

**University of Baghdad  
College of Pharmacy  
FPGEE Committee**

**Required Items (Theory and Practise) for Foreign Pharmacy Graduate Equivalency Examination (FPGEE) for B. Sc. Graduates from foreign Pharmacy Colleges**

**1- Department of Pharmacology and Toxicology**

- Chapter 1: Pharmacokinetics.
- Chapter 2: Drug-Receptor Interactions and Pharmacodynamics.
- Chapter 3: The Autonomic Nervous System.
- Chapter 4: Cholinergic Agonists.
- Chapter 5: Cholinergic Antagonists.
- Chapter 6: Adrenergic Agonists.
- Chapter 7: Adrenergic Antagonists.
- Chapter 43: Toxicology.

Reference: *Lippincott's Illustrated Reviews: Pharmacology, 4th Edition.*

**2- Department of Clinical Pharmacy**

Reference: *Mary Anne Koda-Kimble; Applied Therapeutics: The Clinical use of Drugs*

- Hypertension.
- Heart failure
- Peptic Ulcer
- Diabetes Mellitus.
- Asthma.
- Meningitis.
- Pain Management

**3- Department of Pharmaceutical Chemistry**

Reference: *Willson and Gisvold; Text Book of Organic Medicinal and Pharmaceutical Chemistry; 2004*

- Chapter 2: Physicochemical properties (drug distribution, pro-drug approach, drug metabolism, protein binding of drugs, acidic and basic drugs and percent ionization, partition coefficient, QSAR model, combinatorial chemistry, Receptors, forces involved in drug-receptor interaction, steric features of drugs, optical isomerism and biological activities, calculated conformation, computer simulation technique, isosterism).
- Chapter 3: Biotransformation of drugs and related compounds metabolism (Enzymes involved in drug metabolism, phase I reactions, oxidation, reduction, hydrolysis, phase II reactions, conjugation).
- Chapters that cover narcotic analgesics, anti-inflammatory drugs, steroid hormones, cholinergic drugs, adrenergic drugs, anti-neoplastic drugs, anti-biotics and antimicrobials).

Reference: *Bloch and Willson; Inorganic Pharmaceutical Chemistry*

- Atomic and molecular structure.
- Complexes and chelating agents.
- Radio-isotopes and radiopharmaceutical preparations, contrast media.
- Essential trace elements.

Reference: *Silverstein; Spectroscopic Identification of Organic Compounds*

- Ultra-violet spectroscopy.
- Infra-red spectroscopy.
- Mass spectroscopy.
- Nuclear magnetic resonance (NMR) spectroscopy.

Practical part: include the following requirements:

- 1-Preparation of standard normal, molar, molal solutions.
- 2-Identification of organic compounds.
- 3-Standardization and assay of essential chemicals and drugs

#### 1- Department of Pharmacognosy and Medicinal Plants

Reference: *Trease and Evans; Pharmacognosy*

- 1- Taxonomy of medicinal plants.
- 2- Tannins, phenols and polyphenols.
- 3- Carbohydrates.
- 4- Essential oils, fatty substances and lipids.
- 5- Coumarins and flavonoids.
- 6- Glycosides and Alkaloids.
- 7- Plant anatomy and histology.
- 8- Tissue culture.
- 9- Chromatography

Practical part: include the following requirements:

- Microscopical examination of powdered plant materials.
- Separation techniques utilizing different chromatographic techniques including thin-layer, paper and column chromatography, HPLC.
- Visualization of separated compounds using UV-light and iodine vapor, identification of separated compounds using specific reagents.

#### 2- Department of Pharmaceutics

Reference: *Physical Pharmacy: by Alfred Martin*

- Buffered and Isotonic solutions.
- Solubility and interfacial phenomena.
- Kinetics and drug stability.
- Diffusion and dissolution.

Reference: *Text book of Pharmaceutical Dosage Forms: by Ansel*

- Suspensions.
- Suppositories.

Reference: *Industrial Pharmacy: by Leon Lacluman*

- Principles of Pharmaceutical processing (mixing, milling, drying).
- Tablet Dosage Forms.

Reference: *Applied Biopharmaceutics and Pharmacokinetics: by Leon Shargel*

- Absorption and Bioavailability

Practical part: include skills for the principles of preparation and dispensing pharmaceutical dosage forms.

