PHARMACOLEARN

It's Important to Know!

BP205T — Computer Applications in Pharmacy

B.Pharm Semester 2 · Unit 3 — Applications of Computers in Pharmacy

Unit III: Applications of Computers in Pharmacy

Drug information and pharmacokinetics

Drug information systems store searchable records and retrieve information using terms, filters and indexed fields. Pharmacokinetic software can represent dose, concentration, clearance, volume of distribution and time using mathematical models. A model is an approximation, so input assumptions and units must be recorded.

Hospital and clinical pharmacy systems

Electronic prescribing systems record medication orders and can support checks for duplication, allergies, interactions and dose range. A discharge system can produce a medication list and instructions. Barcode identification links a scanned code to a stored record, but the database and physical item must still be checked.

Patient monitoring systems collect observations such as pulse, blood pressure, temperature or laboratory values. Diagnostic systems assist interpretation of results, while a laboratory information system tracks specimens, tests, results and reports.

Mobile technology and adherence monitoring

Mobile systems can provide reminders, record patient-reported doses and transmit information to a care team. Consent, privacy, authentication, data minimisation and accessibility are required. A reminder does not prove that a dose was taken.

Unit III: Frequently asked questions

Q: What is the purpose of a pharmacy information system?

A: It stores, retrieves and processes information used for medication supply, clinical work, inventory, reporting or patient support.

Q: What is the limitation of a pharmacokinetic model?

A: It simplifies biological behaviour and depends on input data, assumptions and the selected model.

Q: Does barcode scanning replace professional checking?

A: No. Scanning reduces identification errors but does not replace checking of the patient, item, dose, route, timing and order.

Unit III: Key takeaways

- Drug information systems make structured information searchable.
- Pharmacokinetic models require correct units and stated assumptions.
- Electronic prescribing can support safety checks but cannot replace review.
- Diagnostic and patient monitoring systems depend on data quality.
- Mobile adherence tools require privacy controls and do not prove ingestion.

Unit III: Practical correlation

Practical correlation: electronic medication reconciliation. At admission and discharge, a system can compare medicines from different sources and highlight omissions or duplications.