



# SANATAN DHARMA

## COLLEGE HOSHIARPUR

### DEPARTMENT OF COMPUTER APPLICATION

Contact: 01882-249968  
Website: [www.sdcollegehsp.net](http://www.sdcollegehsp.net)  
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<b>Class</b>	<b>Post Graduate Diploma in Computer Application</b>
<b>Subject Code and Name</b>	<b>Computer Fundamentals (PGD-1101)</b>
<b>Time</b>	<b>45 min</b>
<b>Internal /External Marks</b>	<b>15/60</b>

**Objectives:** The objective of this course is to familiarize students with complete Fundamentals and the carriers commonly used computing software.

<b>Unit No</b>	<b>Topics</b>	<b>Content</b>
I	<ul style="list-style-type: none"><li>• Computer Application</li><li>• Number System</li><li>• Input and Output</li></ul>	In the First topic Computer we discuss the topics related with Introduction to computer (ALU , memory, CU), booting process, introduction of the concepts-bit, byte, word, hardware, operating system, system and application software, machine, assembly and high level languages, compilers, assemblers, loaders and linkers Same in section start with ASCII and EBCDIC codes, Binary, Octal, Decimal and hexadecimal number systems and their conversion, Integer and floating point representation, error detection techniques In third section we discuss the various input unit.
II	<ul style="list-style-type: none"><li>• Operating System using DOS</li><li>• GUI using Windows Linux</li></ul>	In this section we start with Unix operating system under this section we discuss various command and their function. In this section we discuss we continues with DOS command with some new topic Batch files, system configuration etc and start new topic called Windows operating system where we discuss how work with windows operating system and various text editor like notepad and WordPad and graphic software ms paint.
III	<ul style="list-style-type: none"><li>• Word Processing software</li><li>•</li></ul>	We start this section with basics of Word Processing like creating,opening,saving and printing documents. We discuss the concepts of editing and formatting, working with tables, clipart, mail merge etc.
IV	<ul style="list-style-type: none"><li>• Spreadsheet software</li><li>• Presentation software</li></ul>	We start this section with worksheet overview like rows, cell, columns, creating, opening, saving and printing worksheet.



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		In this section we will discuss about the presentation software, its features, designing your presentations using templates.
<b>References Books and Various web resources</b>		
1	Books	Computer Fundamental Rajaraman Computer Fundamental" P.K.Sinha Discovering Computer Fundamental: Shelly Cashman Microsoft office 2016:Microsoft Press Libre Office Manual
2	Web Recourses	Microsoft Virtual Academy Spoken Tutorials <a href="http://www.etutorplus.wordpress.com">www.etutorplus.wordpress.com</a>



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<b>Class</b>	<b>Post Graduate Diploma in Computer Application</b>
<b>Subject Code and Name</b>	<b>Computer Programming Using C(PGD-1102)</b>
<b>Time</b>	<b>45 min</b>
<b>Internal /External Marks</b>	<b>15/60</b>

**Objective:** The objective of this course is to make the student understand programming language concepts, mainly control structures, reading a set of data, stepwise refinement, function, control structure and arrays. After completion of this course, the student is expected to analyze the real-life problem and write a program in 'C' language to solve problem. The main emphasis of the course is on problem solving aspect that is, developing proper algorithms.

Unit No	Topics	Content
I	<ul style="list-style-type: none"> <li>• Algorithm and Program Development</li> <li>• Fundamental of C</li> <li>• Storage classes</li> </ul>	<p>In this section we learn two topics that are what are algorithm and how we Design algo ,we also learn how we write a program with step by step technique in which we follow the concept of Flow chart ,coding ,testing etc. We also discuss the fundamental of c programming like Variable, constant ,structure of c programming ,various operator in c programming, keyword, data type etc. Various types of storage classes are used to store the variable in the memory.</p>
II	<ul style="list-style-type: none"> <li>• Functions</li> <li>• Arrays</li> <li>• Pointers</li> </ul>	<p>In this section we learn the concept Control Structures; Sequencing, alteration and iteration; Arrays, Manipulating vectors and matrices, pointers, String functions, structures, User defined functions, Input/output files, Pre-Processors, Macros</p>
III	<ul style="list-style-type: none"> <li>• Strings</li> <li>• Structure</li> <li>• Unions</li> </ul>	<p>In this section we will discuss why we use strings? How it is declared and accessed, various built in functions of string. In this we will discuss how to declare a structure? Various methods of accessing data members of a structure, relationship between array and structure etc. Difference between structure and union.</p>
IV	<ul style="list-style-type: none"> <li>• Console I/O</li> <li>• File I/O</li> </ul>	<p>In this section students will be able to learn how console I/O takes place. What are the various formatted console I/O functions?</p>
<b>References Books and Various web resources</b>		
1	Books	Programming in C, Prentice Hall of India Theory and problems of Programming in C, Schaum Series



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		Let us Exploring C, BPB Publications, New Delhi Programming with C Language, Tata McGraw Hill, New Delhi
2	Web Recourses	<a href="http://www.etutorplus.wordpress.com">www.etutorplus.wordpress.com</a> <a href="https://www.coursera.org/specializations/c-programming-spoken-tutorial">https://www.coursera.org/specializations/c-programming-spoken-tutorial</a>



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<b>Class</b>	<b>Post Graduate Diploma in Computer Application</b>
<b>Subject Code and Name</b>	<b>PGD-1103 Database Management System</b>
<b>Time</b>	<b>45 min</b>
<b>Internal /External Marks</b>	<b>15/60</b>

**Objectives:** This course aims at giving the students the insight of Client Server computing and Creating Applications using the Oracle Web Server

Unit No	Topics	Content
I	<ul style="list-style-type: none"> <li>• Database Concept</li> <li>• Database Design</li> </ul>	In first section we discuss the Concept of Database, terminology of DBMS, Data Independence, Architecture of DBMS and advantages and disadvantages of DBMS. In second section we start with Data model, entities and various types of data models
II	<ul style="list-style-type: none"> <li>• Relational Model</li> <li>• Data security</li> </ul>	Here in this section we discuss various <b>Relational Model:</b> Storage organization for Relations, Relational Algebra, Relational Calculus, Functional dependencies, multivalued dependencies, Normalization continues with the concept of Database security.
III	<ul style="list-style-type: none"> <li>• Introduction to SQL Plus</li> <li>• Querying multiple tables</li> <li>• Data Manipulation And Control</li> </ul>	Here this section start with introduction with sql Introduction to SQL, Oracle Data types, Starting SQL *Plus, Querying database tables, Conditional retrieval of rows, Working with Null Values, Matching a pattern from a table, Collating Information: Equi Joins, Cartesian Joins, Outer Joins, Self Joins; SET Operators: Union, Intersect, Minus; Nested Queries. Functions: Column Functions, Arithmetic Functions, Character Functions, Date Functions, General Functions; Group Functions, Data Definition Language (DDL), Creating Tables, Inserting Values into a Table, Updating Column(s) of a Table, Deleting Row(s) From a Table, Dropping a Column, Introduction to VIEW, various types of view.
IV	<ul style="list-style-type: none"> <li>• Understanding SQL-II</li> </ul>	In this section we learn the concept of views, Querying multiple tables with joins, SET operators, and nested queries concept, security using ROLLBACK and Commit Commands.
<b>References Books and Various web resources</b>		
1	Books	Understanding ORACLE, BPB Publications Mastering Oracle 6.0, BPB Publications



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		Oracle PL/SQL Programming
2	Web Recourses	<a href="https://www.oracle.com/technetwork/database/windows/index-088762.html">https://www.oracle.com/technetwork/database/windows/index-088762.html</a> <a href="https://docs.oracle.com/cd/E11882_01/server.112/e40540/intro.htm">https://docs.oracle.com/cd/E11882_01/server.112/e40540/intro.htm</a> <a href="https://books.google.co.in/books?isbn=8189866834">https://books.google.co.in/books?isbn=8189866834</a>



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<b>Class</b>	<b>Post Graduate Diploma in Computer Application</b>
<b>Subject Code and Name</b>	<b>Data Communications and Networks (PGD-1104)</b>
<b>Time</b>	<b>45 min</b>
<b>Internal /External Marks</b>	<b>15/60</b>

**Objectives :** As part of this course, students will be introduced to computer networks and data communication paradigms, about network models and standards , network protocols and their use, wireless technologies

Unit No	Topics	Content
I	<ul style="list-style-type: none"> <li>Introduction to Computer Network and Application</li> </ul>	Here in this section we start with the introduction of data communication, network structure and its architecture. Classification of network on the basis on topologies, on the geographical span. Here we start with layer of OSI model, TCP/IP model, and comparison between them.
II	<ul style="list-style-type: none"> <li>Introduction to Data Communications</li> </ul>	Here we start with signals like analog, digital, Transmission media, Switching, Multiplexing techniques. Etc.
III	<ul style="list-style-type: none"> <li>Data Link Layer</li> </ul>	In this section we start with Data Link Layer, under this section we study various design issues, elementary data link protocol, Various protocol
IV	<ul style="list-style-type: none"> <li>Network Layer</li> </ul>	Here in this section we discuss the Network Layer under this we discuss various design issues, routing Algorithms, congestion control algorithm, Internetworking and Example of network Layer in ARPANET.

#### References Books and Various web resources

1	Books	Computer Networks, Prentice Hall
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		Data Network, Prentice Hall of India. Data Communication and Networking: Behrouz A. Forozuon
2	Web Recourses	<a href="https://www.coursera.org/learn/data-communication-network-services">https://www.coursera.org/learn/data-communication-network-services</a> <a href="https://peda.net/id/98c1990e31c">https://peda.net/id/98c1990e31c</a> <a href="https://ocw.mit.edu/">https://ocw.mit.edu/</a>