

(B. Pharm)
(Semester - II)

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Course Code	BP205T
Course Title	Computer Applications in Pharmacy - Theory

Scope:

This subject deals with the introduction Database, Database Management system, computer application in clinical studies and use of databases.

Objectives:

Upon completion of the course the student shall be able to-

1. Know various types of application of computers in pharmacy.
2. Know the various types of databases.
3. Know the various applications of databases in pharmacy.

Course Learning Outcomes (CLO):

At the end of the course, students will be able to -

1. Understand various types of computer applications in pharmacy.
2. Describe various types of databases.
3. Discuss various applications of databases in pharmacy.
4. Explain concepts of bioinformatics.
5. Identify the role of computers in data analysis.

Syllabus:

Teaching hours: 45 Hours

UNIT I

09 Hours

Number system:

Binary number system, Decimal number system, Octal number system, Hexadecimal number systems, conversion decimal to binary, binary to decimal, octal to binary etc, binary addition, binary subtraction – One's complement, Two's complement method, binary multiplication, binary division.

Concept of Information Systems and Software:

Information gathering, requirement and feasibility analysis, data flow diagrams, process specifications, input/output design, process life cycle, planning and managing the project.

UNIT II

09 Hours

Web technologies:

Introduction to HTML, XML, CSS and Programming languages, introduction to web servers and Server Products. Introduction to databases, MYSQL, MS ACCESS, Pharmacy Drug database.

UNIT III

09 Hours

Application of computers in Pharmacy:

Drug information storage and retrieval, Pharmacokinetics, Mathematical model in Drug design, Hospital and Clinical Pharmacy, Electronic Prescribing and discharge (EP) systems, barcode medicine identification and automated dispensing of drugs, mobile technology and adherence monitoring.

Diagnostic System, Lab-diagnostic System, Patient Monitoring System, Pharma Information System.

UNIT IV

09 Hours

Bioinformatics:

Introduction, Objective of Bioinformatics, Bioinformatics Databases, Concept of Bioinformatics, Impact of Bioinformatics in Vaccine Discovery.

UNIT V

09 Hours

Computers as data analysis in Preclinical development:

Chromatographic data analysis (CDS), Laboratory Information management System (LIMS) and Text Information Management System (TIMS).

Suggested Readings[^]: (Latest Edition)

1. Fasset, W. E. *Computer Application in Pharmacy*. South Washington Square, USA: Lea and Febiger.
2. Ekins, S. *Computer Applications in Pharmaceutical Research and Development*. USA: Wiley-Interscience.
3. Rastogi, S.C. *Bioinformatics-Concept, Skills and Applications*. New Delhi, CBS Publishers & Distributors.
4. Prague, C.N. *Microsoft office Access - 2003, Application Development Using VBA, SQL Server, DAP and Infopath*. New Delhi, Wiley Dreamtech India (P) Ltd.

L= Lecture, T= Tutorial, P= Practical, C= Credit

[^]this is not an exhaustive list
