

**NIRMALA COLLEGE OF PHARMACY**

**LIST OF EQUIPMENT FOR M. PHARMACY COURSES**

(As per JNTUA Syllabus)

**1. M.Pharmacy- Pharmaceutics, Equipment**

- 1) Double beam uv visible spectrophotometer
- 2) Thin layer chromatography
- 3) Column chromatography
- 4) Gel Electrophoresis
- 5) High Performance Liquid Chromatography
- 6) Gas Chromatography
- 7) Fourier Transform Infra Red Spectrophotometer
- 8) Bulk Density Apparatus
- 9) Hardness Tester
- 10) Friability Apparatus
- 11) Disintegration Apparatus
- 12) Dissolution Apparatus
- 13) Tablet Punching Machine
- 14) Franz Diffusion Cell
- 15) Stability Chamber
- 16) Lip Stick Moulds
- 17) Electronic Microscope
- 18) Differential scanning calorimeter
- 19) Gel Electrophoresis
- 20) Single Pan Balance
- 21) Hot Air Oven
- 22) Magnetic Stirrer
- 23) Capsule Filling Machine
- 24) Capsule Counter Equipment
- 25) Coating Pan
- 26) Vacuum Filtration Unit
- 27) Digital Balance
- 28) Rotary Evaporator
- 29) Rotary Shaker
- 30) Viscometer / Rheometer
- 31) Clarity Test Apparatus

**2. M.Pharmacy - Pharmaceutical Analysis, Equipment**

- 1) Double beam UV visible spectrophotometer
- 2) Thin layer chromatography
- 3) Column chromatography
- 4) Gel Electrophoresis
- 5) High Performance Liquid Chromatography
- 6) High performance thin layer chromatography

- 7) Gas Chromatography
- 8) Fourier Transform Infra Red Spectrophotometer
- 9) Flame Photometer
- 10) Florimeter
- 11) Nepheloturbidometer
- 12) Karl Fischer Titrator
- 13) Double Distilled water unit
- 14) Polarography
- 15) Potentiometer
- 16) Conductometer
- 17) Digital Balance
- 18) Digital Colorimeter

### **I B.Pharmacy:**

## **PHARMACEUTICAL ORGANIC CHEMISTRY-I Lab**

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### **LIST OF EQUIPMENT AND INSTRUMENTS**

1. Triple beam balances
2. Physical balances
3. Melting point apparatus
4. Suction pumps
5. Oven
6. Hot plates
7. Water baths
8. Distillation unit
9. Refrigerator
10. Adequate glassware

### **List of Equipment and Instruments**

1. Analytical balances
2. Physical balances
3. Suction pumps
4. Oven
5. Hot plates
6. Water baths
7. Distillation unit
8. Limit test apparatus for arsenic
9. Adequate glassware

## **HUMAN ANATOMY AND PHYSIOLOGY – I LAB**

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### **List of equipments and instruments**

1. compound microscope
2. Salish haemometer
3. spigmomanometer
4. student physiograph
5. clinical thermometer
6. stethoscope
7. charts of CVS ,N .S & Lymphatic system

### **Instruments/Facility:**

1. **Water Bath (s)**
2. **Heating Mantles.**
3. **Medicinal garden to cultivate medicinal plants.**

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## **PHARMACEUTICAL ORGANIC CHEMISTRY-II LAB**

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### **LIST OF EQUIPMENT AND INSTRUMENTS**

1. Triple beam balances
2. Physical balances
3. Melting point apparatus
4. Suction pumps
5. Oven
6. Hot plates
7. Water baths
8. Distillation unit
9. Refrigerator
10. Adequate glass wares

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## **PHARMACEUTICAL BIOCHEMISTRY LAB**

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### **LIST OF EQUIPMENT AND INSTRUMENTS**

1. Colorimeter
2. Table top centrifuge
3. Digital balance

4. Physical/chemical balance
5. pH meter
6. Water bath
7. Folin-Wu tubes
8. Autoanalyser
9. Centrifuge
10. Refrigerator
11. Adequate glass wares

## **I B.Pharm – II Semester- General and Dispensing Pharmacy**

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### **List of equipments**

1. Mortars and pestles.
2. Analytical balance and weight box.
3. Percolators.
4. pH meter.
5. Digital balance.
6. Dispensing balances
7. China dish
8. Ointment slabs and spatula
9. Sieves

### **Equipments**

- 1) Autoclave oven.
- 2) Hot air oven.
- 3) Incubator.
- 4) Colony counter.
- 5) Digital balances.
- 6) Refrigerator.
- 7) Microscope.
- 8) Laminar air flow.
- 9) Colorimeter.
- 10) Hot plate.
- 11) Water bath.
- 12) Mechanical/magnetic stirrer.
- 13) Micropipettes.
- 14) Borer.
- 15) Inoculation loops and needle.
- 16) pH meter.

## **II B.Pharm – I Semester Pharmaceutical Engineering**

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### **List of Equipment**

1. Tray dryer
2. Ball mill
3. Seive shaker with set of sieves as per IP
4. Double cone blender
5. Propeller type mechanical agitator
6. Homogeniser
7. Buchner filtration apparatus
8. Vacuum pump
9. Desiccators'
10. Autoclave
11. Sling Psychrometers for humidity experiment
12. Iron, Brass rods for heat transfer coefficient lab
13. Digital balances

## **II B.Pharm – I Semester - PHYSICAL PHARMACY – I**

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### **List of Equipment**

1. Ostwald's viscometer
2. Stalagmometer
3. Polarimeter
4. Abbe's refractometer
5. CST apparatus
6. pH meter
7. Colorimeter
8. Digital balances
9. Melting point apparatus

## **B Pharm: II-II (R15) Pharmacognosy II**

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Instruments/Equipments:

1. Microscopes.
2. Soxhlet apparatus.
3. Distillation apparatus.
4. Muffle furnace/incinerator
5. PH meter
6. Hot air oven.
7. Heating mantles.

## **PHARMACEUTICAL ORGANIC CHEMISTRY- LAB**

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### **LIST OF EQUIPMENT AND INSTRUMENTS**

1. Triple beam balances
2. Physical balances and analytical balances

3. Melting point apparatus
4. Suction pumps
5. Oven
6. Hot plates
7. Water baths
8. Distillation unit
9. Refrigerator
10. Mechanical stirrer
11. Reflex flask with condenser
12. Magnetic stirrer with thermostat
13. Adequate glassware's

## **II B.Pharm – II Semester Physical Pharmacy –II**

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### **List of equipments**

1. Ostwald's viscometer
2. Stalagmometer
3. Digital pH meter
4. Microscopes
5. Stage and eyepiece micrometer
6. Digital electronic balance
7. Thermometers
8. Andreason pipette
9. Bulk density apparatus

## **Pharmaceutical analysis-1 (B.Pharmacy II-II)**

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### **List of equipments**

1. UV-Visible spectrophotometer
2. Colorimeter
3. Fluorimeter
4. Flame photometer
5. Nepheloturbidometer
6. HPLC
7. Gel Electrophoresis
8. Analytical balance

B. Pharmacy III year I Semester

## **PHARMACEUTICAL MICROBIOLOGY LABORATORY**

### **Equipments**

- 1) Autoclave oven.
- 2) Hot air oven.
- 3) Incubator.
- 4) Colony counter.
- 5) Digital balances.
- 6) Refrigerator.
- 7) Microscope.
- 8) Laminar air flow.
- 9) Colorimeter.
- 10) Hot plate.
- 11) Water bath.
- 12) Mechanical/magnetic stirrer.
- 13) Micropipettes.
- 14) Borer.
- 15) Inoculation loops and needle.
- 16) pH meter.

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## **B.PHARMACY III YEAR PHARMACOLOGY –LAB**

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### **List of equipments and instruments**

1. Digital balance
2. Oral feeding needles
3. Restainers
4. Sherrington rotating drum
4. Student organ bath
5. Drum
6. Smoking chamber
7. Fixing chamber
8. Rabbit holder
9. Animal simulator soft ware
10. Computers

### **B Pharm: III-I (R13 Revised) Pharmacognosy II**

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Instruments/Equipments:

1. Microscopes.

2. Water baths
3. Heating mantles
4. Clevenger apparatus.

### **III B.Pharm – I Semester**

### **MEDICINAL CHEMISTRY LAB**

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#### **LIST OF EQUIPMENT AND INSTRUMENTS REQUIRED:**

1. Water bath
2. Suction pumps
3. Analytical/physical balance
4. Triple beam balance
5. Reflux flask with condenser
6. Hot plates
7. Refrigerator
8. Mechanical and magnetic stirrer with thermostat
9. Distillation unit
10. Oven
11. UV-Visible spectrophotometer
12. Adequate glass wares

### **III B.Pharm – I Semester- Pharmaceutical Technology**

#### **List of Instruments and equipments**

1. Mortar and pestle
2. Hot air oven
3. Ointment slabs & spatula
4. Hot plate
5. Water bath
6. Suppository moulds
7. Lipstick moulds
8. China dish
9. Auto clave
10. Sieves
11. Clarity testing apparatus
12. Ointment filling machine
13. Ointment crimping machine



### III B.PHARM II SEMESTER MEDICINAL CHEMISTRY – II LAB

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#### LIST OF EQUIPMENT AND INSTRUMENTS REQUIRED:

1. Water bath
2. Suction pumps
3. Analytical/physical balance
4. Triple beam balance
5. Reflux flask with condenser
6. Hot plates
7. Refrigerator
8. Mechanical and magnetic stirrer with thermostat
9. Distillation unit
10. Oven
11. UV-Visible spectrophotometer
12. Adequate glass wares

### III B.Pharm – II Semester- Pharmaceutical Technology – II

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#### Equipments

1. Sieves set
2. Hot air oven
3. Tablet punching machine
4. Digital balance
5. Hardness tester – Pfizer, Monsanto type
6. Friabilator
7. Disintegration test apparatus
8. Dissolution test apparatus
9. Capsule filling equipment
10. Ampule filling apparatus
11. Ampule sealing apparatus
12. Clarity test apparatus
13. Autoclave
14. Coating equipment

#### (B.Pharmacy III-II)

#### Pharmaceutical analysis-II

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#### List of equipments

1. Conductometer
2. Potentiometer
3. Refractometer
4. Polarimeter
5. Karl fischer moisture analyser
6. HPLC
7. Gel Electrophoresis
8. Analytical balance

# PHARMACOLOGY – II LAB

## B.PHARMACY IV YEAR

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### List of equipments and instruments

1. Digital balance
2. Oral feeding needles
3. Restainers
4. Sherrington rotating drum
4. Student organ bath
5. Drum
6. Smoking chamber
7. Fixing chamber
8. Rabbit holder
9. Animal simulator soft ware
10. Computers
11. Rota rod apparatus
12. Pole climbing
13. Acto photometer
13. Eddys hot plate
14. Elevated plus maze
15. Plethysmometer
16. Elctro convusiometer
17. Morris water maze

## B Pharm: IV-I (R13 Revised) Pharmacognosy III

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### Equipments/Instrumnets

1. Water bath
2. Hotplates
3. Soxhlet extractor
4. Muffle furnace
5. Silica crucibles
6. UV Spectrophotometer (can be with Instrument room)
7. Analytical balance
8. Heating mantle
9. Hot Plate
10. Hot air oven
11. Dean stark apparatus for moisture content.
12. TLC kit
13. Distillation apparatus.
14. Refrigerator (Optional).

## **B Pharm: IV-I MEDICINAL CHEMISTRY-III LABORATORY**

### **LIST OF EQUIPMENT AND INSTRUMENTS:**

1. Water bath
2. Suction pumps
3. Analytical/physical balance
4. Triple beam balance
5. Reflux flask with condenser
6. Hot plates
7. Refrigerator
8. Mechanical and magnetic stirrer with thermostat
9. Distillation unit
10. Oven
11. UV-Visible spectrophotometer
11. Adequate glass wares

### **IV B.Pharm – I Semester- Biopharmaceutics and Pharmacokinetics**

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#### **List of instruments and equipment**

1. UV –Visible spectrophotometer
2. Dissolution testing apparatus
3. Magnetic stirrer
4. Digital balance