

RAJASTHAN UNIVERSITY OF HEALTH SCIENCE

D. Pharm Ist Year Syllabus

Sagar Pharmacy Collage

Duration of the Course: 02 Years

(In addition, there shall be a practical training spread over a period of three months.)

Course of Study: The course of study for Diploma in Pharmacy Part-I and Diploma in Pharmacy Part-II shall include the subjects as given in the Tables below.

DIPLOMA IN PHARMACY (PART-I)

Sr. No.	Subject Code	Name of the Subject
1	ER20-11T	Pharmaceutics –Theory
2	ER20-12T	Pharmaceutical Chemistry – Theory
3	ER20-13T	Pharmacognosy –Theory
4	ER20-14T	Human Anatomy &Physiology –Theory
5	ER20-15T	Social Pharmacy –Theory
6	ER20-11P	Pharmaceutics – Practical
7	ER20-12P	Pharmaceutical Chemistry – Practical
8	ER20-13P	Pharmacognosy – Practical
9	ER20-14P	Human Anatomy & Physiology Practical
10	ER20-15P	Social Pharmacy – Practical

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PHARMACEUTICS – THEORY (ER20-11T)

Chapter No.	TOPICS	
1	1.1	History of the profession of Pharmacy in India in relation to Pharmacy education, industry, pharmacy practice, and various professional associations.
	1.2	Pharmacy as a career
	1.3	Pharmacopoeia: Introduction to IP, BP, USP, NF and Extra Pharmacopoeia. Salient features of Indian Pharmacopoeia
2	Packaging materials: Types, selection criteria, advantages and disadvantages of glass, plastic, metal, rubber as packaging materials	
3	3.1	Pharmaceutical aids: Organoleptic (Colouring, flavouring, and sweetening) agents
	3.2	Preservatives: Definition, types with examples and uses
4	Unit operations: Definition, objectives/applications, principles, construction, and workings of:	
	4.1	Size Reduction: hammer mill and ball mill
	4.2	Size Separation: Classification of powders according to IP, Cyclone separator, Sieves and standards of sieves
	4.3	Mixing: Double cone blender, Turbine mixer, Triple roller mill and Silverson mixer homogenizer
	4.4	Filtration: Theory of filtration, membrane filter and sintered glass filter
	4.5	Drying: working of fluidized bed dryer and process of freeze drying
	4.6	Extraction: Definition, Classification, method, and applications
5	5.1	Tablets – coated and uncoated, various modified tablets (sustained release, extended-release, fast dissolving, multilayered, etc.)
	5.2	Capsules - hard and soft gelatine capsules
	5.3	Liquid Oral Preparations - solution, syrup, elixir, emulsion, suspension, dry powder for reconstitution
	5.4	Topical Preparations - ointments, creams, pastes, gels, liniments and lotions, suppositories, and pessaries
	5.5	Nasal preparations, Ear preparations
	5.6	Powders And Granules - Insufflations, dusting powders, effervescent powders, and effervescent granules
	5.7	Sterile Formulations – Injectables, eye drops and eye ointments
	5.8	Immunological Products: Sera, vaccines, toxoids, and their manufacturing methods.
6	6.1	Basic structure, layout, sections, and activities of pharmaceutical manufacturing plants
	6.2	Quality control and Quality Assurance: Definition and concepts of quality control and quality assurance, current good manufacturing practice (cGMP), Introduction to the concept of calibration and validation
7	Novel Drug Delivery Systems: Introduction, Classification with examples, advantages, and challenges.	

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PHARMACEUTICAL CHEMISTRY – THEORY (ER20-12T)

Chapter No.	TOPICS	
1	Introduction to Pharmaceutical Chemistry: Scope and objectives	
	Sources and Types of Errors: Accuracy, precision, significant figures	
	Impurities in Pharmaceuticals: Source and effect of impurities in Pharmacopoeial substances, importance of limit test, Principle and procedures of Limit tests for chlorides, sulphates, iron, heavy metals and arsenic.	
2	Volumetric Analysis: Fundamentals of volumetric analysis, Acid-base titration, non-aqueous titration, precipitation titration, complexometric titration, redox titration	
	Gravimetric Analysis: Principle and method.	
3	Inorganic Pharmaceuticals: Pharmaceutical formulations, market preparations, storage conditions and uses of	
	3.1	Haematinics: Ferrous sulphate, Ferrous fumarate, Ferric ammonium citrate, Ferrous ascorbate, Carbonyl iron
	3.2	Gastro-intestinal Agents: Antacids: Aluminium hydroxide gel, Magnesium hydroxide, Magaldrate, Sodium bicarbonate, Calcium Carbonate, Acidifying agents, Adsorbents, Protectives, Cathartics
	3.3	Topical Agents: Silver Nitrate, Ionic Silver, Chlorhexidine Gluconate, Hydrogen peroxide, Boric acid, Bleaching powder, Potassium permanganate
	3.4	Dental Products: Calcium carbonate, Sodium fluoride, Denture cleaners, Denture adhesives, Mouth washes
	3.5	Medicinal Gases: Carbon dioxide, nitrous oxide, oxygen
4	Introduction to nomenclature of organic chemical systems with particular reference to heterocyclic compounds containing up to Three rings	
Study of the following category of medicinal compounds with respect to classification, chemical name, chemical structure (compounds marked with*) uses, stability and storage conditions, different types of formulations and their popular brand names-		
5	Drugs Acting on Central Nervous System	
	5.1	Anaesthetics: Thiopental Sodium*, Ketamine Hydrochloride*, Propofol
	5.2	Sedatives and Hypnotics: Diazepam*, Alprazolam*, Nitrazepam, Phenobarbital*
	5.3	Antipsychotics: Chlorpromazine Hydrochloride*, Haloperidol*, Risperidone*, Sulpiride*, Olanzapine, Quetiapine, Lurasidone
	5.4	Anticonvulsants: Phenytoin*, Carbamazepine*, Clonazepam, Valproic Acid*, Gabapentin*, Topiramate, Vigabatrin, Lamotrigine
	5.5	Anti-Depressants: Amitriptyline Hydrochloride*, Imipramine Hydrochloride*, Fluoxetine*, Venlafaxine, Duloxetine, Sertraline, Citalopram, Escitalopram, Fluvoxamine, Paroxetine

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6	Drugs Acting on Autonomic Nervous System	
	6.1	Sympathomimetic Agents: <ul style="list-style-type: none"> • Direct Acting: Nor- Epinephrine*, Epinephrine, Phenylephrine, Dopamine*, Terbutaline, Salbutamol (Albuterol), Naphazoline*, Tetrahydrozoline. • Indirect Acting Agents: Hydroxy Amphetamine, Pseudoephedrine. • Agents With Mixed Mechanism: Ephedrine, Metaraminol
	6.2	Adrenergic Antagonists: <ul style="list-style-type: none"> • Alpha Adrenergic Blockers: Tolazoline, Phentolamine Phenoxybenzamine, Prazosin. • Beta Adrenergic Blockers: Propranolol*, Atenolol*, Carvedilol
	6.3	Cholinergic Drugs and Related Agents: <ul style="list-style-type: none"> • Direct Acting Agents: Acetylcholine*, Carbachol, And Pilocarpine. • Cholinesterase Inhibitors: Neostigmine*, Edrophonium Chloride, Tacrine Hydrochloride, Pralidoxime Chloride, Echothiopate Iodide Bromide, Dicyclomine Hydrochloride*
	6.3	Cholinergic Blocking Agents: <ul style="list-style-type: none"> • Atropine Sulphate*, Ipratropium Bromide • Synthetic Cholinergic Blocking Agents: Tropicamide, Cyclopentolate Hydrochloride, Clidinium
7	Drugs Acting on Cardiovascular System	
	7.1	Anti-Arrhythmic Drugs: Quinidine Sulphate, Procainamide Hydrochloride, Verapamil, Phenytoin Sodium*, Lidocaine Hydrochloride, Lorcaïnide Hydrochloride, Amiodarone and Sotalol
	7.2	Anti-Hypertensive Agents: Propranolol* , Captopril* , Ramipril, Methyldopate Hydrochloride, Clonidine Hydrochloride, Hydralazine Hydrochloride, Nifedipine,
	7.3	Antianginal Agents: Isosorbide Dinitrate
8	Diuretics: Acetazolamide, Frusemide* , Bumetanide, Chlorthalidone, Benzthiazide, Metolazone, Xipamide, Spironolactone	
9	Hypoglycemic Agents: Insulin and Its Preparations, Metformin* , Glibenclamide* , Glimepiride, Pioglitazone, Repaglinide, Gliflozins, Gliptins	
10	<ul style="list-style-type: none"> • Analgesic And Anti-Inflammatory Agents: Morphine Analogues • Narcotic Antagonists • Nonsteroidal Anti-Inflammatory Agents (NSAIDs) - Aspirin*, Diclofenac, Ibuprofen*, Piroxicam, Celecoxib, Mefenamic Acid, Paracetamol*, Aceclofenac 	
11	Anti-Infective Agents	
	11.1	Antifungal Agents: Amphotericin-B, Griseofulvin, Miconazole, Ketoconazole* , Itraconazole, Fluconazole* , Naftifine Hydrochloride
	11.2	Urinary Tract Anti-Infective Agents: Norfloxacin, Ciprofloxacin, Ofloxacin* , Moxifloxacin,
	11.3	Anti-Tubercular Agents: INH* , Ethambutol, Para Amino Salicylic Acid, Pyrazinamide, Rifampicin, Bedaquiline, Delamanid, Pretomanid*
	11.4	Antiviral Agents: Amantadine Hydrochloride, Idoxuridine, Acyclovir* , Foscarnet, Zidovudine, Ribavirin, Remdesivir, Favipiravir

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11	11.5	Antimalarials: Quinine Sulphate, Chloroquine Phosphate* , Primaquine Phosphate, Mefloquine* , Cycloguanil, Pyrimethamine, Artemisinin
	11.6	Sulfonamides: Sulfanilamide, Sulfadiazine, Sulfamethoxazole, Sulfacetamide* , Mafenide Acetate, Cotrimoxazole, Dapsone*
12	Antibiotics: Penicillin G, Amoxicillin* , Cloxacillin, Streptomycin Tetracyclines: Doxycycline, Minocycline Macrolides: Erythromycin, Azithromycin, Miscellaneous: Chloramphenicol* Clindamycin	
13	Anti-Neoplastic Agents: Cyclophosphamide* , Busulfan, Mercaptopurine, Fluorouracil* , Methotrexate, Dactinomycin, Doxorubicin Hydrochloride, Vinblastine Sulphate, Cisplatin* , Dromostanolone Propionate	

PHARMACOGNOSY – THEORY (ER20-13T)

Chapter No.	TOPICS																							
1	Definition, history, present status and scope of Pharmacognosy																							
2	Classification of drugs: <ul style="list-style-type: none">• Alphabetical• Taxonomical• Morphological• Pharmacological• Chemical• Chemo-taxonomical																							
3	Quality control of crude drugs:																							
	3.1	Different methods of adulteration of crude drugs																						
	3.2	Evaluation of crude drugs																						
4	Brief outline of occurrence, distribution, isolation, identification tests, therapeutic activity and pharmaceutical applications of: Alkaloids, Terpenoids, Glycosides, Volatile Oils, Tannins, Resins.																							
5	Biological source, chemical constituents and therapeutic efficacy of the following categories of crude drugs.																							
		<table><tr><th>Categories</th><th>Drugs</th></tr><tr><td>5.1 Laxatives</td><td>Aloe, Castor oil, Ispaghula, Senna</td></tr><tr><td>5.2 Cardiotonic</td><td>Digitalis, Arjuna</td></tr><tr><td>5.3 Carminatives and G.I. regulators</td><td>Coriander, Fennel, Cardamom, Ginger, Clove, Black Pepper, Asafoetida, Nutmeg, Cinnamon</td></tr><tr><td>5.4 Astringents</td><td>Myrobalan, Black Catechu, Pale Catechu</td></tr><tr><td>5.5 Drugs acting on nervous system</td><td>Hyoscyamus, Belladonna, Ephedra, Opium, Tea leaves, Coffee seeds, Coca</td></tr><tr><td>5.6 Anti-hypertensive</td><td>Rauwolfia</td></tr><tr><td>5.7 Anti-tussive</td><td>Vasaka, Tolu Balsam</td></tr><tr><td>5.8 Anti-rheumatics</td><td>Colchicum seed</td></tr><tr><td>5.8 Anti-tumour</td><td>Vinca, Podophyllum</td></tr><tr><td>5.9 Antidiabetics</td><td>Pterocarpus, Gymnema</td></tr></table>	Categories	Drugs	5.1 Laxatives	Aloe, Castor oil, Ispaghula, Senna	5.2 Cardiotonic	Digitalis, Arjuna	5.3 Carminatives and G.I. regulators	Coriander, Fennel, Cardamom, Ginger, Clove, Black Pepper, Asafoetida, Nutmeg, Cinnamon	5.4 Astringents	Myrobalan, Black Catechu, Pale Catechu	5.5 Drugs acting on nervous system	Hyoscyamus, Belladonna, Ephedra, Opium, Tea leaves, Coffee seeds, Coca	5.6 Anti-hypertensive	Rauwolfia	5.7 Anti-tussive	Vasaka, Tolu Balsam	5.8 Anti-rheumatics	Colchicum seed	5.8 Anti-tumour	Vinca, Podophyllum	5.9 Antidiabetics	Pterocarpus, Gymnema
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5	5.10	Diuretics	Gokhru, Punarnava
	5.11	Anti-dysenteric	Ipecacuanha
	5.12	Antiseptics and disinfectants	Benzoin, Myrrh, Neem, Turmeric
	5.13	Antimalarials	Cinchona and Artemisia
	5.14	Oxytocic	Ergot
	5.15	Vitamins	Cod liver oil, Shark liver oil
	5.17	Enzymes	Papaya, Diastase, Pancreatin, Yeast
	5.18	Pharmaceutical Aids	Kaolin, Lanolin, Beeswax, Acacia, Tragacanth, Sodium alginate, Agar, Guar gum, Gelatine
	5.19	Miscellaneous	Squill, Galls, Ashwagandha, Tulsi, Guggul
6	6.1	Plant fibres used as Surgical Dressings: Cotton, silk, wool and regenerated fibres	
	6.2	Sutures – Surgical Catgut and Ligatures	
7	7.1	Basic principles involved in the traditional systems of medicine like: Ayurveda, Siddha, Unani and Homeopathy	
	7.2	Method of preparation of Ayurvedic formulations like: Arista, Asava, Gutika, Taila, Churna, Lehya and Bhasma	
8	Role of medicinal and aromatic plants in national economy and their export potential		
9	Herbs as health food: Brief introduction and therapeutic applications of: - Nutraceuticals, Antioxidants, Pro-biotics, Pre-biotics, Dietary fibres, Omega-3-fatty acids, Spirulina, Carotenoids, Soya and Garlic		
10	Introduction to herbal formulations		
11	Herbal cosmetics: Sources, chemical constituents, commercial preparations, therapeutic and cosmetic uses of: Aloe vera gel, Almond oil, Lavender oil, Olive oil, Rosemary oil, Sandal Wood oil		
12	Photochemical investigation of drugs		

HUMAN ANATOMY AND PHYSIOLOGY – THEORY (ER20-14T)

Chapter No.	TOPICS	
1	1.1	Scope of Anatomy and Physiology
	1.2	Definition of various terminologies
2	Structure of Cell: Components and its functions	
3	Tissues of the human body: Epithelial, Connective, Muscular and Nervous tissues – their sub-types and Characteristics.	
4	Osseous system: structure and functions of bones of axial and appendicular skeleton Classification, types and movements of joints, disorders of joints	

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5	Haemopoietic System: <ul style="list-style-type: none"> • Composition and functions of blood • Process of Hemopoiesis • Characteristics and functions of RBCs, WBCs, and platelets • Mechanism of Blood Clotting • Importance of Blood groups
6	Lymphatic System: <ul style="list-style-type: none"> • Lymph and lymphatic system, composition, function and its formation. • Structure and functions of spleen and lymph node.
7	Cardiovascular System: <ul style="list-style-type: none"> • Anatomy and Physiology of heart • Blood vessels and circulation (Pulmonary, coronary and systemic circulation) • Cardiac cycle and Heart sounds, Basics of ECG • Blood pressure and its regulation
8	Respiratory System: <ul style="list-style-type: none"> • Anatomy of respiratory organs and their functions. • Regulation and Mechanism of respiration. • Respiratory volumes and capacities – definitions
9	Digestive System: <ul style="list-style-type: none"> • Anatomy and Physiology of the GIT • Anatomy and functions of accessory glands • Physiology of digestion and absorption
10	Skeletal Muscles: <ul style="list-style-type: none"> • Histology • Physiology of muscle contraction • Disorder of skeletal muscles
11	Nervous System: <ul style="list-style-type: none"> • Classification of nervous system • Anatomy and physiology of cerebrum, cerebellum, midbrain • Function of hypothalamus, medulla oblongata and basal ganglia • Spinal cord-structure and reflexes • Names and functions of cranial nerves. • Anatomy and physiology of sympathetic and parasympathetic nervous system (ANS)
12	Sense organs – Anatomy and physiology of: <ul style="list-style-type: none"> • Eye • Ear • Skin • Tongue • Nose
13	Urinary System: <ul style="list-style-type: none"> • Anatomy and physiology of urinary system • Physiology of urine formation • Renin – angiotensin system • Clearance tests and micturition

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14	Endocrine System: (Hormones and their functions) <ul style="list-style-type: none"> • Pituitary Gland • Adrenal Gland • Thyroid and Parathyroid Gland • Pancreas and Gonads
15	Reproductive System: <ul style="list-style-type: none"> • Anatomy of male and female reproductive system • Physiology of menstruation • Spermatogenesis and Oogenesis • Pregnancy and parturition

SOCIAL PHARMACY – THEORY (Course Code: ER20-15T)

Chapter No.	TOPICS
1	Introduction to Social Pharmacy
	1.1 Definition and Scope: Social Pharmacy as a discipline and its scope in improving the public health. Role of Pharmacists in Public Health.
	1.2 Concept of Health -WHO Definition, various dimensions, determinants, and health indicators
	1.3 National Health Policy – Indian perspective
	1.4 Public and Private Health System in India, National Health Mission
	1.5 Introduction to Millennium Development Goals, Sustainable Development Goals, FIP Development Goals
2	Preventive healthcare – Role of Pharmacists in the following
	2.1 Demography and Family Planning
	2.2 Mother and child health, importance of breastfeeding, ill effects of infant milk substitutes and bottle feeding
	2.3 Overview of Vaccines, types of immunity and immunization
	2.4 Effect of Environment on Health – Water pollution, importance of safe drinking water, waterborne diseases, air pollution, noise pollution, sewage and solid waste disposal, occupational illnesses, Environmental pollution due to pharmaceuticals
	2.5 Psychosocial Pharmacy: Drugs of misuse and abuse – psychotropics, narcotics, alcohol, tobacco products. Social Impact of these habits on social health and productivity and suicidal behaviours
3	Nutrition and Health
	3.1 Basics of nutrition – Macronutrients and Micronutrients
	3.2 Importance of water and fibres in diet
	3.3 Balanced diet, Malnutrition, nutrition deficiency diseases, ill effects of junk foods, calorific and nutritive values of various foods, fortification of food

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	3.4	Introduction to food safety, adulteration of foods, effects of artificial ripening, use of pesticides, genetically modified foods
	3.5	Dietary supplements, nutraceuticals, food supplements – indications, benefits, Drug-Food Interactions
4	4.1	Introduction to Microbiology and common microorganisms
	4.2	Epidemiology: Introduction to epidemiology, and its applications. Understanding of terms such as epidemic, pandemic, endemic, mode of transmission, outbreak, quarantine, isolation, incubation period, contact tracing, morbidity, mortality

4	4.3	<p>Causative agents, epidemiology and clinical presentations and Role of Pharmacists in educating the public in prevention of the following communicable diseases:</p> <ul style="list-style-type: none"> • Respiratory infections – chickenpox, measles, rubella, mumps, influenza (including Avian-Flu, H1N1, SARS, MERS, COVID-19), diphtheria, whooping cough, meningococcal meningitis, acute respiratory infections, tuberculosis, Ebola • Intestinal infections – poliomyelitis, viral hepatitis, cholera, acute diarrheal diseases, typhoid, amebiasis, worm infestations, food poisoning • Arthropod-borne infections – dengue, malaria, filariasis and, chikungunya • Surface infections – trachoma, tetanus, leprosy • STDs, HIV/AIDS
5		Introduction to health systems and all ongoing National Health programs in India, their objectives, functioning, outcome, and the role of pharmacists.
6		Pharmacoeconomics – Introduction, basic terminologies, importance of pharmacoeconomics

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Guidelines for the Examinations

DIPLOMA IN PHARMACY (PART-I)

Sr. No.	Subject Code	Name of the Subject	Examinations		
			Sessional Exam Marks	University Exam Marks	Total Marks
1	ER20-11T	Pharmaceutics –Theory	20	80	100
2	ER20-12T	Pharmaceutical Chemistry – Theory	20	80	100
3	ER20-13T	Pharmacognosy –Theory	20	80	100
4	ER20-14T	Human Anatomy & Physiology –Theory	20	80	100
5	ER20-15T	Social Pharmacy –Theory	20	80	100
6	ER20-11P	Pharmaceutics – Practical	20	80	100
7	ER20-12P	Pharmaceutical Chemistry – Practical	20	80	100
8	ER20-13P	Pharmacognosy – Practical	20	80	100
9	ER20-14P	Human Anatomy & Physiology Practical	20	80	100
10	ER20-15P	Social Pharmacy – Practical	20	80	100
Total					1100

SESSIONAL EXAMINATIONS (Theory)

- There shall be two or more periodic sessional (internal assessment) examinations during each academic year.
- The duration of the sessional exam shall be 90 minutes.
- The highest aggregate of any two performances shall form the basis of calculating the sessional marks.
- The scheme of the question paper for theory sessional examinations shall be as given below.
- ✓ **Objective type Answers** (Answer all 10 out of 10) $10 \times 1 = 10$
(Multiple Choice Questions / Fill-in the Blanks / One word OR one Sentence questions)
- ✓ **Short Answers** (Answer 5 out of 6) $5 \times 3 = 15$
- ✓ **Long Answers** (Answer 3 out of 4) $3 \times 5 = 15$
- ✓ **Total** = 40 marks

Internal assessment (Sessional Exam Marks): The marks secured by the students out of the total 40 shall be reduced to 20 in each sessional, and then the internal assessment shall be calculated based on the best two averages for 20 marks.

SESSIONAL EXAMINATIONS (Practical)

- There shall be two or more periodic sessional (internal assessment) practical examinations during each academic year. The duration of the sessional exam shall be three hours.
- The highest aggregate of any two performances shall form the basis of calculating the sessional marks.
- The scheme of the question paper for practical sessional examinations shall be as given below.
- ✓ Synopsis = 10
- ✓ Experiments = 50*
(Marks for the experiments shall be divided into various categories, viz. major experiment, minor experiment, spotters, etc. as per the requirement of the course.)
- Viva voce = 10
- ✓ Practical Record Maintenance = 10
- ✓ **Total** = 80 marks

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Internal assessment (Sessional Exam Marks): The marks secured by the students out of the total of 80 shall be reduced to 10 in each sessional, and then the internal assessment shall be calculated based on the best two averages for 10 marks from the sessional and other 10 marks shall be awarded as per the details given below.

- ✓ Actual performance in the sessional examination = 10 marks
 - ✓ Assignment marks (Average of three) = 5 marks
 - ✓ Field Visit Report marks (Average for the reports) = 5 marks
- Total = 20 marks

Note:

- 1) For the course having both assignments and field visit/s the assessments of shall be done for 05 marks (assignments) & 05 marks (field visit/s) and added to the sessional marks.
- 2) For the courses having either assignments or field visit/s, the assessments of assignments or field visit/s shall be done directly for 10 marks and added to the sessional marks.
- 3) For the courses not having both assignment and field visit, the whole 20marks shall be calculated from the sessional marks.

ASSIGNMENTS AND FIELD VISIT DETAILS: DIPLOMA IN PHARMACY (PART-I)

Sr. No.	Subject Code	Name of the Subject	Assignments	Field Visits
1	ER20-11P	Pharmaceutics – Practical	YES	YES
2	ER20-12P	Pharmaceutical Chemistry – Practical	YES	NO
3	ER20-13P	Pharmacognosy – Practical	YES	YES
4	ER20-14P	Human Anatomy & Physiology Practical	NO	NO
5	ER20-15P	Social Pharmacy – Practical	YES	YES

- Number of courses which have given assignments = 4
- One assignment per student per sessional period. i.e., a minimum of THREE assignments per student
- Number of courses which have field visit = 3

DIPLOMA IN PHARMACY - PART-III (PRACTICAL TRAINING)

After having appeared in Part-II examination for the Diploma in Pharmacy held by an approved Examining Authority a candidate shall be eligible to undergo practical training in one or more of the following institutions namely:

- ✓ Hospitals/Dispensaries run by Central /State Governments.
- ✓ A pharmacy licensed for retail sale of drugs under the Drugs and Cosmetics Rules, 1945 having the services of registered pharmacists.