

1. Program Name

Diploma in Pharmacy

2. Course Structures

ER-2020 D. Pharm Syllabus – An Overview

The course study of D. Pharm extended over a period of two years (Part-I & Part-II) with an annual examination. The course includes annual wise Theory and Practical as given in Table- I & II.

The D. Pharm Syllabus ER2020 (Part I & Part -II) has the following structure. As per the regulations, the theory and practical are to be considered as individual courses. The syllabus is designed to nurture the students in every aspect of life, having theoretical as well as practical knowledge related to their subjects. Syllabus helps to acquire knowledge, develop skill and positive attitude towards life. It inculcates knowledge by visual, practical, and theoretical methods.

Table -1 (For Part-I)

Course of study for Part-I course code	Name of the course	No. of hours	Hours / Week	Assignment / Projects	Tutorial
ER20-11T	Pharmaceutics- Theory	75	3	3	1
ER20-11P	Pharmaceutics- Practical	75	3	-	-
ER20-12T	Pharmaceutical chemistry-Theory	75	3	3	1
ER20-12P	Pharmaceutical chemistry-Practical	75	3	-	-
ER20-13T	Pharmacognosy- Theory	75	3	3	1
ER20-13P	Pharmacognosy-Practical	75	3	-	-
ER20-14T	Human Anatomy & Physiology-Theory	75	3	3	1
ER20-14P	Human Anatomy & Physiology-Practical	75	3	-	-
ER20-15T	Social Pharmacy-Theory	75	3	3	1

ER20-15P	Social Pharmacy- Practical	75	3	-	-
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Table -2 (For Part-II)

Course of study for Part-I I course code	Name of the course	No. of hours	Hours/ week	Assignments / Projects	Tutorial
ER20-21T	Pharmacology – Theory	75	3	3	1
ER20-21P	Pharmacology – Practical	50	2	-	
ER20-22T	Community Pharmacy & Management –Theory	75	3	3	1
ER20-22P	Community Pharmacy & Management –Practical	75	3	-	
ER20-23T	Biochemistry & Clinical Pathology –Theory	75	3	3	1
ER20-23P	Biochemistry & Clinical Pathology –Practical	50	2	-	
ER20-24T	Pharmacotherapeutics – Theory	75	3	3	1
ER20-24P	Pharmacotherapeutics – Practical	25	1	-	
ER20-25T	Hospital & Clinical Pharmacy – Theory	75	3	3	1
ER20-25P	Hospital & Clinical Pharmacy – Practical	25	1	-	
ER20-26T	Pharmacy Law & Ethics	75	3	3	1

Visits- Hospital/ Field visit; Hospital Training*

3. Program Outcomes

D. Pharm course provides the knowledge of healthcare and biochemical science to the students. Students interested in pharmacy-related positions in healthcare and drug industry can pursue this course.

- Pharmaceutical knowledge.
- Formulation & development of dosage forms.
- Building pharmacy profession with ethical principles and commitment towards work.
- Effective/ Team working environment.
- Social interactions & communication with public dealing in health care sectors.
- Lifelong learning skills.

4. Program Specific Outcomes

PSO 1: Apply the acquire knowledge, and its core associated with the profession of pharmacy, including biomedical sciences and bio- medical wastes; pharmaceutical sciences; behavioural, social; and manufacturing practices of dosage forms.

PSO 2: Apply the learning skills and communicate the value of their professional roles in society such as health care educators & promoters, work managements and managers as well as lead a team a one.

PSO 3: Apply ethical principles in professional and social contexts while making decisions and taking responsibilities with the decisions.

PSO 4: Apply and use of modern methods/technologies/procedures in the profession of pharmacy and learning about new techniques and their applications.

PSO 5: Able to do multidisciplinary jobs in the pharmaceutical industries in various branches/ fields.

5. Course Outcomes of each of the courses (excluding Syllabus) in the Program.

PART-I

PHARMACEUTICS

Course Code: ER20-11T/ER20-11P

CO-1. To train students in calculation of dosage form as per IP/BP/USP or by using Pharmacopoeias.

CO-2. To train students in the formulation of different dosage forms (Liquid, semi- solids).

CO-3. To demonstrate the students the working and formulation of solid dosage form (tablets).

CO-4. To determine the quality of the formulations via different evaluation parameters.

CO-5. Design of the labelling & storage conditions of the different dosage forms.

PHARMACEUTICAL CHEMISTRY

Course Code: ER20-12T/ER20-12P

CO-1. To study the different chemical classification, chemical name, chemical structure of the compounds

CO-2. To study the pharmacological uses, doses, stability, and storage conditions of different chemical compounds.

CO-3. To study the different chemical tests for identification of impurity, testing.

CO-4. Analysis of different chemical compound via testing.

CO-5. Limit tests and assays of selected chemical substances as per the monograph

CO-6. Volumetric analysis of the chemical substances.

PHARMACOGNOSY

Course Code: ER20-13T/ER20-13P

CO-1. To study the crude, its identification based on biological sources.

CO-2. To identify different crude drugs based on the morphology.

CO-3. To study the morphological characterisation of crude drug by the help of transverse section with the help of compound microscope.

CO-4. To study the physical and chemical tests to evaluate the crude drugs.

CO-5. To study common uses and its benefits of the crude drugs.

HUMAN ANATOMY AND PHYSIOLOGY

Course Code: ER20-14T/ER20-14P

CO-1. Explain the gross morphology, structure, and functions of various organs of the human body.

CO-2. To identify the various tissues and organs of different systems of human body.

CO-3. Perform the various experiments related to special senses and nervous system.

CO-4. Appreciate coordinated working pattern of different organs of each system.

CO-5. To study the homeostatic mechanisms and their imbalances in the human body.

CO-6. To study the different organ by the help of slides.

CO-7. To study of Human Skeleton-Axial skeleton and appendicular skeleton.

CO-8. Determination of

- a. Blood group
- b. ESR
- c. Haemoglobin content of blood
- d. Bleeding time and Clotting time

CO-9. Determination of RBC & WBC count of blood.

CO-10. Determination of Differential count of blood.

SOCIAL PHARMACY

Course Code: ER20-15T/ER20-15P

- CO-1. To discuss about roles of pharmacists in the various national health programs.
- CO-2. To describe various sources of health hazards and disease preventive measures.
- CO-3. To discuss the healthcare issues associated with food and nutritional substances.
- CO-4. To describe the general roles and responsibilities of pharmacists in public health.
- CO-5. To design promotional materials for public health awareness.
- CO-6. To describe various health hazards including microbial sources.
- CO-7. To advice on preventive measures for various diseases.
- CO-8. To provide first aid for various emergency conditions including basic life support and cardiopulmonary resuscitation.

PART-II

PHARMACOLOGY

Course Code: ER20-21T/ER20-21P

- CO-1. General concepts of pharmacology including pharmacokinetics, pharmacodynamics, routes of administration, etc.
- CO-2. Pharmacological classification and indications of drugs.
- CO-3. Dosage regimen, mechanisms of action, contraindications of drugs.
- CO-4. Common adverse effects of drugs.
- CO-5. Study of various animals used in laboratory.
- CO-6. Study of pharmacological effects of drugs like local anaesthetics, mydriatic and mitotic on rabbit eye
- CO-7. Screening the effects of various drugs acting in the central nervous system
- CO-8. Study of drug effects on isolated organs / tissues
- CO-9. Study of pyrogen testing on rabbit

COMMUNITY PHARMACY AND MANAGEMENT

Course Code: ER20-22T/ER20-22P

- CO-1. Establishing and running a community pharmacy and its legal requirements.
- CO-2. Professional aspects of handling and filling prescriptions.
- CO-3. Patient counselling on diseases, prescription and or non-prescription drugs.
- CO-4. Scope for performing basic health screening in community pharmacy settings.
- CO-5. Handle and fill prescriptions in a professional manner.
- CO-6. Counsel patients on various diseases and minor ailments.

CO-7. Counsel patients on prescription and or non-prescription drugs.

CO-8. Design and prepare patient information leaflets.

CO-9. Perform basic health screening tests.

BIOCHEMISTRY & CLINICAL PATHOLOGY

Course Code: ER20-23T/ER20-23P

CO-1. Describe the functions of biomolecules.

CO-2. Discuss the various functions of enzymes in the human system.

CO-3. Explain the metabolic pathways of biomolecules in both physiological and pathological conditions.

CO-4. Describe the principles of organ function tests and their clinical significances.

CO-5. Determine the biomolecules / metabolites in the given biological samples, both qualitatively and quantitatively.

CO-6. Describe the clinical pathology of blood and urine.

CO-7. Qualitatively determine the biomolecules / metabolites in the given biological samples.

CO-8. Determine the normal and abnormal constituents in blood and urine samples and interpret the results of such testing.

PHARMACOTHERAPEUTICS

Course Code: ER20-24T/ER20-24P

CO-1. Help assessing the subjective and objective parameters of patients in common disease conditions.

CO-2. Assist other healthcare providers to analyse drug related problems and provide therapeutic interventions.

CO-3. Participation in planning the rational medicine therapy for common diseases.

CO-4. Design and deliver discharge, counselling for patients.

CO-5. Write the SOAP (Subjective, Objective, Assessment and Plan) notes for the given clinical cases of selected common diseases

CO-6. Counsel the patients about the disease conditions, uses of drugs, methods of handling and administration of drugs, life-style modifications, and monitoring parameters.

HOSPITAL AND CLINICAL PHARMACY

Course Code: ER20-25T/ER20-25P

- CO-1.** Hospital and Hospital Pharmacy organization and set-ups.
- CO-2.** Basics of hospital pharmacy services including the procurement, supply chain, storage of medicines and medical supplies.
- CO-3.** Basics of clinical pharmacy including introduction to pharmaceutical care services.
- CO-4.** Basic interpretations of common laboratory results used in clinical diagnosis towards optimizing the drug therapy.
- CO-5.** Professionally handle and answer the drug information queries
- CO-6.** Interpret the common laboratory reports.
- CO-7.** Report suspected adverse drug reactions using standard procedures
- CO-8.** Understand the uses and methods of handling various medical/surgical aids and devices.
- CO-9.** Interpret and report the drug-drug interactions in common diseases for optimizing the drug therapy.

PHARMACY LAW AND ETHICS

Course Code: ER20-26T

- CO-1.** General perspectives, history, evolution of pharmacy law in India.
- CO-2.** Act and Rules regulating the profession and practice of pharmacy in India.
- CO-3.** Important code of ethical guidelines pertaining to various practice standards.
- CO-4.** Brief introduction to the patent laws and their applications in pharmacy.