



# **NIRMALA COLLEGE OF PHARMACY MUVATTUPUZHA**

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## **FIRST CYCLE NAAC ACCREDITATION 2023**

### **CRITERION 2**



#### **TEACHING- LEARNING AND EVALUATION**

**2.5.1. Mechanism of internal/ external assessment is transparent and the grievance redressal system is time- bound and efficient**

Submitted to



**THE NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL**



### 2.5.1 Evaluation Process and Reforms

#### TRANSPARENCY IN EXAM

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# SESSIONAL PLANNER





# Nirmala College of Pharmacy, Muvattupuzha

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## Subject Modules

Institute	Nirmala College of Pharmacy, Muvattupuzha
Course	Pharm D
Batch	2019-2025
Semester	4
Subject	Biopharmaceutics & Pharmacokinetics

Sl.No	Term	Module name
1	1	Unit 1 Biopharmaceutics
2	1	Unit 1 Biopharmaceutics
3	2	Unit 2 Pharmacokinetics
4	2	Unit 2 Pharmacokinetics
5	2	Unit 3 One compartment open model
6	2	Unit 3 One compartment open model
7	2	Unit 4 Multicompartment models
8	2	Unit 4 Multicompartment models
9	3	Unit 5 Multiple Dosage Regimens
10	3	Unit 5 Multiple Dosage Regimens
11	3	Unit 7 Noncompartmental Pharmacokinetics
12	3	Unit 7 Noncompartmental Pharmacokinetics
13	3	Unit 8 Bioavailability and Bioequivalence
14	3	Unit 8 Bioavailability and Bioequivalence
15	3	Unit 6 Nonlinear Pharmacokinetics

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# NIRMALA COLLEGE OF PHARMACY, MUVATTUPUZHA

## Fourth Semester B. Pharm I<sup>st</sup> Sessional Theory Examination (2022 -23)

### Sub: PHYSICAL PHARMACEUTICS - II

Date 18/1/2023

Max Marks: 30

Time: 11.30am

Name.....

Roll No:.....

- Draw diagrams wherever necessary.
- Answer all questions.

#### Essay

(1X10 Marks)

1. Define colloidal dispersion. Explain about the properties of colloids.

#### Short notes

(2 X 5 Marks)

2. Write a note on non-Newtonian Liquid.
3. Accelerated stability testing in expiration dating of pharmaceutical dosage form

#### Answer briefly

(2X5 Marks)

4. First order reaction kinetics
5. Stabilization of medicinal agents against oxidation
6. What are protective colloids
7. Define a) Coacervation b) Peptization
8. Difference between flocculated and deflocculated suspension

Q. No.	1	2	3	4	5	6	7	8
Course Outcome	4	2	2	1	3	4	4	3
Bloom Level*	2	1	2	1	2	1	1	4
• 1.- Remember , 2 - Understand , 3 - Apply , 4 - Analyze ,5 - Evaluate , 6 - Create								

Subject: Physical pharmaceutics-II

Date of Examination: 18-01-2023

Batch: **Fourth Semester B Pharm (2020-2024)**

Academic Year: **2022-23**

QP Prepared By: Ms.Sonia Ninan, Dr. Gifty



## Answer Key

Subject: Physical pharmaceutics-II

Date of Examination: 18-01-2023

Batch: **Seventh Semester B Pharm (2018-22)**

Academic Year: **2022-23**

Answer key Prepared By: Ms.Sonia Ninan, Dr. Gifty

### **Essay**

**(1X10 Marks)**

- 1. Definition(1), explain electrical(3), kinetic(3), optical(3)**

### **Short notes**

**(2 X 5 Marks)**

2. Definition-1 mark, types and explanation-3 mark, figures-1 mark
3. Methods and explanation-3marks,figures-2 marks

### **Answer briefly**

**(2X5 Marks)**

4. Derive equation for rate and half-life -1.5 marks, figure-0.5 marks
5. Preventive measures minimum four-2 marks
6. Protective colloid (1), gold number (1)
7. Define each carry 1 mark
8. 4 differences each carry half mark



**FINAL YEAR B.PHARM PRACTICAL EXAMINATION**

PHARMACEUTICS - VI

(FORMULATIVE &amp; INDUSTRIAL PHARMACY)

Time: 4 Hours

Max. Marks for Practical: 70

Max. Marks for Viva: 30

**I. PRACTICAL****1. Synopsis.****(2×7 ½ = 15)**

Any **TWO** questions from the Principle and / or procedure involved in the experiments mentioned in the syllabus.

**2. Major experiment.****(35 marks)**

Any one from the following list.

- i. Preparation & evaluation (drug loading) of micro spheres / micro particles / micro capsules
- ii. Preparation & evaluation (angle of repose, Carr's compressibility index and Hausner ratio) of granules for 30 tablets.
- iii. Preparation of 30 tablets by direct compression using given excipient (s) & its evaluation (hardness, friability and disintegration time).
- iv. Preparation of 30 tablets by using the given granules & its evaluation (hardness, friability and disintegration time).
- v. Formulation, ampoule filling and sealing and evaluation (clarity test and leak test of parenteral s).
- vi. Assessment of effect of elevated temperature (exposure time=90 minutes) on physical and / or chemical stability of given formulation.

**3. Minor experiment.****(20 marks)**

Any one from the following list.

- i. Preparation & Labeling of Cream.
- ii. Preparation & Labeling of shampoo.
- iii. Preparation & Labeling of Nail Polish.
- iv. Preparation & Labeling of Lipstick.
- v. Preparation & Labeling of Dentifrice.
- vi. Preparation & Labeling of Shaving Cream.

**SPLIT UP OF MARKS**

Sl. No	PARTICULARS	MAJOR (35)	MINOR (20)
1.	Calculations	5	3
2.	Preparation/formulation/evaluation	20	10
3.	Container selection/label	5	5
4.	Report	5	2
	TOTAL	35	20





**IV B.Pharm Scheme for Practical Examination**  
**Pharmacy Practice**

Time: 4 hrs

Max marks: 70

I.

- **Synopsis**
- **Examples** **(15 marks)**
  - Dosage adjustment in geriatrics, pediatrics, heart failure, renal failure cases
  - Inventory control methods (ABC,ABC-VED matrix,ABC-VED-SOS matrix)
  - Evaluation of surgical dressings

II.

**Major experiments**

**Examples**

Critically analyze case and present the evaluation in traditional documentation format (SOAP or FARM)

PPn of Slide - 15

Presentation & Answering Questions - 20

Give a verbal presentation of counseling for the patient on the given Prescription

Verbal presentation - 15

Answering questions - 20

**B Examples**

- The drug information queries by using modified systematic approach for drug information retrieval - 20
- Preparation of drug profiles, leaflets, packaging inserts.

**20 marks**

III

**Viva Voce**

**30 marks**

- All the cases recorded in the practical record can ask for examination
- The case should contain atleast two problems





## **Fourth B-Pharm Scheme for Practical Examinations**

**Subject: Pharmaceutical Analysis II**

**Max.Marks: 70**

**Time : 4 hrs**

**I. Synopsis:** Any three questions like the principle involved in practical exercises may be asked.

**3x5= 15**

**marks**

**Note:** 15 minutes time shall be allotted for answering the questions.

**II. Major Experiment:** Carry out the Assay of the given sample of single component tablets/ capsules by U.V.-visible spectroscopy/ spectrofluorimetry and report the percentage of labelled / stated amount present in the average weight of the tablet / capsule contents.

**35 marks**

**Note:** Evaluation is done based on the percentage error of the result as follows:-

1% (+/-) error	...	35 marks
2% (+/-) error	...	28 marks
3% (+/-) error	...	20 marks
4% (+/-) error	...	15 marks
5% (+/-) error	...	10 marks
> 5% error	...	10 marks, provided the candidate has including the calculations, correctly.

**III. Minor Experiment:** Perform a paper chromatographic / TLC separation of the given mixture ( in solution ) containing two components and identify each component in the unknown mixture, by simultaneously running three standards two of which are the components in the unknown mixture.

**20 marks**

**Evaluation is done as follows:-**

Quality of Chromatogram ... **10 marks**

Identification of Components ... **10 marks**

Marks may be reduced proportionately for poor resolution, tailing, and other defects and for wrong identification.

**Viva – voce** ... **30 marks**



**IV B PHARM SCHEME FOR PRACTICAL EXAMINATIONS**

**SUBJECT:- Pharmacognosy III**

**TIME:- 4 HOURS**

**MAX. MARKS:- 70**

**I. Synopsis**

Isolation of any one phytochemical listed in syllabus / Physicochemical evaluation of crude drugs and Formulations / Tissue Culture / Estimation of Phytochemicals given in the syllabus / standards of fixed oils (Two Questions)

**(15 marks)**

**II.** Isolation and calculation of percentage yield of any one phytochemical listed in syllabus/isolation of starch from potato / calcium citrate from lemon juice / casein from milk / protein from ground nut

**(25 marks)**

**III. simple TLC / Paper Chromatography experiment.**

**(15 marks)**

**IV** Quantitative Estimation/ Analysis of fixed oils / Estimation of phytochemicals / Refractive Index / Extractive value / Quantitative Microscopy.

**(15 marks)**

**IV. Viva voce**

**(30 marks)**



## IV BPHARM

### SCHEME FOR PRACTICAL EXAMINATIONS

#### PHARMACEUTICAL CHEMISTRY V

Max marks:70

Duration:4 hrs

#### 1. SYNOPSIS

(3x5 =15 marks)

Principle including chemical reactions of any three experiments.

**II.** Synthesize and submit dry pure recrystallised product of drug intermediate/drug candidate involving one step. Carry out the identification tests and melting point to confirm the product synthesized. (Procedure should be given) 25+10 marks

Yields, colour, texture, dryness and recrystallisations

25 marks

Identification tests and melting point

10marks

**III.** Quantitative estimation/ Assay of synthetic drug in formulation and report the amount of drug present/ the percentage purity of the drug in the formulation. (Procedure should be given) 20 marks

In case of experiment involving titration, the strength of titrant solution to be provided. Evaluation is based on percentage error of the report.

0-1% error- 20 marks

1-2% error- 17 marks

2-3% error- 13 marks

3-5% error- 8 marks

6-10% error- 5 marks

Above 10% error, 3 marks to be given provided the whole experiment is correct.



## IV BPHARM

### PHARMACOLOGY-II PRACTICAL EXAMINATION GUIDELINE

Max marks: 70

Duration: 4 hrs

#### 1. SYNOPSIS(20 marks)

Four questions related to pharmacology practicals with 5 marks each

##### Example:

Principles of bioassay

Indications of bioassay

Types of bioassay

Screening of analgesic activity

Screening of anticonvulsant activity

Screening of anti-inflammatory activity

Screening of anti-catatonic activity

Screening of skeletal muscle relaxant activity

#### 2. MAJOR EXPERIMENTS (30 marks)

##### Example:

To estimate the strength of the test sample of agonist/drug(eg. Acetyl choline, histamine)using a suitable isolated smooth muscle preparation employing matching bio assay.

To estimate the strength of the test sample of agonist/drug(eg. Acetyl choline, histamine)using a suitable isolated smooth muscle preparation by interpolation bio assay.

To estimate the strength of the test sample of agonist/drug(eg. Acetyl choline, histamine)using a suitable isolated smooth muscle preparation by three point bio assay.

Identification of unknown drug (spasmogens/ spasmolytics) using a suitable isolated smooth muscle preparation.

#### 3. MINOR EXPERIMENTS (20 marks)

Statistical calculations in experimental pharmacology using student- t-test.

