SYLLABUS OF

DIPLOMA IN COMPUTER SCIENCE (DCS)

PROGRAMME STRUCTURE

Course Code	Sem	DCS	Marks	Credit
PGCA/Sc IT S1 01	1st	Computer Fundamentals and PC Software	20a+50t+30p	4
PGCA/Sc IT S1 02		Digital Techniques	30a+70t	4
PGCA/Sc IT S1 03		Computer Programming using C	20a+50t+30p	4
PGCA/Sc IT S1 04		Fundamentals of Networking and Web Technology	20a+50t+30p	4
PGCA/Sc IT S2 01	2nd	Computer Organization and Architecture	30a+70t	4
PGCA/Sc IT S2 02		Data Structure through C Language	20a+50t+30p	4
PGCA/Sc IT S2 03		Fundamentals of Database Management System	20a+50t+30p	4
PGCA/Sc IT S2 04		**Minor Project**	100	4
Total Marks:			**800**	**32**

❖ For theory courses, the mark distribution is 30a+70t i.e., 30 marks for Home assignment and 70 marks for theory. For courses having practical, the marks distribution is 20a+50t+30p i.e., 20 marks for Home assignment, 50 marks for theory and 30 marks is for practical.

1 credit = 30 hours of learning

4 credit = 30*4=120 hours of learning

ANNEXURE II
DCS DETAILED COURSE WISE SYLLABUS

PGCA/Sc IT S1 01: Computer Fundamentals and PC Software
4 credits: 120 hours of learning

Unit 1: Introduction to Computer [5 marks]
Block Diagram of Computer, Evolution, Generations, Classification and its Application

Unit 2: Number System [8 marks]
Binary, Hexadecimal, Octal, 1"s complement and 2„s complement representation.

Unit 3: Basic Components of Computer [8 marks]
Concept of Bit and Byte; CPU, ALU, CU; Computer Memory: Primary and Secondary; Input/Output Devices; Buses: Address, Data and Control.

Unit 4: Introduction to Computer Security [5 marks]
Computer Virus, Worm, SpyWare, Malware, Trojan horse, Antivirus Software

Unit 5: Cyber Crimes [5 marks]
Cyber Crimes, Hacking, Digital Forgery, Cyber Stalking, Identity Theft & Fraud, Cyber Terrorism, Cyber Defamation, Software Piracy, Different offence under IT Act 2000

Unit 6: Hardware Configuration [5 marks]
Different hardware configuration (Laptop/desktop), Typical RAM/ Hard disk size, Mother board series, different OEM(original equipment manufacturer), Processor series, FCC & UL for quality measure, Introduction to different standard ports/buses and display technology.

Unit 7: Introduction to Operating System [5 marks]
Definition and functions of an Operating System, Types of OS (Single User, Multi user, Single tasking, Multitasking, Real time, Network OS, Distributed OS)

Unit 8: MS DOS Operating System [6 marks]
Introduction to DOS, System files of DOS, concept of Booting, Files and Directory Structure, Concept of Paths, Internal and External commands, Batch File.

Unit 9: MS Windows Operating System [6 marks]
Features of Windows 7, Exploring Components of Windows: The Desktop, The Icons, Working with Windows, The Start Menu and Taskbar, Quitting Windows; Customizing the Desktop, Files and Folders.

Unit 10: LINUX Operating System [8 marks]
Open Source and Free Software, Advantages and Disadvantages of Linux OperatingSystem, Concept of Path, Basic Linux Commands, File Permission, Text Editor vi.

Unit 11: Microsoft Word -Part I [8 marks]
Starting MS-Word, Document Window and its Components, Different Bars, Document View, Creating a New Document, Saving a Document, Opening an Existing Document, Exiting MS-Word, Working with Text, Working with Paragraph, Bullets and Numbering, Find and Replace, Copy, Cut and Paste

Unit 12: Microsoft Word -Part II [8 marks]
Spelling and Grammar Checking, Undo and Redo option, Header and Footer, Page Setup, Printing Documents, Inserting Picture, Working with Tables: Inserting Table, Deleting Table, Traversing Table, Selecting a Table, Rows and Columns, Deleting Rows and Columns, Merge and Split Cells; Creating Multiple Columns

Unit 13: Microsoft Excel [8 marks]
Starting MS-Excel, Working with Toolbars, Row, Column and Cell, Working with Excel: Creating a New Workbook, Working with Cells and Fonts, Merging Cells, Inserting and Deleting Rows and Columns; Saving a Workbook, Closing a Workbook;

Unit 14: Functions of Excel [8 marks]
Different Operators used in Excel; Working with Formula and Functions; Sorting Data; Working with Charts.

Unit 14: Microsoft PowerPoint [8 marks]
Starting MS-PowerPoint, Creating a New Presentation, Working with Slides, Applying Text and Graphics, Applying Themes, Customizing Slide Show, Saving, Running and Closing a Presentation, Opening an Existing Presentation

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PGCA/Sc IT S1 02: Digital Techniques
4 credits: 120 hours of learning

Unit 1: Introduction to Number Systems [5 marks]
Decimal, Binary, Hexadecimal and Octal number system, Number system conversion

Unit 2: Binary Arithmetic [6 marks]
Complement: r''s and (r-1)''s complement, Binary addition, Binary subtraction, Binary Multiplication, Binary division.

Unit 3: Data Representation [6 marks]
Fixed Point representation and Floating point representation

Unit 4: Code Conversion Technique [5 marks]
Gray code, BCD, Code conversion technique, ASCII, EBCDIC, Conversion from Binary to Gray and Vice-versa

Unit 5: Boolean algebra [5 marks]
Boolean Operators, Basic theorems and Postulates of Boolean Algebra.

Unit 6: Logic Gates [5 marks]
Logic gates: AND, OR, NOT, NAND, NOR, XOR, XNOR, Truth Table, De-Morgan's Theorem, Conversion of Logic Gates.

Unit 7: Floating Point Number Representation [5 marks]
Floating point number, Normalization of floating point, overflow and underflow, detection of overflow, IEEE floating point standard, Floating point Arithmetic

Unit 8: Logic Family [6 marks]
Introduction, Resistor Transistor Logic(RTL), Integrated Injection logic(IIL), Diode- Transistor Logic(DTL), Emitter-Coupled Logic(ECL), Transistor- Transistor Logic(TTL), TTL-NAND, Tri State Logic, MOS devices, Logic gates with MOSFET's

Unit 9: Reduction Techniques [10 marks]
Minterm, Maxterm, Boolean Expression, SOP, POS, Conversion of SOP to POS and vice-versa, Reduction upto 3-variables. Simplification of Boolean expression by Algebraic method and Karnaugh Map, Don't care condition

Unit 10: Combinational Circuit [8 marks]
Multiplexer, Magnitude Comparator, Demultiplexer, Encoder, Decoder

Unit 11: Binary Arithmetic Circuits [8 marks]
Binary Half adder, Full adder, Binary Half subtractor, Full subtractor

Unit 12: Sequential Circuit [10 marks]
Sequential Circuits, Flip-Flop and its different types: RS, D, JK; Master-Slave JK Flip-Flops.

Unit 13: Registers and Counters [8 marks]
Shift Register, Types of Shift Registers: SISO, PISO, SIPO, PIPO

Unit 14: Counters [[8 marks]
Counter, Synchronous and Asynchronous Counter, Limitations of Asynchronous Counter

Unit 15 Memory Organization [5 marks]
Random Access Memory (RAM), Types of RAM: Static RAM, Dynamic RAM; Organization of RAM, Read Only Memory (ROM): Types of ROM, Organization of ROM

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PGCA/Sc IT S1 03: Computer Programming using C
4 credits: 120 hours of learning

Unit 1: Introductory Concepts [5 marks]
Basic definition of Pseudo Code, algorithm, flowchart, program

Unit 2: Elements of C Programming [6 marks]
Characters used in C, Identifiers, Keywords, Tokens, Constants, Variables

Unit 3: Variables and Data types [6 marks]
Basic Data types in C: Integer, Character, Floating point, String; Variable and its declarations; Symbolic Constants

Unit 4: Operators and Expressions [5 marks]
Different types of operators: Arithmetic, Relational and Logical, Assignment, Conditional, Increment and decrement, Bitwise, Comma and other operator (size of, period etc). Precedence and associatively of operators, Expression in C, Type Casting

Unit 5: I/O Functions [6 marks]
Header Files (stdio.h, conio.h etc.), Formatted Input/Output Functions (scanf, printf), Escape Sequences, Unformatted Input/Output Functions (getch, getchar, putchar, gets, puts, getche, clrscr)

Unit 6: Conditional Statements [8 marks]
Decision Control Statements, Conditional Statement- if, if- else, nested if-else, switch-case; break, continue, goto

Unit 7: Loop Control Structures [8 marks]
Concept of Loops, Types of loop: while, do-while, for; nested loops

Unit 8: Storage Class [4 marks]
Storage Class, Automatic, External, Static, Register,

Unit 9: Arrays [8 marks]
Array, Array Declaration, 1-Dimensional array, 2-Dimensional array

Unit 10: Strings [6 marks]
String, String Handling Functions: strlen(), strcmp(), strcpy(), strrev(), strcat(), etc

Unit 11: Functions [8 marks]
Function, Function declaration, Function definition, Function call, Formal and Actual parameter,Recursive function

Unit 12: Pointers [7 marks]
Pointer, Pointer declaration, Passing pointer to a function, Pointer and one-dimensional arrays, Dynamic memory allocation

Unit 13: Structures and Union [10 marks]
Structure Declarations, Definitions, Array of Structure, Pointer to Structure. Union Declaration, Definition, Enumerated Data Types.

Unit 14: File Handling [8 marks]
Concept of File, File Pointer, File Opening in various modes, closing a file, reading and writing on files, Formatted Input/Output, fseek(), ftell(), rewind()

Unit 15: Preprocessor Directives [5 marks]
Preprocessor Directives, Macro, Macros with arguments, #if and #elif directives.

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PGCA/Sc IT S1 04: Fundamentals of Networking and Web Technology
4 credits: 120 hours of learning

Unit 1: Introduction to Computer Network [8 marks]
Goals of Computer Network, Broadcast and Point-to-Point Networks, Connection-Oriented and Connection-Less Services, Types of Computer Network: LAN, MAN, WAN, LAN Transmission Methods, Peer-to-Peer LANs,

Unit 2: Data Communication Modes [8 marks]
Data Communication, Types of Communication (Analog, Digital), Modes of Communication (Simplex, Half-Duplex, Full-Duplex).

Unit 3: Network Devices [5 marks]
Network Interface Card (NIC), Modem, Repeater, Bridge and Gateway, Hub, Switch, Router.

Unit 4: Network Topology [5 marks]
Network Topology, Types of Network Topology: Bus, Ring, Star, Mesh, Tree.

Unit 5: Data Transmission [8 marks]
Parallel Transmission, Serial Transmission, Bandwidth, Baud length, Switching Techniques: Circuit Switching, Message Switching, and Packet Switching.

Unit 6: Network Models [8 marks]
Design Issues of Layers, Protocol Hierarchy, ISO-OSI Reference Model: Functions of each Layer; Various Terminology used in Computer Network; Connection-Oriented and Connectionless Services, TCP/IP Reference Model, Comparison of ISO-OSI and TCP/IP Model.

Unit 7: Transmission Media [8 marks]
Transmission Medium, Guided Media: Coaxial Cable, Twisted Pair, Fiber Optics Cable: Unguided Media: Radio Waves, Bluetooth, Infrared, Microwave, Satellite, Wireless LANs (IEEE 802.11).

Unit 8: Internet [8 marks]
Definition of Internet, Internet Architecture, Peer-to-Peer, Client-Server, Accessing Technique, Internet Service Providers, Organization of Internet, Internet Protocol Suite, IP Address, DomainName System, Uniform Resource Locators (URL), Socket, Application of Internet.

Unit 9: Word Wide Web [7 marks]
Web Page, Web Browsers, Web Server, Web Search Engines, Web Cookies, Technologies in WWW.

Unit 10: Introduction to HTML [6 marks]
Basics of HTML, HTML Editor, HTML Tags, Document Structure Tags, Formatting Tags, Hyperlink and Image tags, Table Tags, Frame Tags, Form Tags

Unit 11: Advanced HTML Tags [6 marks]
HTML Form, Advanced HTML Tags

Unit 12: HTML Links and Styles [5 marks]
Hypertext, Hyperlink and Hypermedia, Anchor and URL, Creating tables, Frames, Forms, E-mailing

Unit 13: Introduction of XML [5 marks]
Introduction to XML, Comparison of HTML and XML, XML Basics, Introduction to DTD

Unit 14: Introduction to Java Script [5 marks]
Introduction, Client Side Programming, Java Script, Advantages; Basic Programming Concepts: Variables, Data types, operators, Control Structures in Java Script, Array, Functions.

Unit 15: Forms and Objects [8 marks]
Java Script Form Object, Elements of Form Object, Properties of Form Object, Events of Form Elements, Methods of Form and Form Elements, Built-in Objects in Java Script, string Object, Math Object, Date Objects, User Defined Objects in Java Script, Creating User Defined Objects, Creating Objects within Objects

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**PGCA/Sc IT S2 01: Computer Organization and
Architecture
4 credits: 120 hours of learning**

Unit 1: Digital Components
Half adder, Full Adder, Half subtractor, Full subtractor, Coder-Decoder, Multiplexer, De-multiplexer, Magnitude Comparator, Flip-Flops, Counter, Register

Unit 2: Data Representation
Data representation, computer arithmetic and their implementation; control and data path, data path components, design of ALU and data path, control unit design.

Unit 3: Computer Arithmetic
Integer representation, sign magnitude representation, twos complement representation, integer arithmetic

Unit 4: Basic organization of Computer and Design
Basic organization of the computer and block level description of the functional units from program execution point of view; Fetch, decode and execute cycle

Unit 5: Instruction Sets
Elements of a machine instruction, instruction representation, Simple instruction format, Instruction types, number of addresses, Types of operands, Types of operations. Different Instruction Formats, Instruction Types, Instruction Execution, Assembly language notation

Unit 6: Addressing modes
Addressing: Immediate, Direct, Indirect, Registrar, Registrar indirect, Relative Index.

Unit 7: Input-Output Organization
Different I/O techniques (Programmed I/O, Interrupt-Driven I/O), DMA (Direct Memory Access), I/O Processors

Unit 8: Introduction to Cache and Virtual Memory
Memory Hierarchy, Semiconductor memories, internal organization of typical RAM and ROM Memory, Switches, Cache memory, Cache memory access techniques; Mapping functions, Virtual memory, Locality of reference, Paging, Cache Coherence Problem

Unit 9: Memory and I/O access [10 hours, 8 marks]
Memory Read Write operations, Concept of handshaking, Polling Techniques (Serial and Hub Polling) and Interrupt driven I/O, Priority and Daisy Chaining Technique, Introduction to Memory Mapping.

Unit 10: Memory and I/O Interfacing
I/O processor, Priority Encoder, Device Scheduler, Interfacing with the I/O Devices, keyboard, printer and display interfaces

Unit 11: External Memory
Magnetic Disk, Magnetic read write operation, sector, track, inter track and inter sector

gap, cylinder, fixed head disk, seek time, access time, transfer time, rotational delay, RAID, Optical memory, Magnetic Tapes.

Unit 12: Processor Structure and Function

Processor organization: Fetch instruction, Interpret instruction, fetch data, process data, write data, Registrar organization, Control and status registrar, Instruction cycle, Instruction pipelining(definition only)

Unit 13: Introduction to Parallel Processing
Introduction to Pipelining and Basics of Parallel Processing, Scalable Architecture

Unit 14: Introduction to CISC and RISC Architecture
CISC (Complex Instruction Set Computers), RISC (Reduced Instruction Set Computers), Examples of CICS and RISC

Unit 15: Parallel Architectures
SISD, SIMD, MISD, MIMD, Scalar, Flynn''s Classification of Computer Architecture, Vector, superscalar and pipelined processor, Pipelining, Instruction pipeline, pipeline bubbles, Hazards: - resource conflicts, data dependency, branch difficulty. Vector computing, arithmetic pipeline, vector and scalar register, chaining, scatter gather operations, vector-register processor, memory-memory vector processor. Array processor

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PGCA/Sc IT S2 02: Data Structure through C Language
4 credits: 120 hours of learning

Unit 1: Introduction to Data Structure
Data and Information, Data Structure and its types, Data Structure Operations; Different Data Types: Arrays, Pointers, Structures, Dynamic Memory Allocation; Abstract Data Types.

Unit 2: Algorithms
Algorithm; Complexity: Space Complexity, Time Complexity, Asymptotic Notation: Theta, Big O, Big Omega Notations

Unit 3: Linked List
Introduction to Linked List, Types of Linked List: Singly, Doubly, Circular; Traversing a Single Linked List, searching in a Single Linked List, Insertion into a Single Linked List, Deletion from a Single Linked List, reversing a Single Linked List

Unit 4: Stack
Stacks: Definitions; Operations on Stack; Implementation of Stack using array and linked list, Applications of stack.

Unit 5: Queue

Queue: Definitions; Array implementation, Circular Queue, Linked List implementation of queue: Using Singly Linked List, Using Doubly Linked List, Using Circular Linked List; Priority Queue; Application of queue.

Unit 6: Searching
Searching, Types of Searching, Linear Search and Binary search techniques, Advantages and disadvantages.

Unit 7: Sorting
Sorting algorithms: Bubble sort, Insertion sort, Selection sort, Quick sort

Unit 8: Trees
Tree; Binary Tree, Representation of Binary Tree: Sequential and Link representation; Tree Traversal algorithms (inorder, preorder, postorder), postfix, prefix notations; Binary Search Tree: Searching in BST, insertion and deletion in BST.

Unit 9: Search Trees
Search trees, balancing of search trees – AVL trees, Multi way search trees, 2-3 trees, splay trees, Hashing

Unit 10: Red Black Trees
Red-Black trees, Properties of Red Black Trees, Height of Red Black tree, Balancing Red black tree, Red Black tree rotations: Left and right rotation; Insertion and Deletion in red black tree

Unit 11: B-Trees
B-tree, Properties of B-Tree; insertion and deletion in B-trees, external sorting, B^+ tree

Unit 12: Advance Sorting and Selection Techniques
Heap sort, Shell sort, sorting in linear time, Counting sort, Radix sort. Medians and order Statistics Selection and Adversary arguments. Lower bound on sorting

Unit 13: Priority Queue ADT
Priority Queue, Implementation of Priority Queue, Binomial heap, Fibonacci heap

Unit 14: Partition ADT
Partition; Disjoint Set Operations: Linked List representation of Disjoint Sets; Union- weighted merge

Unit 15: Graph
Introduction to Graph, Graph representation: adjacency matrix, adjacency list, Traversal ofgraph: depth first traversal and breadth first traversal.

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PGCA/Sc IT S2 03: Fundamentals of Database Management Systems
4 credits: 120 hours of learning

Unit 1: File Structure and Organization
Data and Information, Concept of Field, Key Field; Records and its types, Fixed length records and Variable length records; Files, operation on files, Primary file organization.

Unit 2: Database Management System
Definition of DBMS, File processing system vs. DBMS, Advantages and Disadvantages of DBMS, Database Architecture, Data Independence, Data Dictionary, DBMS Language, Database Administrator.

Unit 3: Data Models
Data Models: Object Based Logical Model, Record Base Logical Model, Relational Model, Network Model, Hierarchical Model.

Unit 4: Entity-Relationship Model
Entity Set, Attribute, Relationship Set, Entity Relationship Diagram (ERD), Extended features of ERD.

Unit 5: Relational Databases
Relational data model; Terms: Relation, Tuple, Attribute, Cardinality, Degree, Domain; Keys : Super Key, Candidate Key, Primary Key, Foreign Key;

Unit 6: Relational Algebra
Operations: Select, Project, Union, Difference, Intersection, Cartesian Product, Natural join.

Unit 7: Introduction to SQL
Structured Query Language (SQL), Characteristics of SQL, Advantages of SQL, SQL Data types, Types of SQL commands, DDL, DML, Creating a Database, Creating, Altering, and Deleting Tables, Inserting new data, Updating data (the WHERE Clause, The Logical AND and OR operator), Deleting Data.

Unit 8: Advanced SQL
The SELECT statement, Filtering results with the WHERE Clause; Logical Operators and Operator Precedence (Using logical operator NOT, BETWEEN, LIKE, IN); Ordering Results with ORDER BY(Joining columns-concatenation); Selecting data from more than one table, Join, Types of Join, SQL commands: Select… From…Where… Group by ….. Having… Order by…, Tables, , Queries, Sub Queries, Insert, Update and Delete operations, Constraints considers (NOT NULL, UNIQUE, Check Primary key, Foreign key)

Unit 9: Database Design
Design of Relational Database, Functional Dependency Diagram, Dependency-preserving property

Unit 9: Normalization of Database
Introduction to Normalization, Anomalies of un-normalized Database, Normalization of Database: 1NF, 2NF, 3 NF, BCNF.

Unit 11: System Implementation Techniques
Query processing and optimization- translation between SQL queries and relational algebra;

Unit 12: Transaction Processing
Transaction and System concepts, Desirable properties, Schedules and Recoverability

Unit 13: Concurrency Control
Locking Techniques, Concurrency Control based on timestamp ordering, Multiversion Concurrency Control Techniques

Unit 14: Database Recovery
Concepts and techniques, recovery in multi database systems

Unit 15: **Security and Authentication**
Issues, access control techniques, introduction to multilevel security

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PGCA/Sc IT S1 04:

MinorProject

4 credits

The guidelines for the project are enclosed in Annexure III.

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ANNEXURE III
PROJECT GUIDELINES

A. PROJECT GUIDE ELIGIBILITY CRITERIA:

Full Time Faculties in the Department of Computer Science/ Information Technology of KKHSOU/ Colleges/ Institutions affiliated to any Indian University recognized by UGC and having minimum 2 years teaching experience.

<div align="center">OR</div>

A person having minimum M.Tech., MCA, M.Sc. in Computer Science/Information Technology from a UGC recognized universities with 4 years experience in Industry/teaching.

B. TYPE OF PROJECT

Learner may choose any topics according to M.Sc.IT/DCS standards. Most of the project work falls under the following types:

a. Database oriented (e.g. payroll system, Loan management system etc.)

b. Application oriented (e.g. Mobile apps development, web based development)

c. R & D project (e.g. Image processing, speech processing, data mining, networking etc)

C. PROJECT PROPOSAL (SYNOPSIS)

The project proposal or the synopsis is the frame work for carrying out the project. It should be prepared in consultation with Guide. The necessary parts of a project proposal is given in the following form:

* Title of the Project.

* Introduction and Objectives of the Project.

* Project Category (RDBMS/ Application/ R & D).

* Tools, Platform, Hardware and Software Requirement specifications.

* Whether the project is done for any Industry/Client? The Name and Address of the Industryor Client is to be mentioned.

* Methodology

Expected output

* Conclusion

D. APPLICATION AREAS & RELATED TOOLS

A list of selected area for developing the project work is given below:

APPLICATIONS : Financial/ Manufacturing/ Multimedia/ Computer Graphics/ Instructional Design/ DatabaseManagement System/ Internet/ Intranet/ Computer Networking- Communication Software/E-Commerce/TCP/IP Internals/ Routing protocols/ Implementation of Switches & Routers/ Image processing,/ Mobile apps development/ etc.

Related Tools :

FRONT END / GUI Tools : PhP, Scripting languages etc.

RDBMS/BACK END : Oracle, MYSQL, No SQL, MongoDB etc.

LANGUAGES : C, C++, Java, VC++, C#, Matlab, Python, Scilab etc.

INTERNET TECHNOLOGIES : DHTML, JavaScript, VB Script, HTML, Java, Active X, SWING, JSP, ASP, PHP, XML, Java Beans, Java Servlets, CSS, VB.Net, AWT, J2EE..

NETWORKING TECHNOLOGIES : ATM, Frame Relay, TCP/IP, SNMP, GSM, VoIP, PPP, IP-PSTN, SONET/SDH

WIRELESS TECHNOLOGIES : BlueTooth, 3G, ISDN, EDGE

OPERATING SYSTEMS : WINDOWS/ DOS / UNIX / LINUX /ANDROID.

PROJECT REPORT GUIDELINE

The Project report should prepared in well structured preferably typed in Latex. Depending on the type of project the report should be as follows

Database project:
Acknowledgement
Content with page number
Declaration Certificate
Certificate from Guide

CHAPTER I : INTRODUCTION

      1.1   Brief idea about the project
      1.2   Objective of the project
      1.3   Scope of the project
      1.4   Existing system
      1.5   Proposed System
      1.6   Platform used(Hardware & Software)
      1.7   Project location

CHAPTER II : REQUIREMENT ANALYSIS

      2.1   Introduction
      2.2   Tools used for Requirement gathering
      2.3   Problem in Existing System
      2.4   Conclusion

CHAPTER III : LOGICAL DESIGN

      3.1   Introduction
      3.2   DFD(0th, 1st, 2nd level)
      3.3   ER diagram
      3.4   Use case diagram
      3.5   Activity diagram
      3.6   Conclusion

CHAPTER IV : PHYSICAL DESIGN

      4.1 Introduction
      4.2 Database Design(Give your normalized database here)
      4.3 Module design
      4.4 Input/output design
      4.5 Conclusion

CHAPTER V : IMPLEMENTATION

      5.1 Introduction
      5.2 Process description (if any)
      5.3 Output & Report
      5.4 Conclusion

CHAPTER VI : TESTING

      6.1 Introduction
      6.2 Types of testing performed
      6.3 Conclusion

References
Appendix(if any)

R & D/ Application project:
Acknowledgement
Content with page number
Declaration Certificate
Certificate from Guide

CHAPTER I : INTRODUCTION

 1.1 Brief idea about the project

 1.2 Objective of the project
 1.3 Scope of the project
 1.4 Application of the project
 1.5 Proposed System
 1.6 Platform used(Hardware & Software)
 1.7 Project location

CHAPTER II : LITERATURE REVIEW
 2.1 Introduction
 2.2 Work already done in the area(Historical evidence)
 2.3 Problem in Existing technology
 2.4 Conclusion

CHAPTER III : THEORITICAL BACKGROUND
 3.1 Introduction
 3.2 Theory used in the project
 3.3 Conclusion

CHAPTER IV : RESULT AND DISCUSSION
 4.1 Introduction
 4.2 Methodology
 4.3 Result
 4.4 Analysis on result
 4.5 Conclusion

CHAPTER VI : Conclusion & Future work
 6.1 Introduction
 6.2 Chapter wise conclusion
 6.3 Future work

References
Appendix(if any)

CERTIFICATE OF ORIGINALITY FROM THE GUIDE

This is to certify that the project report entitled .... submitted to **Krishna Kanta Handiqui State Open University** in partial fulfilment of the requirement for the award of the degree of **DIPLOMA IN COMPUTER SCIENCE (DCS),** is an original work carried out by Mr./Ms... Enrolment No. .... under the supervision of Dr./Mr./Ms..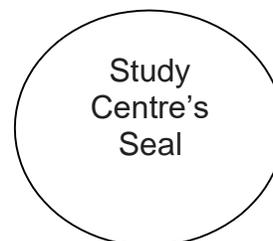... The matter embodied in this project is a genuine work done by the student and has not been submitted either to this University or to any other University/Institute for thefulfilment of the requirement of any course of study.

Signature of the Learner   Signature of the Guide

Name   Name
Address   Designation
Enrolment No.:   Address

Study
Centre's
Seal

<u>FORMAT OF THE PROJECT REPORT</u>

A Project Report on ——————————

Font type: Arial
Size: 12, Bold

TITLE OF THE PROJECT ————————

Font type: Arial
Size: 16, Bold

In fulfillment of the requirement for the 2nd Semester of Diploma in Computer Science Programme

Submitted by

....

(Name of the Learner)
Enrollment No.: ....
Session: ....

Under the Guidance of

....

(Name of the Project Guide)

Study Centre

....

(Name of the Study Centre)

....

(Location)

Font type:
Arial