIM Ahmedabad for exploring options. Mr. Sudarshan Jain and Ms. Gauri Pathak, members of the BOS, also emphasized the importance of practical learning through simulations. Prof. Jagadish Audipudy shared positive feedback from students and the graduating batch regarding the simulation program. Dr. Shyam Pancholi, appreciated the value of simulation courses and suggested that such programs should include live projects based on the simulations.

Dr. Jagannath Sahoo mentioned that even the Management Committee during the last OB meeting felt that the Capstone Software was not the most appropriate one for SPPSPTM and asked to propose better options. In case we are able to get an appropriate simulation Dean mentioned that it can be offered to subsequent batches.

Ms. Gauri Pathak emphasized including aspects of consumer health, OTC, and nutraceuticals in the curriculum, to which Prof. Jagadish Audipudy explained that OTC and nutraceuticals are included in the course "Emerging Trends in Pharma Marketing." After discussion, it was decided that consumer health aspects will be added to the course "Emerging Trends in Pharma Marketing."

In addition Pharma Tech Management core faculty members highlighted the following practices being followed by SPP SPTM in accordance with NMIMS University guidelines

- Multi-Campus Program Coordination
- Common question papers across campuses for all examinations
- Online Paper Evaluation and Masking of Students' identity for End-term Evaluation

In brief following are the points of discussion:

**A) For MBA Pharma Tech program, following changes to be implemented from AY 2024-25:**

**1. To introduce following new courses:**

- a) Pharmacoeconomics and Technology Assessment, in semester IX for Batch 2021-26 and onwards from AY 2025-26.
- b) Healthcare Policy & Management, in semester X for Batch 2021-26 and onwards from AY 2025-26.
- c) Artificial Intelligence in Pharma & Healthcare, in semester X for Batch 2021-26 and onwards from AY 2025-26.
- d) Mergers and Acquisitions, in Semester X for Batch 2022-27 and onwards from AY 2026-27.

**2. To change the syllabus and nomenclature of following courses:**

- a. Brand Plan for Pharma Products, offered in semester VIII for Batch 2021-26, nomenclature to be changed to "Brand Plan and Strategies" for AY 2024-25.
- b. Business Analytics (Visual), offered in Semester IX for Batch 2021-26,

nomenclature to be changed to “Business and Health Analytics” with credits from 2 to 3 for AY 2025-26.

- c. Financial Management II, offered in Semester X for Batch 2021-26, nomenclature to be changed to “Financial Management” for AY 2025-26
- d. Brand Plan, offered in Semester VIII for Batch 2022-27 and onwards, nomenclature to be changed to “Brand Plan and Strategies” from AY 2025-26 onwards.

**3. To change the syllabus of following courses:**

- a. Statistics for Management, offered in Semester VI, Batch 2022-27 in AY 2024-25.
- b. Brand and Product Management, offered in Semester VII of Batch 2022-27 and onwards from AY 2025-26.
- c. Business and Health Analytics, offered in Semester VIII of Batch 2022-27 and onwards from AY 2025-26.
- d. Emerging Trends in Pharma Marketing, offered in semester X of Batch 2022-27 and onwards from AY 2026-27. Credits to be changed from 2 to 3.

**4. To change the syllabus of Marketing Research Methodology, offered in semester VIII of Batch 2022-27 and shifted to semester VI. This to be implemented from AY 2024-25 and onwards.**

5. To change the category of elective courses to compulsory courses offered in semester X for Batch 2021-26 in AY 2025-26.
6. To introduce following new courses to Batch 2021-26 for AY 2025-26. These courses are already approved in Apex committee of 57<sup>th</sup> Academic Council Meeting :
  - a. Pharma Business Governance to be offered in semester IX
  - b. Services Operations Management to be offered in semester X
  - c. Strategic Leadership in Healthcare to be offered in semester X
  - d. Emerging Trends in Pharma Marketing to be offered in semester X
  - e. Digital Healthcare Strategy and Transformation to be offered in semester X

**C. For MBA Pharma Tech program following changes to be implemented from AY 2024-25 :**

1. Shifting of following courses:
  - a. Batch 2021-2026 :
    - i. Organizational Behaviour from Sem VIII to X
    - ii. Predictive Analytics from semester X to IX with new nomenclature as "Machine Learning with Python"
    - iii. Logistics and Supply Chain Management including Analytics and E-Pharmacies from semester X to VIII and nomenclature as "Supply Chain Management in Pharma Business".
  - b. Batch 2021-2026 and onwards :
    - i. Entrepreneurship & New Ventures in Healthcare from semester X to IX
  - c. Batch 2022-2027 and onwards :
    - i. Consumer Behaviour from semester VI to IX
    - ii. Predictive Analytics from semester VIII to IX with new nomenclature as "Machine Learning with Python"
    - iii. Digital Healthcare Strategy and Transformation from semester IX to VIII
    - iv. Organizational Behaviour from semester IX to X
    - v. Human Resource Management from semester X to IX
    - vi. Supply Chain Management in Pharma Business from semester X to VIII
  - d. Batch 2023-2028 and onwards:
    - i. Marketing Management Concepts and Strategies from semester IV to VI
    - ii. Pharma Selling Process from semester V to VII
    - iii. Statistics for Management from VI to V
    - iv. Business Economics from semester VII to IV
2. Dropping of courses:
  - a. Batch 2021-2026 :
    - i. Sales Management including Data Analytics (Sem IX)
    - ii. Customer Relationship Management (Sem IX)
    - iii. Health Technology Assessment (Sem IX)
    - iv. Leading Digital- Turning Technology into Business Transformation (Incl. AI in Healthcare) (Sem IX)
    - v. Digital Strategy in Pharma Industry (Sem IX)

- vi. Indian Ethos and Business Ethics in Pharma (Sem IX)
- vii. Financial Analysis Planning and Control (Sem IX)
- viii. Patient- Doctor Communications- Tech Enabled (Sem IX)
- ix. Introduction to Management Consulting Practice (Sem X)
- x. Corporate Social Responsibility (Sem X)
- xi. Marketing of Diagnostics (Sem X)
- xii. Marketing of Biosimilars and Speciality Products (Sem X)
- xiii. Marketing of Medical Devices (Sem X)
- xiv. Quantitative Techniques for Forecasting and Decision Making (Sem X)
- xv. Marketing of Active Pharmaceutical Ingredients (Sem X)

b. Batch 2022-2027 :

- i. Marketing Analytics (Sem IX)
- ii. Pharmacoepidemiology (Sem IX)
- iii. Health Economics (Sem X)

3. Change of Nomenclature of following courses:

- a. Predictive Analytics to "Machine Learning with Python" (semester X , Batch (2020-25, AY 2024-25)
- b. International Marketing to "Pharma International Marketing" (semester X , Batch(2021-26, AY 2025-26)

The Board highly appreciated all the efforts and congratulated team NMIMS, SPPSPTM for ensuring high quality standards of education across campuses.

The meeting ended with thanks to the board members.

After incorporating all suggestions of BOS members the updated course structures were circulated for their consideration. The members considered and approved all these changes.

**Dr. Jagannath Sahoo**  
Dean, SPPSPTM



**Course Structure**  
**MBA PharmaTech (Bachelor of Pharmacy + MBA) – 5 years Programme (2024-25)**

**Semester I**

Area	Sr. No.	Subject	Credits	Total credits area-wise
Pharmacy	1	Human Anatomy and Physiology I – Theory	4	32
	2	Pharmaceutical Analysis – Theory	4	
	3	Pharmaceutics I – Theory	4	
	4	Pharmaceutical Inorganic Chemistry – Theory	4	
	5	Communication skills – Theory	2	
	6	Remedial Biology – Theory	2	
	7	Remedial Mathematics – Theory	2	
	8	Human Anatomy and Physiology I - Practical	2	
	9	Pharmaceutical Analysis – Practical	2	
	10	Pharmaceutics I – Practical	2	
	11	Pharmaceutical Inorganic Chemistry – Practical	2	
	12	Communication skills – Practical	1	
	13	Remedial Biology – Practical	1	
<b>Total credits</b>				<b>32</b>

**Semester II**

Area	Sr. No.	Subject	Credits	Total credits area-wise
Pharmacy	1	Human Anatomy and Physiology II – Theory	4	30
	2	Pharmaceutical Organic Chemistry I – Theory	4	
	3	Biochemistry - Theory	4	
	4	Pathophysiology – Theory	4	
	5	Computer Applications in Pharmacy – Theory	3	
	6	Environmental sciences – Theory	3	
	7	Human Anatomy and Physiology II – Practical	2	
	8	Pharmaceutical Organic Chemistry I – Practical	2	
	9	Biochemistry – Practical	2	
	10	Computer Applications in Pharmacy – Practical	1	
	11	Inventions in Science	1	
<b>Total credits</b>				<b>30</b>

**Semester III**

Area	Sr. No.	Subject	Credits	Total credits area-wise
Pharmacy	1	Pharmaceutical Organic Chemistry II – Theory	4	25
	2	Physical Pharmaceutics I – Theory	4	
	3	Pharmaceutical Microbiology – Theory	4	
	4	Pharmaceutical Engineering – Theory	4	
	5	Pharmaceutical Organic Chemistry II – Practical	2	
	6	Physical Pharmaceutics I – Practical	2	
	7	Pharmaceutical Microbiology – Practical	2	
	8	Pharmaceutical Engineering – Practical	2	
	9	Introduction to Research I-Theory	1	
Management	1	Principles of Management	2	2
<b>Total credits</b>				<b>27</b>

**Semester IV**

Area	Sr. No.	Subject	Credits	Total credits area-wise
Pharmacy	1	Pharmaceutical Organic Chemistry III – Theory	4	29
	2	Medicinal Chemistry I – Theory	4	
	3	Physical Pharmaceutics II – Theory	4	
	4	Pharmacology I – Theory	4	
	5	Pharmacognosy and Phytochemistry I – Theory	4	
	6	Medicinal Chemistry I – Practical	2	
	7	Physical Pharmaceutics II – Practical	2	
	8	Pharmacology I – Practical	2	
	9	Pharmacognosy and Phytochemistry I – Practical	2	
	10	Introduction to Research II-Theory	1	
Management	1	Business Economics	2	2
<b>Total credits</b>				<b>31</b>

**Semester V**

Area	Sr. No.	Subject	Credits	Total credits area-wise
Pharmacy	1	Medicinal Chemistry II – Theory	4	27.5
	2	Industrial Pharmacy I – Theory	4	
	3	Pharmacology II – Theory	4	
	4	Pharmacognosy and Phytochemistry II – Theory	4	
	5	Pharmaceutical Jurisprudence – Theory	4	
	6	Industrial Pharmacy I – Practical	2	
	7	Pharmacology II – Practical	2	
	8	Pharmacognosy and Phytochemistry II – Practical	2	
	9	Technical Writing and Publication I	1.5	
Management	1	Pharma Business Environment	2	4
	2	Pharma Selling Process	2	
<b>Total credits</b>				<b>31.5</b>

**Semester VI**

Area	Sr. No.	Subject	Credits	Total credits area-wise
Pharmacy	1	Medicinal Chemistry III – Theory	4	31.5
	2	Pharmacology III – Theory	4	
	3	Herbal Drug Technology – Theory	4	
	4	Biopharmaceutics and Pharmacokinetics – Theory	4	
	5	Pharmaceutical Biotechnology – Theory	4	
	6	Pharmaceutical Quality Assurance - Theory	4	
	7	Medicinal Chemistry III – Practical	2	
	8	Pharmacology III – Practical	2	
	9	Herbal Drug Technology – Practical	2	
	10	Technical Writing and Publication II	1.5	
Management	1	Statistics for Management	2	5
	2	Financial Accounting	1	
	3	Marketing Research Methodology	2	
<b>Total credits</b>				<b>36.5</b>



**Semester VII**

Area	Sr. No.	Subject	Credits	Total credits area-wise
Pharmacy	1	Internship (Industrial Training)	4	28
	2	Instrumental Methods of Analysis – Theory	4	
	3	Industrial Pharmacy II – Theory	4	
	4	Pharmacy Practice – Theory	4	
	5	Novel Drug Delivery Systems – Theory	4	
	6	Instrumental Methods of Analysis – Practical	2	
	7	Practice School	6	
Management	1	Marketing Management	2	7
	2	Business Economics	2	
	3	Financial Management I	1	
	4	Health Insurance & Hospital Management	2	
Life Skills	1	Career Initiation	1	1
<b>Total credits</b>				<b>36</b>

**Semester VIII**

Area	Sr. No.	Subject	Credits	Total credits area-wise
Pharmacy	1	Biostatistics and Research Methodology - Theory	4	14
	2	Social and Preventive Pharmacy - Theory	4	
	3	Project Work	6	
Management	1	Operations Management & Strategy	2	12
	2	Supply Chain Management in Pharma Business	2	
	3	Marketing Research Methodology including Advanced Statistical Tools	2	
	4	Project Management	2	
	5	Brand Plan and Strategies	2	
	6	Quality Management Systems and Practices	2	
Pharmacy		Elective 1	4	4
	1	Pharmaceutical Marketing Management - Theory		
	2	Pharmaceutical Regulatory Science – Theory		
	3	Pharmacovigilance – Theory		
	4	Quality Control and Standardization of Herbals – Theory		
	5	Computer Aided Drug Design – Theory		
	6	Cell and Molecular Biology – Theory		
	7	Cosmetic Science – Theory		
	8	Pharmacological Screening Methods – Theory		
	9	Advanced Instrumentation Techniques – Theory		
	10	Dietary Supplements and Nutraceuticals - Theory		
11	Pharmaceutical Product Development – Theory			
Life Skills	1	Life Skills	1	1
<b>Total credits</b>				<b>31</b>

### Semester IX

Area	Sr. No.	Subject	Credits
Management	1.	Internship (Management Internship Program)	17
	2.	Human Resource Management	2
	3.	Brand and Product Management	2
	4.	Sales Management including Data Analytics	2
	5.	Customer Relationship Management	2
	6.	Health Technology Assessment	1
	7.	Leading Digital –Turning Technology into Business Transformation (incl. AI in Healthcare)	1
	8.	Digital Strategy in Pharma Industry	1
	9.	Indian Ethos and Business Ethics in Pharma	1
	10.	Business Strategy Management	2
	11.	Consumer Behaviour	2
	12.	Financial Analysis Planning & Control	2
	13.	Business Analytics (Visual)	2
	14.	Patient - Doctor Communications – Tech Enabled	1
<b>Total Credits</b>			<b>38</b>

### Semester X

Area	Sr. No.	Subject	Credits	
Management	1	Financial Management II	2	
	2	Predictive Analytics	2	
	3	Logistics & Supply Chain Management incl. Analytics & E-pharmacies	2	
	4	Introduction to Management Consulting Practice	2	
	5	Entrepreneurship & New Ventures in Healthcare	2	
	6	Corporate Social Responsibility	1	
	7	Marketing of Diagnostics	1	
	<b>List of Electives ( Choose any 4)</b>			
	1	International Marketing	2	
	2	Marketing of Biosimilars & Specialty Products	2	
	3	Marketing of Medical Devices	2	
	4	Quantitative Techniques for Forecasting & Decision Making	2	
	5	Marketing of Active Pharmaceutical Ingredients	2	
	<b>Total Credits</b>			<b>22</b>

*JSO*

**Dr. Jagannath Sahoo**  
Dean, SPPSPTM

