



# SYLLABUS

<b>Course Title</b>	<b>BASIC COMPUTER APPLICATIONS</b>	
<b>Course Code</b>	PH121	
<b>Course Credit</b>	Lecture	: 2
	Practical	: 3
	Tutorial	: 0
	Total	: 5
<b>Course Objectives</b>		
<p>On the completion of the course, students will be able to:</p> <ul style="list-style-type: none"> <li>▪ Work with various components of Microsoft office.</li> <li>▪ Use various Pharma software's.</li> <li>▪ Use internet for surfing various literature sources for research and detailed study.</li> <li>▪ Use various hardware and transfer data using them.</li> </ul>		
<b>Detailed Syllabus</b>		
<b>Sr. No.</b>	<b>Name of Chapter &amp; Details</b>	<b>Hours Allotted</b>
	<b>Section-I</b>	
<b>1</b>	<b>Computer Fundamentals:</b> Definition, characteristics, history, computer terminology, computer organization, input & output devices, storage devices (including latest devices),	<b>04</b>

	classifications of computers (including current computer systems), binary conversions and ASCII code, application of computers in pharmacy, introduction to computer virus.	
<b>2</b>	<p><b>Operating Systems:</b></p> <p>Definition, functions of an operating system, types of operating systems and their characteristics.</p> <p>Windows - Desktop, start-menu, control panel, accessories, my computer, my documents, recycle bin, printer and mouse settings, maximizing, minimizing, restoring and closing of windows, windows explorer.</p>	<b>03</b>
<b>3</b>	<p><b>MS Word:</b></p> <p>Word Essentials, the word workplace, Parts of MS Word screen, Typing and Editing, Finding and Replacing, Autocorrect and Auto-text, Reusing Text and Graphics, use of spell-check &amp; grammar, thesaurus and scientific symbols, viewing of document by various ways Editing Tools, Formatting Text Formatting Text Character, Formatting Paragraphs, Formatting and Sorting Lists, Page Design and Layout, Page Setup : Margins, Page Numbers, and Other Items, Newspaper-style Columns, Working with Tables Creating and formatting of tables and sorting, merging etc. of data in tables. Inserting, deleting and sizing of rows and columns in tables, Opening, Saving and Protecting Documents.</p>	<b>04</b>
<b>4</b>	<b>Introduction to MS Access and Outlook:</b>	<b>02</b>
<b>5</b>	<b>Microsoft Publisher:</b> Application of microsoft publisher for brochure, flyer, banner and poster presenatation.	<b>02</b>

	<b>Section-II</b>	
<b>6</b>	<p><b>MS Excel:</b></p> <p>Introduction to EXCEL worksheet, calculations in EXCEL, preparation of templates for application in pharmaceutical chemistry, pharmaceutical technology, pharmacology and Pharmacognosy (statistical treatment of data for Beers Lamberts curve, solution of problems based on physical chemistry, pharmaceutical engineering, stability study, area under the curve, bio-assay, bioequivalence study, extraction, <math>R_f</math> value, etc.) Special attention must be given to arithmetic expressions. Hierarchy of operation, library functions such as logarithm, square root, standard deviation, sum, average, t-test, ANOVA etc. Drawing graphs in EXCEL line graph, histogram, pie-chart- At least one graph for each discipline of chemistry, pharmaceutical technology, pharmacology and Pharmacognosy –Editing chart features such as annotation, labelling of axis, changing legends etc. Application of solver function in excel.</p>	<b>04</b>
<b>7</b>	<p><b>MS PowerPoint:</b></p> <p>Creating and viewing a presentation, adding animations and managing slide shows etc.</p>	<b>04</b>
<b>8</b>	<p><b>Introduction to software:</b></p> <p>For viewing pdf documents (ADOBE reader, ACROBAT, PDF converter), drawing simple chemical structures (CHEMDRAW, etc.). Sigma Stat software for statistical test. Anti virus software.</p>	<b>04</b>
<b>9</b>	<p><b>Networking &amp; Internet:</b></p> <p>Computer networks, networking technology, components of network Internet –</p>	<b>03</b>

	Basic terms, software and hardware requirement for internet, process of internetworking, internet tools, Email- components and working, study of pharmaceutical web sites and search engines, searching through pharmaceutical data bases, study of patent websites.	
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### **Basic Computer Applications (Practical)**

1. Introduction of generation of computers.
2. Introduction to operating system and Microsoft windows.
3. Introduction of various functions of Microsoft words 2007.
4. Introduction and implementation of various functions of Microsoft word 2007.
5. Introduction and implementation of various functions of Microsoft Excel 2007.
6. Introduction and implementation of various functions of Microsoft PowerPoint 2007.
7. Introduction and practice of CHEMDRAW software.
8. Introduction and practice of MS DOS.
9. Demonstration of search engines, pharmaceutical web sites including educational, government, commercial and patent Web-site..
10. Introduction and practice of creating an account and various function of E-mail.

### **Instructional Method and Pedagogy:**

- Lectures will be conducted with the aid of multi-media projector, black board, OHP etc.
- Assignments based on course content will be given to the students at the end of each unit/topic and will be evaluated at regular interval.
- Surprise tests/Quizzes/Tutorials will be conducted.
- The course includes a laboratory, where students have an opportunity to build an appreciation for the concepts being taught in lectures.
- Minimum ten experiments shall be there in the laboratory related to course contents.

**Students Learning Outcomes:**

At the end of the course the students will be able to:

- Know computer fundamentals, various operating system, networking and internet. Microsoft office which has become an important application everywhere will be taught in detailed in theory as well as practical.
- Know about various research methods or topics like bioinformatics, CADD, QSAR, DISSOLUTION TESTING which have now become software bases.

**Text books:**

1. Basic computer application: Parvez Faruki, Manoj Parmar and Nandu Fatak; Mahajan Publishing house.
2. P.C. Software for Windows 98 made simple: Taxali R.K.; Tata McGraw-Hill publishers.
3. Computer fundamentals: Pradeep K. Sinha and Priti Sinha; BPB publication.

**Reference Books:**

1. Windows Vista Step by Step: Joan Preppernau and Joyce Cox; Prentice Hall, New Delhi.
2. Windows Vista Plain & Simple: Jerry Joyce and Marianne Moon; Prentice Hall, New Delhi.
3. DOS commands in easy steps: Harshad Kotecha; Dreamtech Press, New Delhi.
4. Manuals available with the software
5. MS Office: Pierce; Prentice Hall, New Delhi.