



SRI MANAKULA VINAYAGAR
ENGINEERING COLLEGE
WISDOM BEGETS KNOWLEDGE



SMVEC PHARMACY COLLEGE

MINUTES OF 2nd MEETING OF BOARD OF STUDIES (UG)

Venue: Audiovisual Room, Admin Block

Date: 24/02/2024

2023-24



SRI MANAKULA VINAYAGAR
ENGINEERING COLLEGE
AN AUTONOMOUS INSTITUTION



SMVEC PHARMACY COLLEGE

MINUTES OF 2nd MEETING OF BOARD OF STUDIES (UG)

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SMVEC PHARMACY COLLEGE

Minutes of 2nd Meeting of Board of Studies (UG)

The Second meeting of Board of Studies (BOS) in Pharmacy Department was held on **24th Feb 2024 at 10.30 AM** in the Audio-Visual Room in SMVEC Pharmacy College with Head of Department in the Chair.

The following members were present for the BOS meeting

Sl. No.	Name of the Member	Designation
Head of the Department (Chairperson)		
1	Dr. M. Dhanalakshmi, Dean, Department of Pharmacy, Specialization: Pharmaceutical Quality Assurance Years of Experience: 17 years 3 months SMVEC Pharmacy College dhanadlxb@gmail.com Mobile: 9550169191	Chairperson
One expert nominated by the Vice-Chancellor, Pondicherry University from a panel of six recommended by the college principal.		
2	Dr. Nisha Mathew, Director Grade Scientist (Retd.), ICMR-Vector Control Research Centre, Indira Nagar, Gorimedu, Puducherry-605006. nisha.mathew@icmr.gov.in / nishamathew@yahoo.com Mobile: 9444935790	Subject Expert
Two subject experts from outside the Parent University nominated by the Academic Council		
3	Dr. Kailasam Koumaravelou, Dean, Specialization: Pharmacology Years of Experience: 25 Prist School of Pharmacy, Manamainallur, Kancheepuram Dist. koumar@gmail.com Mobile: 9443309034	Subject Expert


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4	Dr. V.Vijayan Associate Dean Research Specialization: Pharmaceutics Years of Experience:16 Sri Balaji Vidyapeeth (Deemed to be University) Puducherry vijayanv@gmail.com Mobile: 9751391078	Subject Expert
One representative from industry/corporate sector/allied area relating to placement.		
5	Dr. E. Anandakirouchenane Controlling Authority cum Licensing Authority, Department of Drug Control, Puducherry. e.anandakirouchenana@py.gov.in Mobile: 9443957680	Member
Experts from outside the Autonomous College, whenever special course of studies is to be formulated.		
6	Dr. N. Kannappan Professor Department of Pharmacy, Annamalai University, Annamalai Nagar 608002 kannappanpharmacy@gmail.com Mobile: 7010924748	Subject Expert
7.	Mr. S. Mathivanan Assistant Professor, SMVEC Pharmacy College, Madagadipet, Puducherry – 605501 drxmathivananotech@gmail.com Mobile: 9344438146	Member
Special Invitees		
8.	Dr. Arivalgar . AA Dean Academics Sri Manakula Vinayagar Engineering College, Madagadipet, Puducherry-605107 Mobile: 78100 75545	Dean Academics
9.	Dr. S. Anbumalar Dean Academics Sri Manakula Vinayagar Engineering College, Madagadipet, Puducherry-605107 Mobile:9443179533	Dean Academics


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Agenda of the Meeting	
Agenda 1 BOS /2 /2024/pharmacy/UG	To confirm the minutes of 1 st BOS Meeting held on 4/08/2023.
Agenda 2 BOS /2 /2024/pharmacy/UG	To discuss and approve the syllabi of III & IV semesters of B.Pharmacy Programme in SMVEC Pharmacy college
Agenda 3 BOS /2 /2024/pharmacy/UG	To discuss and approve the interpretation of SMVEC B.Pharmacy Regulations (R-2023) Criteria 12 on Programme and award of Grade from the Academic Year 2023-24.
Agenda 4 BOS /2 /2024/pharmacy/UG	Any other additional points to be discussed with the permission of Chair. - Completion of Sessional Exam I&II for 1st Semester B.Pharmacy. - Schedule of End Semester Examination for 1st Semester B.Pharmacy. - Various co-curricular and Extension activities conducted by SMVEC Pharmacy College till date. - Approval of the introduction of new Diploma Course (D.Pharmacy) from the Academic Year 2024-25. - Approval for Increase in-take of B.Pharmacy Programme from 60 nos to 100 nos.


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Dr. M. Dhanalakshmi, Chairperson, BOS opened the meeting by welcoming all the members and the meeting thereafter deliberated on agenda items that had been approved by the Chairperson.

Agenda 1/BOS /2 /2024 /Pharmacy/UG

To Confirm the minutes of 1st BOS Meeting held on 4/08/2023.

The BOS Confirmed the 1st BOS Minutes of Meeting held on 4th August 2023 in SMVEC Pharmacy College for the B. Pharmacy Programme. 1st BOS suggested to add a course as a Mandatory Non-Credit Course in any one of the areas namely Value-added Course, Skill Development & Certification Course (VAC/SD/CC) at the end of each Semester to uplift the student Skill in the Academic /Industrial Gateway.

The BOS also suggested to include a few courses from NEP 2020, emerging trends in pharmacy and life skills. Accordingly, the list was prepared and submitted for approval and included as a Mandatory Non-Credit Course from Semester I- VII.

The list of the Mandatory Non-Credit Course details has been given in **Annexure I**

Agenda 2/BOS /2 /2024 /pharmacy/UG

To discuss and approve the syllabi of III & IV semesters of B. Pharmacy Programme in SMVEC Pharmacy college.

The BOS approved the course curriculum, syllabi of third and fourth Semesters for Bachelor of Pharmacy (B. Pharm) Programme under SMVEC Pharmacy College Autonomous Regulations R2023 to be implemented from the academic year 2023-2024.

The BOS has made following suggestions

- i) To admit students of Diploma in Pharmacy under Lateral entry scheme to third semester B. Pharmacy Programme from Academic Year 2024-25 onwards
- ii) To provide an opportunity to students to improve their sessional marks.
- iii) To provide Question Bank, hard copy of Syllabus and also conduct Model Exam to improve the performance of students.
- iv) To provide Internship at the end of IV semester for B. Pharmacy Programme.

The Chairperson, BOS has agreed to implement all the suggestions by BOS.

Curriculum, syllabi for third and fourth semesters of Bachelor of Pharmacy (B. Pharm) Programme are given in **Annexure II**.

Agenda 3/BOS /1 /2023 /pharmacy/UG

To discuss and approve the Interpretation of SMVEC B. Pharmacy Regulations (R-2023) Criteria 12 on Programme and award of Grade from the Academic Year 2023-24.

The BOS approved the Interpretation of SMVEC B. Pharmacy Regulations (R-2023) Criteria 12 on Programme and award of Grade from the Academic Year 2023-24. and appreciated for setting higher bench mark and bring out the better performance from students.

Interpretation of SMVEC B. Pharmacy Regulations (R-2023) Criteria 12- is given in **Annexure III**

Agenda 4/BOS /2 /2024/pharmacy/UG

Any other additional points to be discussed with the permission of Chair.

- a) Completion of Sessional Exam I&II
- b) End Semester Examination for Ist Semester B. Pharm Schedule.
- c) Various Co-Curricular activities conducted in SMVEC Pharmacy College till date
- d) Applied New Course (D. Pharmacy) for the Academic Year 2024-25.
- e) Increase of Intake of B. Pharmacy programme from 60 to 100 from the academic year 2024-25
- f) The Chairman-BOS placed before the members of BOS, the schedule of Sessional Exam I&II and students' performance.
- g) The BOS also appreciated the END Semester Examination Schedule for I Semester B. Pharm as the school follows the academic calendar properly.
- h) The various Co-Curricular and extension activities conducted were placed before the members of BOS and appreciated the efforts taken by the school.
- i) Approval was given by BOS for starting the New Course (D. Pharmacy) for the Academic Year 2024-25 in SMVEC Pharmacy College.
- j) The BOS also approved for enhancing the intake of students for B. Pharmacy programme from 60 to 100 from the academic year 2024-25 in SMVEC Pharmacy College.

END Semester Examination Schedule for Ist Semester B. Pharm is given in **Annexure IV**

Various co-curricular and Extension activities conducted by SMVEC Pharmacy College till date is given in **Annexure V**

The second BOS Meeting was concluded at 12.45 PM by proposing a vote of thanks by **Dr. M. Dhanalakshmi**, Chairperson, Board of Studies, SMVEC Pharmacy College.


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SMVEC Pharmacy College / Intimation / Second meeting of Board of Studies to be conducted - Reg

D

Dean Pharmacy SMVEC <deanpharmacy@smvec.ac.in>
to nisha.mathew

Tue, Feb 20, 4:21 PM (13 days ago)

reetings from Sri Manakula Vinayagar Engineering College (An Autonomous Institution).

We are pleased to conduct 2nd Board of Studies (BoS) meeting for B. Pharm programme offered at our institution on 24.02.2024. This meeting will be conducted at 10.30am, Audio Visual Hall in Administration block of Sri Manakula Vinayagar Engineering College Campus.

Hence, we kindly request you to accept our invitation to be with us, as a Subject Expert in SMVEC pharmacy college. Your acceptance in this regard is much solicited. We would highly appreciate if your presence is in person.
If you prefer to attend the meeting through online we will share the link to your email id, an hour before program starts. Kindly confirm.

Thanking you with regards

Yours sincerely

Chairman/BoS/Pharmacy
(Dr.M.Dhanalakshmi)

Enclosure:
Regulations -2023

—
With Regards,
Dr. M. Dhanalakshmi
Dean
SMVEC- Pharmacy College
Puducherry

One attachment • Scanned by Gmail

UGC-Regulations...

M.B.
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Puducherry - 605107!



2nd BoS Minutes of Meeting held on 24.02.2024

External Inbox



D

Dean Pharmacy SMVEC <deanpharmacy@smvec.ac.in>

to Kannappan, koumar, nishamathew, e.anandakirouchenane, V,Vijayan

Feb 28, 2024, 4:33 PM (5 days ago)

Respected Sir / Madam,

Greetings,

Herewith, i am enclosing the list of mandatory non credit course as we discussed in 2nd BoS. It was suggested by the members of F a few courses from NEP 2020, emerging trends in pharmacy and life skills. Accordingly, the list was prepared and submit and included as a Mandatory Non-Credit Course from Semester I- VII. Kindly, check and finalise the list given in the atta am also enclosing the minutes of meeting of 2nd BoS.

Kindly look forward and give suggestions sir/madam. Awaiting for your response.

Thanking you.

With Regards,

Dr. M. Dhanalakshmi

Dean

SMVEC- Pharmacy College

Puducherry

2 Attachments • Scanned by Gmail


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Nisha Mathew

to me

Thu, Feb 28, 12:39 AM (4 days ago)

APPROVED. Also attaching slightly edited minutes.

Dr. Nisha Mathew

Scientist-G (retired) & Former Head

Innovation and Product Development

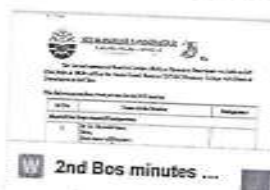
ICMR - Vector Control Research Centre

Dept. of Health Research (Ministry of Health & Family Welfare,

Govt. of India), Indira Nagar, Puducherry 605006, India.

Office Tel: 0413-2272396; Mob: 9444935790; 9130341625

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Kannappan Nagappan

to me

Thu, Feb 28, 5:28 AM (4 days ago)

Dear Sir/Madam,

I gone through the minutes of the 2nd BOS meeting of Pharmacy program and their contents. I agree with the contents and I approve the same.

With regards

Dr.N.Kannappan M.Pharm. Ph.D.

Professor of Pharmacy

ANNAMALAI UNIVERSITY

(Tamil Nadu State University)

Annamalai Nagar 608002

Tamil Nadu.



ANANDAKIROUCHENANE E

to me

Thu, Feb 28, 3:30 PM (4 days ago)

Sir/ Madam,

Noted the content.. Proceed accordingly

Regards

Dr. E. Anandakirouchenane

Drug control Authority



Dr. V.Vijayan

to me

Fri, Mar 1, 10:18 AM (3 days ago)

Dear Dean,

Greetings of the day!

It is with immense pride that I join the esteemed SMVEC family. I wholeheartedly support the revisions outlined in the second BoS meeting minutes. The introduction of mandatory non-credit courses reflects a carefully considered approach, tailored to the needs of our students, and it would be the best choice.

Thank you.

Regards

Dr.Vijayan,M.Pharm,PhD.,


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Puducherry - 605107.



Dean Pharmacy SMVEC <deanpharmacy@smvec.ac.in>
to kumar, Kannappan, nishamathew, e.anandakirouchenane, V.Vjayan
greetings madam/sir,

Mar 1, 2024, 10:36 AM (3 days ago)

Its my pleasure to thank you all for successful completion of 2nd BoS held on 24/02/2024 In SMVEC PHARMACY COLLEGE, with your suggestion both in online/offline, as we discussed and acceptance given by you all through email, the further perform in Minutes of Meeting will be implemented from II Semester onwards for betterment of students academic.
Thank you for your support! sir/madam,

Reply

Reply all

Forward


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The Second meeting of BoS approval was concluded at 1.00 P.M by Dr. M.Dhanalakshmi, Chairperson, Board of Studies, Department of Pharmacy, Sri Manakula Vinayagar Engineering College.

Sl. No.	Name of the Member with Designation and official Address	MEMBERS AS PER UGC NORMS	Signature
1	Dr.M.Dhanalakshmi, Dean, Department of Pharmacy, SMVEC Pharmacy College, Puducherry.	Chairperson	M.D. 24/02/24
2	Dr. Nisha Mathew, Director Grade Scientist, ICMR-Vector Control Research Center, Indira Nagar, Gorimedu, Puducherry- 605006.	Subject Expert (University Nominee)	Nisha
3	Dr. Kailasam Koumaravelou, Dean, Prist School of Pharmacy, Manamainallur, Kancheepuram Dist.	Subject Expert	K.K. 24/02/2024
4	Dr. V. Vijayan Associate Dean Research Professor in School of Pharmacy Sri Balaji Vidyapeeth (Deemed to be University)Puducherry	Subject Expert	V.V. 24/02/24
5	Dr. E. Anandakirouchenane Controlling Authority cum Licensing Authority, Department of Drug Control, Puducherry.	Member	E.A.
6	Dr. N. Kannappan Professor Department of Pharmacy, Annamalai University, Annamalai Nagar 608002	Subject Expert	N.K. 24/2/24
7	Mr. S. Mathivanan Assistant Professor SMVEC Pharmacy College. Madagadipet, Puducherry.	Member	S.M. 24/02/24


Dean Academics
(Dr. A.A. Arivalagar)

Dean Academics
(Dr. S. Anbumalar)


Chairperson/BoS/Pharmacy
(Dr.M.Dhanalakshmi)


Director cum Principal
(Dr. V. S. K. Venkatachalapathy)

Annexure I

List of the Mandatory Non Credit Course Details



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SMVEC PHARMACY COLLEGE

MANDATORY-NON CREDIT COURSE

S.No	Name of the Component	Duration	Course Name	Course to be Included in Semester
1	YOGA AND FIRST AID	40 hrs	SD	I
2	CLIMATE CHANGE	40 hrs	VAC	II
3	DEEP LEARNING OF PYTHON	40 hrs	CC	III
4	BIOETHICS	40 hrs	VAC	IV
5	GENDER EQUALITY	40 hrs	SD	V
6	GLP/GMP/RA	40 hrs	SD	VI
7	ARTIFICIAL INTELLIGENCE AND 3-D MACHINING	40 hrs	CC	VII

SD-Skill Development, CC-Certificate Course, VAC-Value added Course


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Annexure II

Curriculum & Syllabi for III and IV Semesters of B.Pharmacy Programme

Table-II: Course of study for semester II

Course Code	Name of the course	No. of hours	Tutorial	Credit points
BP201T	Human Anatomy and Physiology II – Theory	3	1	4
BP202T	Pharmaceutical Organic Chemistry I – Theory	3	1	4
BP203T	Biochemistry – Theory	3	1	4
BP204T	Pathophysiology – Theory	3	1	4
BP205T	Computer Applications in Pharmacy – Theory *	3	-	3
BP206T	Environmental sciences – Theory *	3	-	3
BP207P	Human Anatomy and Physiology II –Practical	4	-	2
BP208P	Pharmaceutical Organic Chemistry I– Practical	4	-	2
BP209P	Biochemistry – Practical	4	-	2
BP210P	Computer Applications in Pharmacy – Practical*	2	-	1
Total		32	4	29

*Non University Examination (NUE)

Table-III: Course of study for semester III

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP301T	Pharmaceutical Organic Chemistry II – Theory	3	1	4
BP302T	Physical Pharmaceutics I – Theory	3	1	4
BP303T	Pharmaceutical Microbiology – Theory	3	1	4
BP304T	Pharmaceutical Engineering – Theory	3	1	4
BP305P	Pharmaceutical Organic Chemistry II – Practical	4	-	2
BP306P	Physical Pharmaceutics I – Practical	4	-	2
BP307P	Pharmaceutical Microbiology – Practical	4	-	2
BP 308P	Pharmaceutical Engineering –Practical	4	-	2
Total		28	4	24


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Table-IV: Course of study for semester IV

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP401T	Pharmaceutical Organic Chemistry III– Theory	3	1	4
BP402T	Medicinal Chemistry I – Theory	3	1	4
BP403T	Physical Pharmaceutics II – Theory	3	1	4
BP404T	Pharmacology I – Theory	3	1	4
BP405T	Pharmacognosy and Phytochemistry I– Theory	3	1	4
BP406P	Medicinal Chemistry I – Practical	4	-	2
BP407P	Physical Pharmaceutics II – Practical	4		2
BP408P	Pharmacology I – Practical	4	-	2
BP409P	Pharmacognosy and Phytochemistry I – Practical	4	-	2
Total		31	5	28

Table-V: Course of study for semester V

Course code	Name of the course	No. of hours	Tutorial	Credit points
BP501T	Medicinal Chemistry II – Theory	3	1	4
BP502T	Industrial PharmacyI– Theory	3	1	4
BP503T	Pharmacology II – Theory	3	1	4
BP504T	Pharmacognosy and Phytochemistry II– Theory	3	1	4
BP505T	Pharmaceutical Jurisprudence – Theory	3	1	4
BP506P	Industrial PharmacyI – Practical	4	-	2
BP507P	Pharmacology II – Practical	4	-	2
BP508P	Pharmacognosy and Phytochemistry II – Practical	4	-	2
Total		27	5	26


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SEMESTER III

BP301T. PHARMACEUTICAL ORGANIC CHEMISTRY –II (Theory)

45 Hours

Scope: This subject deals with general methods of preparation and reactions of some organic compounds. Reactivity of organic compounds are also studied here. The syllabus emphasizes on mechanisms and orientation of reactions. Chemistry of fats and oils are also included in the syllabus.

Objectives: Upon completion of the course the student shall be able to

1. write the structure, name and the type of isomerism of the organic compound
2. write the reaction, name the reaction and orientation of reactions
3. account for reactivity/stability of compounds,
4. prepare organic compounds

Course Content:

General methods of preparation and reactions of compounds superscripted with asterisk (*) to be explained

To emphasize on definition, types, classification, principles/mechanisms, applications, examples and differences

UNIT I

10 Hours

● Benzene and its derivatives

- A. Analytical, synthetic and other evidences in the derivation of structure of benzene, Orbital picture, resonance in benzene, aromatic characters, Huckel's rule
- B. Reactions of benzene -nitration, sulphonation, halogenation- reactivity, Friedelcrafts alkylation- reactivity, limitations, Friedelcrafts acylation.
- C. Substituents, effect of substituents on reactivity and orientation of mono substituted benzene compounds towards electrophilic substitution reaction
- D. Structure and uses of DDT, Saccharin, BHC and Chloramine

UNIT II

10 Hours

- Phenols* - Acidity of phenols, effect of substituents on acidity, qualitative tests, Structure and uses of phenol, cresols, resorcinol, naphthols
- Aromatic Amines* - Basicity of amines, effect of substituents on basicity, and synthetic uses of aryl diazonium salts
- Aromatic Acids* -Acidity, effect of substituents on acidity and important reactions of benzoic acid.

UNIT III

10 Hours

● Fats and Oils

- a. Fatty acids – reactions.
- b. Hydrolysis, Hydrogenation, Saponification and Rancidity of oils, Drying oils.
- c. Analytical constants – Acid value, Saponification value, Ester value, Iodine value, Acetyl value, Reichert Meissl (RM) value – significance and principle involved in their determination.

UNIT IV

08 Hours

● Polynuclear hydrocarbons:

- a. Synthesis, reactions
- b. Structure and medicinal uses of Naphthalene, Phenanthrene, Anthracene, Diphenylmethane, Triphenylmethane and their derivatives

BP305P. PHARMACEUTICAL ORGANIC CHEMISTRY -II (Practical)

4 Hrs / week

I Experiments involving laboratory techniques

- Recrystallization
- Steam distillation

II Determination of following oil values (including standardization of reagents)

- Acid value
- Saponification value
- Iodine value

III Preparation of compounds

- Benzanilide/Phenyl benzoate/Acetanilide from Aniline/ Phenol /Aniline by acylation reaction.
- 2,4,6-Tribromo aniline/Para bromo acetanilide from Aniline/
- Acetanilide by halogenation (Bromination) reaction.
- 5-Nitro salicylic acid/Meta di nitro benzene from Salicylic acid / Nitro benzene by nitration reaction.
- Benzoic acid from Benzyl chloride by oxidation reaction.
- Benzoic acid/ Salicylic acid from alkyl benzoate/ alkyl salicylate by hydrolysis reaction.
- 1-Phenyl azo-2-naphthol from Aniline by diazotization and coupling reactions.
- Benzil from Benzoin by oxidation reaction.
- Dibenzal acetone from Benzaldehyde by Claisen Schmidt reaction
- Cinnamic acid from Benzaldehyde by Perkin reaction
- *P*-Iodo benzoic acid from *P*-amino benzoic acid


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UNIT-IV

08Hours

Complexation and protein binding: Introduction, Classification of Complexation, Applications, methods of analysis, protein binding, Complexation and drug action, crystalline structures of complexes and thermodynamic treatment of stability constants.

UNIT-V

07 Hours

pH, buffers and Isotonic solutions: Sorensen's pH scale, pH determination (electrometric and calorimetric), applications of buffers, buffer equation, buffer capacity, buffers in pharmaceutical and biological systems, buffered isotonic solutions.

Recommended Books: (Latest Editions)

1. Physical Pharmacy by Alfred Martin
2. Experimental Pharmaceutics by Eugene, Parott.
3. Tutorial Pharmacy by Cooper and Gunn.
4. Stocklosam J. Pharmaceutical Calculations, Lea &Febiger, Philadelphia.
5. Liberman H.A, Lachman C., Pharmaceutical Dosage forms, Tablets, Volume-1 to 3, MarcelDekkar Inc.
6. Liberman H.A, Lachman C, Pharmaceutical Dosage forms. Disperse systems, volume 1, 2, 3. Marcel Dekkar Inc.
7. Physical Pharmaceutics by Ramasamy C and ManavalanR.
8. Laboratory Manual of Physical Pharmaceutics, C.V.S. Subramanyam, J. Thimma settee
9. Physical Pharmaceutics by C.V.S. Subramanyam
10. Test book of Physical Pharmacy, by Gaurav Jain & Roop K. Khar


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BP 303 T. PHARMACEUTICAL MICROBIOLOGY (Theory)

45 Hours

Scope:

- Study of all categories of microorganisms especially for the production of alcohol antibiotics, vaccines, vitamins enzymes etc..

Objectives: Upon completion of the subject student shall be able to;

1. Understand methods of identification, cultivation and preservation of various microorganisms
2. To understand the importance and implementation of sterilization in pharmaceutical processing and industry
3. Learn sterility testing of pharmaceutical products.
4. Carried out microbiological standardization of Pharmaceuticals.
5. Understand the cell culture technology and its applications in pharmaceutical industries.

Course content:

Unit I

10 Hours

Introduction, history of microbiology, its branches, scope and its importance.

Introduction to Prokaryotes and Eukaryotes

Study of ultra-structure and morphological classification of bacteria, nutritional requirements, raw materials used for culture media and physical parameters for growth, growth curve, isolation and preservation methods for pure cultures, cultivation of anaerobes, quantitative measurement of bacterial growth (total & viable count).

Study of different types of phase contrast microscopy, dark field microscopy and electron microscopy.

Unit II

10 Hours

Identification of bacteria using staining techniques (simple, Gram's & Acid fast staining) and biochemical tests (IMViC).

Study of principle, procedure, merits, demerits and applications of physical, chemical gaseous, radiation and mechanical method of sterilization.

Evaluation of the efficiency of sterilization methods.

Equipments employed in large scale sterilization. Sterility indicators.

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BP 307P.PHARMACEUTICAL MICROBIOLOGY (Practical)

4 Hrs/week

1. Introduction and study of different equipments and processing, e.g., B.O.D. incubator, laminar flow, aseptic hood, autoclave, hot air sterilizer, deep freezer, refrigerator, microscopes used in experimental microbiology.
2. Sterilization of glassware, preparation and sterilization of media.
3. Sub culturing of bacteria and fungus. Nutrient stabs and slants preparations.
4. Staining methods- Simple, Grams staining and acid fast staining (Demonstration with practical).
5. Isolation of pure culture of micro-organisms by multiple streak plate technique and other techniques.
6. Microbiological assay of antibiotics by cup plate method and other methods
7. Motility determination by Hanging drop method.
8. Sterility testing of pharmaceuticals.
9. Bacteriological analysis of water
10. Biochemical test.

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UNIT-III

08 Hours

- **Drying:** Objectives, applications & mechanism of drying process, measurements & applications of Equilibrium Moisture content, rate of drying curve. principles, construction, working, uses, merits and demerits of Tray dryer, drum dryer spray dryer, fluidized bed dryer, vacuum dryer, freeze dryer.
- **Mixing:** Objectives, applications & factors affecting mixing, Difference between solid and liquid mixing, mechanism of solid mixing, liquids mixing and semisolids mixing. Principles, Construction, Working, uses, Merits and Demerits of Double cone blender, twin shell blender, ribbon blender, Sigma blade mixer, planetary mixers, Propellers, Turbines, Paddles & Silverson Emulsifier,

UNIT-IV

08 Hours

- **Filtration:** Objectives, applications, Theories & Factors influencing filtration, filter aids, filter medias. Principle, Construction, Working, Uses, Merits and demerits of plate & frame filter, filter leaf, rotary drum filter, Meta filter & Cartridge filter, membrane filters and Seidtz filter.
- **Centrifugation:** Objectives, principle & applications of Centrifugation, principles, construction, working, uses, merits and demerits of Perforated basket centrifuge, Non-perforated basket centrifuge, semi continuous centrifuge & super centrifuge.

UNIT- V

07 Hours

- **Materials of pharmaceutical plant construction, Corrosion and its prevention:** Factors affecting during materials selected for Pharmaceutical plant construction, Theories of corrosion, types of corrosion and there prevention. Ferrous and nonferrous metals, inorganic and organic non metals, basic of material handling systems.

Recommended Books: (Latest Editions)

1. Introduction to chemical engineering – Walter L Badger & Julius Banchero, Latest edition.
2. Solid phase extraction, Principles, techniques and applications by Nigel J.K. Simpson- Latest edition.
3. Unit operation of chemical engineering – McCabe Smith, Latest edition.
4. Pharmaceutical engineering principles and practices – C.V.S Subrahmanyam et al., Latest edition.
5. Remington practice of pharmacy- Martin, Latest edition.
6. Theory and practice of industrial pharmacy by Lachmann., Latest edition.
7. Physical pharmaceutics- C.V.S Subrahmanyam et al., Latest edition.
8. Cooper and Gunn's Tutorial pharmacy, S.J. Carter, Latest edition.

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SEMESTER IV

BP401T. PHARMACEUTICAL ORGANIC CHEMISTRY –III (Theory)

45 Hours

Scope: This subject imparts knowledge on stereo-chemical aspects of organic compounds and organic reactions, important named reactions, chemistry of important hetero cyclic compounds. It also emphasizes on medicinal and other uses of organic compounds.

Objectives: At the end of the course, the student shall be able to

1. understand the methods of preparation and properties of organic compounds
2. explain the stereo chemical aspects of organic compounds and stereo chemical reactions
3. know the medicinal uses and other applications of organic compounds

Course Content:

Note: To emphasize on definition, types, mechanisms, examples, uses/applications

UNIT-I

10 Hours

Stereo isomerism

Optical isomerism –

Optical activity, enantiomerism, diastereoisomerism, meso compounds Elements of symmetry, chiral and achiral molecules

DL system of nomenclature of optical isomers, sequence rules, RS system of nomenclature of optical isomers

Reactions of chiral molecules

Racemic modification and resolution of racemic mixture.

Asymmetric synthesis: partial and absolute

UNIT-II

10 Hours

Geometrical isomerism

Nomenclature of geometrical isomers (Cis Trans, EZ, Syn Anti systems)

Methods of determination of configuration of geometrical isomers.

Conformational isomerism in Ethane, n-Butane and Cyclohexane.

Stereo isomerism in biphenyl compounds (Atropisomerism) and conditions for optical activity.

Stereospecific and stereoselective reactions

BP402T. MEDICINAL CHEMISTRY – I (Theory)

45 Hours

Scope: This subject is designed to impart fundamental knowledge on the structure, chemistry and therapeutic value of drugs. The subject emphasizes on structure activity relationships of drugs, importance of physicochemical properties and metabolism of drugs. The syllabus also emphasizes on chemical synthesis of important drugs under each class.

Objectives: Upon completion of the course the student shall be able to

1. understand the chemistry of drugs with respect to their pharmacological activity
2. understand the drug metabolic pathways, adverse effect and therapeutic value of drugs
3. know the Structural Activity Relationship (SAR) of different class of drugs
4. write the chemical synthesis of some drugs

Course Content:

Study of the development of the following classes of drugs, Classification, mechanism of action, uses of drugs mentioned in the course, Structure activity relationship of selective class of drugs as specified in the course and synthesis of drugs superscripted (*)

UNIT- I

10 Hours

Introduction to Medicinal Chemistry

History and development of medicinal chemistry Physicochemical properties in relation to biological action

Ionization, Solubility, Partition Coefficient, Hydrogen bonding, Protein binding, Chelation, Bioisosterism, Optical and Geometrical isomerism.

Drug metabolism

Drug metabolism principles- Phase I and Phase II.

Factors affecting drug metabolism including stereo chemical aspects.

UNIT- II

10 Hours

Drugs acting on Autonomic Nervous System Adrenergic

Neurotransmitters:

Biosynthesis and catabolism of catecholamine.

Adrenergic receptors (Alpha & Beta) and their distribution.

Sympathomimetic agents: SAR of Sympathomimetic agents

Direct acting: Nor-epinephrine, Epinephrine, Phenylephrine*, Dopamine,


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Miscellaneous:

Amides & imides: Glutethimide.

Alcohol & their carbamate derivatives: Meprobamate, Ethchlorvynol. Aldehyde & their derivatives: Triclofos sodium, Paraldehyde.

B. Antipsychotics

Phenothiazines: SAR of Phenothiazines - Promazine hydrochloride, Chlorpromazine hydrochloride*, Triflupromazine, Thioridazine hydrochloride, Piperacetazine hydrochloride, Prochlorperazine maleate, Trifluoperazine hydrochloride.

Ring Analogues of Phenothiazines: Chlorprothixene, Thiothixene, Loxapine succinate, Clozapine.

Fluro buterophenones: Haloperidol, Droperidol, Risperidone.

Beta amino ketones: Molindone hydrochloride.

Benzamides: Sulpieride.

C. Anticonvulsants: SAR of Anticonvulsants, mechanism of anticonvulsant action

Barbiturates: Phenobarbitone, Methabarbital. **Hydantoins:**

Phenytoin*, Mephenytoin, Ethotoin **Oxazolidine diones:**

Trimethadione, Paramethadione **Succinimides:**

Phensuximide, Methsuximide, Ethosuximide* **Urea and**

monoacylureas: Phenacemide, Carbamazepine* **Benzodiazepines:**

Clonazepam

Miscellaneous: Primidone, Valproic acid, Gabapentin, Felbamate

UNIT - V

07 Hours

Drugs acting on Central Nervous System

General anesthetics:

Inhalation anesthetics: Halothane*, Methoxyflurane, Enflurane, Sevoflurane, Isoflurane, Desflurane.

Ultra short acting barbiturates: Methohexital sodium*, Thiopental sodium.

Dissociative anesthetics: Ketamine hydrochloride.*

Narcotic and non-narcotic analgesics

Morphine and related drugs: SAR of Morphine analogues, Morphine sulphate, Codeine, Meperidine hydrochloride, Anileridine hydrochloride, Diphenoxylate hydrochloride, Loperamide hydrochloride, Fentanyl citrate*, Methadone hydrochloride*, Propoxyphene hydrochloride, Pentazocine, Levorphanol tartarate.

BP406P. MEDICINAL CHEMISTRY – I (Practical)

4 Hours/We

- I Preparation of drugs/ intermediates**
- 1 1,3-pyrazole
 - 2 1,3-oxazole
 - 3 Benzimidazole
 - 4 Benztriazole
 - 5 2,3- diphenyl quinoxaline
 - 6 Benzocaine
 - 7 Phenytoin
 - 8 Phenothiazine
 - 9 Barbiturate
- II Assay of drugs**
- 1 Chlorpromazine
 - 2 Phenobarbitone
 - 3 Atropine
 - 4 Ibuprofen
 - 5 Aspirin
 - 6 Furosemide
- III Determination of Partition coefficient for any two drugs**

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UNIT-IV

10Hours

Micromeretics: Particle size and distribution, mean particle size, number and weight distribution, particle number, methods for determining particle size by different methods, counting and separation method, particle shape, specific surface, methods for determining surface area, permeability, adsorption, derived properties of powders, porosity, packing arrangement, densities, bulkiness & flow properties.

UNIT-V

10 Hours

Drug stability: Reaction kinetics: zero, pseudo-zero, first & second order, units of basic rate constants, determination of reaction order. Physical and chemical factors influencing the chemical degradation of pharmaceutical product: temperature, solvent, ionic strength, dielectric constant, specific & general acid base catalysis, Simple numerical problems. Stabilization of medicinal agents against common reactions like hydrolysis & oxidation. Accelerated stability testing in expiration dating of pharmaceutical dosage forms. Photolytic degradation and its prevention

Recommended Books: (Latest Editions)

1. Physical Pharmacy by Alfred Martin, Sixth edition
2. Experimental pharmaceutics by Eugene, Parott.
3. Tutorial pharmacy by Cooper and Gunn.
4. Stocklosam J. Pharmaceutical calculations, Lea & Febiger, Philadelphia.
5. Liberman H.A, Lachman C., Pharmaceutical Dosage forms, Tablets, Volume-1 to 3, Marcel Dekkar Inc.
6. Liberman H.A, Lachman C, Pharmaceutical dosage forms. Disperse systems, volume 1, 2, 3. Marcel Dekkar Inc.
7. Physical Pharmaceutics by Ramasamy C, and Manavalan R.


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BP 404 T. PHARMACOLOGY-I (Theory)

45 Hrs

Scope: The main purpose of the subject is to understand what drugs do to the living organisms and how their effects can be applied to therapeutics. The subject covers the information about the drugs like, mechanism of action, physiological and biochemical effects (pharmacodynamics) as well as absorption, distribution, metabolism and excretion (pharmacokinetics) along with the adverse effects, clinical uses, interactions, doses, contraindications and routes of administration of different classes of drugs.

Objectives: Upon completion of this course the student should be able to

1. Understand the pharmacological actions of different categories of drugs
2. Explain the mechanism of drug action at organ system/sub cellular/ macromolecular levels.
3. Apply the basic pharmacological knowledge in the prevention and treatment of various diseases.
4. Observe the effect of drugs on animals by simulated experiments
5. Appreciate correlation of pharmacology with other bio medical sciences

Course Content:

UNIT-I

1. General Pharmacology

08 hours

- a. Introduction to Pharmacology- Definition, historical landmarks and scope of pharmacology, nature and source of drugs, essential drugs concept and routes of drug administration, Agonists, antagonists(competitive and non competitive), spare receptors, addiction, tolerance, dependence, tachyphylaxis, idiosyncrasy, allergy.
- b. Pharmacokinetics- Membrane transport, absorption, distribution, metabolism and excretion of drugs .Enzyme induction, enzyme inhibition, kinetics of elimination

UNIT-II

12 Hours

General Pharmacology

- a. Pharmacodynamics- Principles and mechanisms of drug action. Receptor theories and classification of receptors, regulation of receptors. drug receptors interactions signal transduction mechanisms, G-protein-coupled receptors, ion channel receptor, transmembrane enzyme linked receptors, transmembrane JAK-STAT binding receptor and receptors that regulate transcription factors, dose response relationship, therapeutic index, combined effects of drugs and factors modifying drug action.
- b. Adverse drug reactions.
- c. Drug interactions (pharmacokinetic and pharmacodynamic)
- d. Drug discovery and clinical evaluation of new drugs -Drug discovery phase, preclinical evaluation phase, clinical trial phase, phases of clinical trials and pharmacovigilance.


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6. K.D.Tripathi. Essentials of Medical Pharmacology, JAYPEE Brothers Medical Publishers (P) Ltd, New Delhi.
7. Sharma H. L., Sharma K. K., Principles of Pharmacology, Paras medical publisher
8. Modern Pharmacology with clinical Applications, by Charles R.Craig & Robert,
9. Ghosh MN. Fundamentals of Experimental Pharmacology. Hilton & Company, Kolkata.
10. Kulkarni SK. Handbook of experimental pharmacology. VallabhPrakashan,


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BP 405 T.PHARMACOGNOSY AND PHYTOCHEMISTRY I (Theory)

45 Hours Scope: The subject involves the fundamentals of Pharmacognosy like scope, classification of crude drugs, their identification and evaluation, phytochemicals present in them and their medicinal properties.

Objectives: Upon completion of the course, the student shall be able

1. to know the techniques in the cultivation and production of crude drugs
2. to know the crude drugs, their uses and chemical nature
3. know the evaluation techniques for the herbal drugs
4. to carry out the microscopic and morphological evaluation of crude drugs

Course Content:

UNIT-I

10 Hours

Introduction to Pharmacognosy:

- (a) Definition, history, scope and development of Pharmacognosy
- (b) Sources of Drugs – Plants, Animals, Marine & Tissue culture
- (c) Organized drugs, unorganized drugs (dried latex, dried juices, dried extracts, gums and mucilages, oleoresins and oleo- gum -resins).

Classification of drugs:

Alphabetical, morphological, taxonomical, chemical, pharmacological, chemo and sero taxonomical classification of drugs

Quality control of Drugs of Natural Origin:

Adulteration of drugs of natural origin. Evaluation by organoleptic, microscopic, physical, chemical and biological methods and properties.

Quantitative microscopy of crude drugs including lycopodium spore method, leaf constants, camera lucida and diagrams of microscopic objects to scale with camera lucida.

UNIT-II

10 Hours

Cultivation, Collection, Processing and storage of drugs of natural origin:

Cultivation and Collection of drugs of natural origin
Factors influencing cultivation of medicinal plants. Plant hormones and their applications.
Polyploidy, mutation and hybridization with reference to medicinal plants

Conservation of medicinal plants

UNIT-III

07 Hours

Plant tissue culture:

Historical development of plant tissue culture, types of cultures, Nutritional requirements, growth and their maintenance.
Applications of plant tissue culture in pharmacognosy. Edible vaccines


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BP408 P. PHARMACOGNOSY AND PHYTOCHEMISTRY I (Practical)

4 Hours/Week

1. Analysis of crude drugs by chemical tests: (i) Tragacanth (ii) Acacia (iii) Agar (iv) Gelatin (v) starch (vi) Honey (vii) Castor oil
2. Determination of stomatal number and index
3. Determination of vein islet number, vein islet termination and palisade ratio.
4. Determination of size of starch grains, calcium oxalate crystals by eye piece micrometer
5. Determination of Fiber length and width
6. Determination of number of starch grains by Lycopodium spore method
7. Determination of Ash value
8. Determination of Extractive values of crude drugs
9. Determination of moisture content of crude drugs
10. Determination of swelling index and foaming.


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Annexure III

Interpretation of SMVEC B.PHARMACY Regulations (R-2023) Criteria 12



SRI MANAKULA VINAYAGAR
ENGINEERING COLLEGE
(AN AUTONOMOUS INSTITUTION)



SMVEC PHARMACY COLLEGE

Existing Clause 12:

A student shall be declared PASS and eligible for getting grade in a course of B.Pharm. program if he/she secures at least 50% marks in that particular course including internal assessment. For example, to be declared as PASS and to get grade, the student has to secure a minimum of 50 marks for the total of 100 including continuous mode of assessment and end semester theory examination and has to secure a minimum of 25 marks for the total 50 including internal assessment and end semester practical examination.

Proposed Clause 12:

A student is declared to have successfully passed a theory / practical course if he/she has secured:

- A minimum of 50% marks in the internal assessment marks and a minimum of 50% marks in the End Semester Examinations marks and a minimum of 50% marks on combining both internal assessment and End Semester Examination Marks (ESM).

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Annexure IV

End Semester Examination Schedule for I Semester B.Pharmacy



SRI MANAKULA VINAYAGAR ENGINEERING COLLEGE
(An Autonomous Institution)

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)
(Accredited by NBA-AICTE, New Delhi, Accredited by NAAC with "A" Grade)
Madagadipet, Puducherry - 605 107



OFFICE OF THE CONTROLLER OF EXAMINATIONS

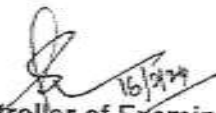
SMVEC PHARMACY COLLEGE

End Semester Examinations March 2024

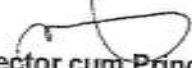
Schedule for First Year Students (Batch: 2023-2027)

Date	Year/ Sem	Session	Course Code	Course
04/03/24	I/I	FN	BP101T	Human Anatomy and Physiology I
06/03/24	I/I	FN	BP102T	Pharmaceutical Analysis I
08/03/24	I/I	FN	BP103T	Pharmaceutics I
11/03/24	I/I	FN	BP104T	Pharmaceutical Inorganic Chemistry

FN – 10:00 am to 1:00 pm


Controller of Examinations

Dr. S. JAYAKUMAR, M.Tech., Ph.D.,
Controller of Examinations
Sri Manakula Vinayagar Engineering College
(An Autonomous Institution)
Madagadipet, Puducherry-605 107.


Director cum Principal

Dr. V.S.K Venkatchalapathy, M.E., Ph.D.,
Director cum Principal
Sri Manakula Vinayagar Engineering College
(An Autonomous Institution)
Madagadipet, Puducherry - 605 107.


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Annexure V

**Various co-curricular and Extension activities conducted by SMVEC
Pharmacy College till date**

CPR Awareness Programme Dec 2023



(An Autonomous Institution)

Approved by AICTE, New Delhi and Affiliated to Pondicherry University,
Accredited by NAAC with 'A' Grade and Approved by RABACTE, New Delhi

MADAGADIPET, PONDICHERRY - 605 002.

CPR AWARENESS PROGRAMME



Organised by

SMVEC PHARMACY COLLEGE

In association with

National Board of Examinations in Medical Sciences (NBEMS), INDIA

DATE: 06/12/2023 TIME: 09:00 am VENUE: Conference Hall (Admin Block)



THE PRINCIPAL
SMVEC Pharmacy College
Madagadipet,

**Awareness Programme on Pharmacovigilance on
ASHU & H Drug Feb 2024**



PERIPHERAL PHARMACOVIGILANCE CENTRE (002)

மண்டல சிக்த மருத்துவ ஆயுச்சி நிலையம்

Siddha Regional Research Institute

(CCRS, Ministry of Ayush, Govt of India)
Kuyavarpalayam, Puducherry.

**SMVEC Pharmacy College
&
and**

School of Allied Health Sciences

Madagadipet, Puducherry

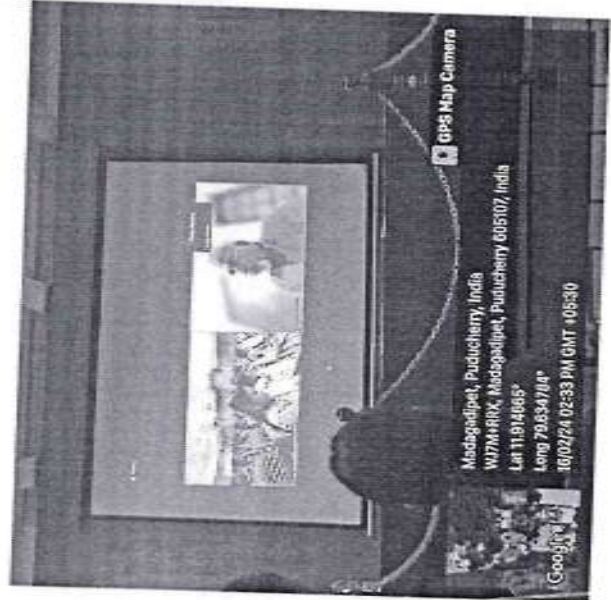
Cordially Invite you All for the

**Awareness Programme on
Pharmacovigilance of ASU & H Drugs**

Date : 16.02.2024 (Friday)

Time : 2.00 pm to 4.00 pm

Venue : Auditorium, SMVEC, Puducherry.



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