

MINUTES

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

12th Meeting of Board of Studies

(Pharm. Sciences)

for

1. Pharm. Chemistry, Pharm. Biotechnology, Natural Products and Pharm. Analysis
2. Pharmaceutics & Quality Assurance
3. Pharmacology & Clinical Pharmacy

22nd March, 2019

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

Minutes of 12th Meeting of Board of Studies for (1) Pharm. Chemistry, Pharm. Biotechnology, Natural Products and Pharm. Analysis (2) Pharmaceutics and Quality Assurance and (3) Pharmacology & Clinical Pharmacy.

A combined Board of Studies meeting was held on 22nd March, 2019 at 11.00 am at Conference Room No. 2, NMIMS, Mumbai.

Following members and special invitees were present in the meeting:

Dr. R. S. Gaud
Dr. Bala Prabhakar
Dr. Swarnlata Saraf
Dr. Kanchan Kohli
Dr. Gaurang B. Shah
Dr. Mayur Yergeri
Dr. Prashant Kharkar
Dr. Pravin Shende
Dr. Yogesh Kulkarni
Dr. Saritha Shetty
Dr. Ginpreet Kaur
Dr. Sarika Wairkar
Mr. Rajan Tejuja
Mr. Sunil Chaturvedi
Dr. Kalyani Barve

Following faculty members from SPTM, Shirpur campus attended the meeting through video conference:

Dr. Ashwini Deshpande
Dr. Shirish Deshpande
Dr. Chandrakant Bonde
Dr. B. Sateesh
Dr. Preeti Sangave
Dr. Sanjay Sharma

Dr. D. P. Pathak, Dr. Kiran Kalia, Dr. Sadhana Sathaye, Dr. Sujit Nair, Dr. Vaishali Londhe and Mr. Ashish Apte were granted leave of absence.

Dr. Bala Prabhakar, Dean, SPPSPTM, welcomed all the members of the Board. All the members introduced themselves to the board.

Dr. Bala Prabhakar, Dean, SPPSPTM presented the journey of Pharmacy and Technology Management Schools of Mumbai and Shirpur Campuses.

Dr. R. S. Gaud emphasised on writing research grants, industry collaborations and publishing research papers/review articles in journal of repute, considering the requirement of regulatory and ranking agencies like, NAAC, NBA and NIRF. The Board members agreed to this point.

He has also suggested about availability of online courses like Coursera, edX, Moocs and mentioned that faculty members should update themselves by doing such courses.

Dr. R. S. Gaud also suggested that library should be converted to e-library considering the space constraints to benefit the online users and to enhanced the usage of library. This should be implemented by following the PCI and AICTE norms.

Dr. Kanchan Kohli congratulated all team for recent achievements.

Dr. Swarnalata Saraf discussed about ongoing corrections/ updations that are to be implemented in PCI syllabus to overcome the limitations. She also suggested that proposed changes in syllabus may be communicated to PCI so that these can be considered for incorporation at national level.

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

- **To confirm the minutes of the last meeting.**

The minutes of the previous meeting were read and confirmed.

- **Action points arising out of minutes of previous meeting.**

Dr. Bala Prabhakar informed the Board, the action points arising out of the minutes of previous meeting. Action taken in this regard was informed to the BOS members.

- **Consideration of changes in the existing course structure, syllabus and exam pattern, credit structure ect.,**

1. To include Technical Writing & Publication in Semester I to IV of M.Pharm program

Dr. Bala Prabhakar informed that publication is important in M.Pharm program and it should be part of curricula and it proposed to have credits in the teaching scheme. The subject should be added in each semester for upcoming batches (Academic Year 2019-20) and also for Semester III and IV of current batch (Academic Year 2018-19).

The members appreciated addition of this important course and accepted the inclusion of the same in curriculum.

2. Proposed modification in schedule of re-examination of end semester examination for B.Pharm/MBA Pharma Tech program

Dr. Bala Prabhakar informed the Board members about the existing schedule of re-examination of end semester examination for UG program which is as given below:

Semester	For Regular Candidates	For Failed Candidates (Re-exam schedule)
I, III, V and VII	November / December	May / June
II, IV, VI and VIII	May / June	November / December

Further she mentioned that as per PCI norms, “*Any student who has given more than 4 chances for successful completion of I / III semester courses and more than 3 chances for successful completion of II / IV semester courses shall be permitted to attend V / VII semester classes ONLY during the subsequent academic year as the case may be*”.

Thus, in existing pattern, students are getting one chance less for Re-examination. Hence, it was proposed to modify the schedule of re-examination of end semester examination as follows and to implement the same for current and incoming batches:

Semester	For Regular Candidates	For Failed Candidates (Re-exam schedule)
I, III, V and VII	November / December	May / June
		November / December
II, IV, VI and VIII	May / June	November / December
		May / June

The changes were accepted by the members.

3. Proposed modification in schedule of re-examination of end semester examination for M.Pharm Program

Dr. Bala Prabhakar informed the Board members about existing schedule of re-examination of end semester examination for PG program which is as given below:

Semester	For Regular Candidates	For Failed Candidates (Re-exam schedule)
I and III	November / December	May / June
II and IV	May / June	November / December

Further, she mentioned that as per PCI norm, “*A student shall be eligible to carry forward all the courses of I and II semesters till the semester III examinations. However, he/she shall not be eligible to attend the courses of semester IV until all the courses of I, II and III semesters are successfully completed*”. As such the students failing in Semester III do not get any re-examination chance before progressing to semester IV and are debarred.

Hence, it is proposed that the student may be given one chance of Re-examination for Semester III courses immediately after result declaration of Semester III and to implement the same for current and incoming batches.

The Board members agreed for this change.

4. To include evaluation of Internship (Industrial Training) in Semester VII of B.Pharm and MBA Pharma Tech Program

Dr. Bala Prabhakar informed that students will undergo 4 weeks Internship (Industrial Training) after completion of Semester VI and before commencement of Semester VII and it needs evaluation component in the teaching scheme. So it is proposed to give four credits for completion of Internship (Industrial Training) after presentation and viva voce examination.

The Board members accepted the addition of the evaluation component.

5. To shift the subject, namely, Practice School from Semester V to Semester VII of B.Pharm and MBA Pharma Tech program for batch 2018-23

Dean, SPPSPTM mentioned that as per PCI guidelines the Practice School component is in Semester VII of 4th year. Hence, it is proposed to shift the same to Semester VII.

The change was accepted by the members.

6. To change the course outlines of following courses:

All the Department Heads presented proposed changes in the existing course outlines.

Dr. Bala Prabhakar, Dean SPPSPTM from Department of Pharmaceutics presented the revised course outlines with additions for following subjects:

- Cosmetics and Cosmeceuticals of M. Pharm (Pharmaceutics) program for Semester II
- Advances in Medical Devices of M. Pharm (Pharmaceutical Technology) program for Semester II
- Computer Applications in Pharmacy – Practical of B.Pharm /MBA Pharma Tech Program for Semester II

Dr. Kalyani Barve from Department of Pharmacology presented minor changes in course outline of Pharmacology I- Theory of B.Pharm /MBA Pharma Tech Program for Semester IV

Dr. Mayur Yergeri presented minor changes in course outline of **Biochemistry Practical** of B.Pharm /MBA Pharma Tech Program for Semester IV.

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

7. Any other item with the permission of chair.

Dr. R.S. Gaud suggested that students should be trained and groomed in such way that they should be compatible enough to handle the challenges and opportunities as per current market trends. The Board members put up their views and unanimously agreed to this point.

The meeting ended with thanks to the chair.

Dr. Bala Prabhakar
Dean, SPPSPTM



Manisha Kurhade

From: Mayur Yergeri (Dr.)
Sent: 22 March 2019 09:52
To: Manisha Kurhade
Cc: Ashwini Chendekar
Subject: FW: Presentation for BOS_Biochemistry Practical
Attachments: Biochemistry Practical_Recommendations for BOS.ppt

FYI

From: Archana Upadhya
Sent: 21 March 2019 17:40
To: Mayur Yergeri (Dr.) <Mayur.Yergeri@nmims.edu>
Subject: Presentation for BOS_Biochemistry Practical

Dear Sir,

As directed by you, please find the attached presentation on the recommendations for slight alteration in Biochemistry practicals conducted for B.Pharm / B.Pharm + MBA Semester II.

Regards
Archana Upadhya

MBA Pharma Tech Semester II

Biochemistry Practical
Recommendations for BOS

PCI Syllabus: Biochemistry Practical

BP 209 P. BIOCHEMISTRY (Practical)

4 Hours / Week

1. Qualitative analysis of carbohydrates (Glucose, Fructose, Lactose, Maltose, Sucrose and starch)
2. Identification tests for Proteins (albumin and Casein)
3. Quantitative analysis of reducing sugars (DNSA method) and Proteins (Biuret method)
4. Qualitative analysis of urine for abnormal constituents
5. Determination of blood creatinine
6. Determination of blood sugar
7. Determination of serum total cholesterol
8. Preparation of buffer solution and measurement of pH
9. Study of enzymatic hydrolysis of starch
10. Determination of Salivary amylase activity
11. Study the effect of Temperature on Salivary amylase activity.
12. Study the effect of substrate concentration on salivary amylase activity.

<http://www.pci.nic.in/>

NMIMS SYLLABUS: BIOCHEMISTRY PRACTICAL

1	Qualitative analysis of carbohydrates (Glucose, Fructose, Lactose, Maltose, Sucrose and starch)
2	Identification tests for Proteins (albumin and Casein)
3	Quantitative analysis of reducing sugars (DNSA method)
4	Quantitative analysis of reducing sugars (DNSA method) Proteins (Biuret method)
5	Qualitative analysis of urine for abnormal constituents
6	Determination of blood creatinine
7	Determination of blood sugar
8	Determination of serum total cholesterol
9	Preparation of buffer solution and measurement of pH
10	Study of enzymatic hydrolysis of starch
11	Determination of Salivary amylase activity
12	Study the effect of Temperature on Salivary amylase activity.
13	Study the effect of substrate concentration on salivary amylase activity.
14	Lipid estimation- Sap or Iodine or acid value
15	Polarimeter demonstration

RECOMMENDATIONS

1	Qualitative analysis of carbohydrates (Glucose, Fructose, Lactose, Maltose, Sucrose and starch)
2	Identification tests for Proteins (albumin and Casein)
3	Quantitative analysis of reducing sugars (DNSA method)
4	Quantitative analysis of reducing sugars (DNSA method) Proteins (Biuret method)
5	Qualitative analysis of urine for abnormal constituents
6	Determination of blood creatinine
7	Determination of blood sugar
8	Determination of serum total cholesterol
9	Preparation of buffer solution and measurement of pH
10	Study of enzymatic hydrolysis of starch
11	Determination of Salivary amylase activity
12	Study the effect of Temperature on Salivary amylase activity.
13	Study the effect of substrate concentration on salivary amylase activity.
14	Lipid estimation- Sap or Iodine or acid value change to Sap value, Iodine Value and Acid Value
15	Polarimeter demonstration

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Pharmacy & Technology Management

Program: B.Pharm				Semester : II	
Course : Biochemistry - Practical				BP209P	
Teaching Scheme			Evaluation Scheme		
Lecture (Hours per week)	Practical (Hours per week)	Tutorial (Hours per week)	Credit	Internal Continuous Assessment (ICA) (Marks - 15)	Term End Examinations (TEE) (Marks- 35 in Question Paper)
0	4	0	2	Marks Scaled to 15	Marks Scaled to 35
Prerequisite :					
Basic knowledge of biology, chemistry and human anatomy and physiology.					
Scope:					
<ul style="list-style-type: none"> Biochemistry deals with complete understanding of the molecular levels of the chemical process associated with living cells. The scope of the subject is providing biochemical facts and the principles to understand metabolism of nutrient molecules in physiological and pathological conditions. It is also emphasizing on genetic organization of mammalian genome and hetero & autocatalytic functions of DNA. 					
Objectives					
This course is designed to summarize comprehensive and balanced introduction to biological and chemical background to life.					
<ul style="list-style-type: none"> The subject should help students understand different biomolecules and their simplicity to perform complex functions of living systems. This subject would form the basic knowledge required in understand drug-receptor interactions and chemistry behind such interactions. 					
Outcomes:					
After completion of the course, students would be able to :					
<ol style="list-style-type: none"> Understand the catalytic role of enzymes, importance of enzyme inhibitors in design of new drugs, therapeutic and diagnostic applications of enzymes. Understand the metabolism of nutrient molecules in physiological and pathological conditions. Understand the genetic organization of mammalian genome and functions of DNA in the synthesis of RNAs and proteins. 					
Detailed Syllabus: (per session plan)					
Unit	Description				(Hrs - 60)
1	Qualitative analysis of carbohydrates (Glucose, Fructose, Lactose, Maltose, Sucrose and starch)				
2	Identification tests for Proteins (albumin and Casein)				
3	Quantitative analysis of reducing sugars (DNSA method)				
4	Quantitative analysis of Proteins (Biuret method)				
5	Qualitative analysis of urine for abnormal constituents				
6	Determination of blood creatinine				

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7	Determination of blood sugar
8	Determination of serum total cholesterol
9	Preparation of buffer solution and measurement of pH
10	Study of enzymatic hydrolysis of starch
11	Determination of Salivary amylase activity
12	Study the effect of Temperature on Salivary amylase activity.
13	Study the effect of substrate concentration on salivary amylase activity.
14	Lipid estimation- Sap or Iodine or acid value
15	Polarimeter demonstration

Text Books:

1. Harper's Biochemistry by Robert K. Murry, Daryl K. Granner and Victor W. Rodwell.
2. Biochemistry by Stryer.

Reference Books:

1. Principles of Biochemistry by Lehninger.
2. Outlines of Biochemistry by Conn and Stumpf
3. Introduction to Practical Biochemistry. Plummer Mu, David T. Plummer. Publisher, Tata McGraw Hill Publishing Company, 1988.

Any other information :

- <http://www.textbooksonline.tn.nic.in/books/12/std12-biochem-em.pdf>
- <http://ibk.mf.uni-lj.si/people/phudler/Biochemistry%205th%20Edition.pdf>

Details of Internal Continuous Assessment (ICA)

Sessional Marks : 15

Term Work Marks : NA

Details of Term work : NA



(Concerned Faculty/HOD)



Dean, SPPSPTM





**Shobhaben Pratapbhai Patel School of Pharmacy & Technology Management
Mumbai**

**Course Structure
MBA Pharma Tech (Bachelor of Pharmacy + MBA) – 5 years Programme (2019-20)**

Semester I

Area	Sr. No.	Subject	Credits	Total credits area-wise
Pharmacy	1	Human Anatomy and Physiology I - Theory	4.00	32
	2	Pharmaceutical Inorganic Chemistry - Theory	4.00	
	3	Pharmaceutical Analysis - Theory	4.00	
	4	Pharmaceutics I - Theory	4.00	
	5	Communication skills - Theory	2.00	
	6	Human Anatomy and Physiology I - Practical	2.00	
	7	Pharmaceutical Inorganic Chemistry - Practical	2.00	
	8	Pharmaceutical Analysis - Practical	2.00	
	9	Pharmaceutics I - Practical	2.00	
	10	Remedial Biology - Theory	2.00	
	11	Remedial Mathematics - Theory	2.00	
	12	Communication skills - Practical	1.00	
	13	Remedial Biology - Practical	1.00	
Total credits				32

Semester II

Area	Sr. No.	Subject	Credits	Total credits area-wise
Pharmacy	1	Biochemistry - Theory	4.00	29
	2	Human Anatomy and Physiology II – Theory	4.00	
	3	Pathophysiology – Theory	4.00	
	4	Pharmaceutical Organic Chemistry I – Theory	4.00	
	5	Computer Applications in Pharmacy – Theory	3.00	
	6	Environmental sciences – Theory	3.00	
	7	Biochemistry – Practical	2.00	
	8	Human Anatomy and Physiology II – Practical	2.00	
	9	Pharmaceutical Organic Chemistry I – Practical	2.00	
	10	Computer Applications in Pharmacy – Practical	1.00	
Total credits				29



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Semester III

Area	Sr. No.	Subject	Credits	Total credits area-wise
Pharmacy	1	Pharmaceutical Engineering – Theory	4.00	24
	2	Pharmaceutical Microbiology – Theory	4.00	
	3	Pharmaceutical Organic Chemistry II – Theory	4.00	
	4	Physical Pharmaceutics I – Theory	4.00	
	5	Pharmaceutical Engineering – Practical	2.00	
	6	Pharmaceutical Microbiology – Practical	2.00	
	7	Pharmaceutical Organic Chemistry II – Practical	2.00	
	8	Physical Pharmaceutics I – Practical	2.00	
Total credits				24

Semester IV

Area	Sr. No.	Subject	Credits	Total credits area-wise
Pharmacy	1	Medicinal Chemistry I – Theory	4.00	28
	2	Pharmaceutical Organic Chemistry III – Theory	4.00	
	3	Pharmacognosy and Phytochemistry I – Theory	4.00	
	4	Pharmacology I – Theory	4.00	
	5	Physical Pharmaceutics II – Theory	4.00	
	6	Medicinal Chemistry I – Practical	2.00	
	7	Pharmacognosy and Phytochemistry I – Practical	2.00	
	8	Pharmacology I – Practical	2.00	
	9	Physical Pharmaceutics II – Practical	2.00	
Total credits				28



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Mumbai**

Semester V

Area	Sr. No.	Subject	Credits	Total credits area-wise
Pharmacy	1	Industrial Pharmacy I – Theory	4.00	27.5
	2	Medicinal Chemistry II – Theory	4.00	
	3	Pharmaceutical Jurisprudence – Theory	4.00	
	4	Pharmacognosy and Phytochemistry II – Theory	4.00	
	5	Pharmacology II – Theory	4.00	
	6	Industrial Pharmacy I – Practical	2.00	
	7	Pharmacology II – Practical	2.00	
	8	Technical Writing and Publication I	1.50	
	9	Pharmacognosy and Phytochemistry II – Practical	2.00	
Management	1	Organizational Behavior	2.00	
	2	Project Management	2.00	
	3	Financial Management I	3.00	
Total credits				34.5

Semester VI

Area	Sr. No.	Subject	Credits	Total credits area-wise
Pharmacy	1	Biopharmaceutics and Pharmacokinetics – Theory	4.00	31.5
	2	Medicinal Chemistry III – Theory	4.00	
	3	Pharmaceutical Biotechnology – Theory	4.00	
	4	Pharmaceutical Quality Assurance - Theory	4.00	
	5	Pharmacology III – Theory	4.00	
	6	Medicinal Chemistry III – Practical	2.00	
	7	Pharmacology III – Practical	2.00	
	8	Technical Writing and Publication II	1.5	
	9	Herbal Drug Technology – Theory	4.00	
	10	Herbal Drug Technology – Practical	2.00	
Management	1	Entrepreneurship Management	2.00	6
	2	Marketing Research Methodology including Advanced Statistical Tools	2.00	
	3	Operations Management	2.00	
Total credits				37.5



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**Mumbai
Semester VII**

Area	Sr. No.	Subject	Credits	Total credits area-wise
Pharmacy	1.	Internship (Technical Training)	4	29
	2.	Medicinal Chemistry II	3	
	3.	Pharmaceutical Biotechnology	3	
	4.	Pharmaceutical Marketing	3	
	5.	Pharmaceutical Technology III	3	
	6.	Pharmacology II	3	
	7.	Pharmacovigilance	3	
	8.	Lab : Medicinal Chemistry II	2	
	9.	Lab : Pharmaceutical Technology III	2	
	10.	Lab : Pharmaceutical Biotechnology	1.5	
	11.	Lab : Pharmacology II	1.5	
Management	1.	Customer Connect	3.5	14
	2.	Financial Management II	3	
	3.	Human Resource Management	3	
	4.	Research Project I	2.5	
	5.	Brand and Product Management	2	
Total credits				43

Semester VIII

Area	Sr. No.	Subject	Credits	Total credits area-wise
Pharmacy	1	Clinical Pharmacy and Drug Interaction	3	25
	2	Drug Delivery Systems	3	
	3	Drug Regulatory Affairs	3	
	4	Medicinal Chemistry III	3	
	5	Pharmacology III	3	
	6	Lab : Drug Delivery Systems	2	
	7	Lab : Medicinal Chemistry III	2	
	8	Intellectual Property Rights	3	
	9	Pharmacy Chain Management	3	
Pharmacy Management	1.	Research Project II	2.5	10.5
	2.	Brand Plan for Pharma Products	2	
	3.	Pharma Supply Chain End to End	2	
	4.	Quality Management Systems and Practices	2	
	5.	Sales Management	2	
Total credits				35.5

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Mumbai
Semester IX**

Area	Sr. No.	Subject	Credits	Total credits area-wise
Management	1.	Internship (Management Internship Programme)	17.00	37
	2.	Advance Course in Marketing Strategy	2.00	
	3.	Corporate Social Responsibility	2.00	
	4.	Customer Relationship Management	2.00	
	5.	Digital Strategy in Pharma Industry	2.00	
	6.	International Marketing	2.00	
	7.	Marketing of Biosimilars & Specialty Products	2.00	
	8.	Marketing of Medical Devices	2.00	
	9.	Marketing of Services	2.00	
	10.	Operations Strategy	2.00	
	11.	Quantitative Techniques for Forecasting & Decision Making	2.00	
Total credits				37

Semester X

Area	Sr. No.	Subject	Credits	Total credits area-wise
Management	1.	Business Analytics	3.00	27
	2.	Business Strategy Management	2.00	
	3.	Consumer Behaviour	2.00	
	4.	Ethics in Pharma Sales & Marketing	2.00	
	5.	Health Insurance & Financing	2.00	
	6.	Hospital Management	2.00	
	7.	Laws Relevant to Pharmaceutical Industry	2.00	
	8.	Marketing of Cosmeceuticals	2.00	
	9.	Marketing of OTC / Nutraceuticals	2.00	
	10.	Mergers and Acquisitions	2.00	
	11.	Pharma & Biomedical Project Management	2.00	
	12.	Pharma Tech Transfer	2.00	
	13.	Predictive Analytics	2.00	
Total credits				27



B. Prabhakar