

Faculty of Pharmacy

PART A – RESEARCH METHODOLOGY (Q.1–35)

1. Research Basics

- Hypothesis, theory, variables, and constructs
- Null & alternative hypothesis
- Scales of measurement – Likertscale

2. Sampling & Study Design

- Sampling methods – random, stratified, cluster, convenience
- Study designs – cross-sectional, RCTs, observational vs experimental
- Blinding techniques – single and double blind studies

3. Descriptive Statistics

- Graphs: bar charts, histograms, scatter plots
- Measures of central tendency – mean, median, mode
- Dispersion – interquartile range, variance, standard deviation
- Outliers and their effect
- Skewness and kurtosis

4. Inferential Statistics

- Type I and II errors
- Statistical tests – t-test, chi-square, ANOVA
- Confidence intervals and p-values
- Probability distributions – normal, Poisson
- Degrees of freedom
- Diagnostic accuracy – sensitivity, specificity, predictive values

5. Referencing & Academic Writing

- Citation and referencing styles – Harvard, APA, Chicago, Vancouver
- Bias reduction methods in research

PART B –(Q.36–70)

1. Pharmacology

- General Pharmacology
- Autonomic Nervous System: Sympathomimetics, Sympatholytic, Parasympathomimetic, Parasympatholytics.
- Central Nervous System: Sedatives, hypnotics, anticonvulsants, analgesics,
- Cardiovascular System: Antihypertensives, antianginals and diuretics,

2. Pharmaceutical Chemistry including Pharmaceutical Analysis

- Antimalarials, Anti-tubercular, and Antifungal drugs
- Spectroscopy: UV, IR, NMR
- Chromatography: Paper Chromatography, TLC and HPLC

3. Pharmaceutics

- Preformulation studies
- Targeted drug delivery systems: Nanoparticles, Liposomes, and microspheres,
- Pharmaceutical dosage forms: Tablets, Capsules and Parenteral
- Stability studies of Pharmaceutical dosage forms

4. Pharmacognosy

- Extraction and Phytochemical studies.
- Cultivation, Collection of drugs of Natural Origin.

5. Pharmacy Practice

- Pharmacogenomics, Pharmacoepidemiology, Pharmacoeconomics.
- Therapeutic drug monitoring, Pharmacovigilance, Adverse drug reaction (ADR) reporting and management
- Toxicology: Acute, subacute, and chronic toxicity studies. Management of poisoning and antidotes.