Udai Pratap College, Varanasi

(An Autonomous Institution)

Syllabus of Subject: Post Graduate Diploma In Computer Application

For One year of Diploma Course

Session: 2022-2023

Department of Computer Science

Udai Pratap College, Varanasi, 221002

(An Autonomous Institution)

POST GRADUATE DIPLOMA IN COMPUTER APPLICATION

CM-001(FUNDAMENTAL OF DIGITAL COMPUTERS)

100 Marks

UNIT-1

Introduction of computer and history, Generation of computer, Classification of computer, Characteristics of computer , Computer Software and Hardware.

UNIT-2

Functional units of Digital computer, Working of a computer using block diagram, Component of computer System: ALU(Airthmetic Logic Unit) , CU(Control Unit) , Memory . Properties of simple I/O devices: VDU(Visual Display Unit), Keyboard, Mouse, Printer, Scanner , Digital Camera.

UNIT-3

Types of Translators : Assembler , Compiler and Interpreter , Computer languages : Machine Languages,   Assembly Languages and High/Low Languages , Memory : Primary Memory, Secondary Memory. Auxiliary storage devices: Magnetic core, Magnetic disk, Magnetic tape , Floppy disk, Hard disk, CD-Rom,Worm, Concept of Virtual Memory.

UNIT-4

Number System : Binary , Decimal, Octal , Hexadecimal number System, Integers and Real number, Conversion from one number System to another , Signed and Unsigned numbers.

UNIT-5

Functions of OS(Operating System), Types of OS , Introduction to DOS , DOS Commands internal: DATE, TIME,CLS, DIR, COPY CON, COPY , TYPE ,REN , DEL , MD, CD, RD and EDIT. Introduction to Windows OS : Windows Structures , Windows accessories : Calculator , Notepad and WordPad .

POST GRADUATE DIPLOMA IN COMPUTER APPLICATION

CM-002(PROGRAMMING IN C)

100 Marks

UNIT-1

Introduction to C , Principles of programming : Flow charts , Algorithms , Structure of C language , character set of C language , Constants : numeric , character and string , Variables.

UNIT-2

Data types in C , simple I/O functions (scanf , gets , getchar , printf , puts , putchar) , Operators : Airthmetic , Relational , Conditional , Logical , Bitwise , Assignment , Increment & Decrement operator Expression.

UNIT-3

Control Structure : goto statement , if-else and switch statement , Loops: while , do- while , for , nested loop , Functions : system define , user define .

UNIT-4

Introduction to Array , Types of array in C , array limits in C , Concept of pointers , pointer types variable declaration , pointer to a pointer , pointer to character , integer and float variable types , pointer operations .

UNIT-5

Concept of files, files opening in various modes and closing a file. Programs in C language.

POST GRADUATE DIPLOMA IN COMPUTER APPLICATION

CM-003(PROGRAMMING IN C++)

100 Marks

UNIT-1

Introduction to C++ , Principles of programming : Flow charts , Algorithms , principle of C++ language , Identifiers , Constants : numeric , character and string , Variables , tokens ,key words.

UNIT-2

Data types in C++ , simple I/O functions (cout ,cin ,etc.) , Operators : Airthmetic , Relational , Conditional Logical , Bitwise , Assignment , Increment & Decrement operator .

UNIT-3

Control Structure : goto statement , if-else and switch statement , Loops: while , do- while , for , nested loop , Functions : system define , user define . Introduction to Array , Types of array in C++.

UNIT-4

Concept of C++, Type declaration , Expression , Friend function, Concept of inheritance : Single inheritance, Multiple inheritance, hierarchal inheritance, Multilevel inheritance, Program structure.

UNIT-5

Classes and Object, Constructor : Default Constructor , Parameterized Constructor , Copy Constructor, Destructor , Overloading , Virtual Base Classes, Streams and Templates , C++ Programs.

POST GRADUATE DIPLOMA IN COMPUTER APPLICATION

CM-004(PC SOFTWARE APPLICATION)

100 Marks

UNIT-1

Introduction of Word , Opening documents: Save and Save as, Page setup , Print preview , Printing of document, Editing text , Text selection , Cut , Copy and Paste , Font and size selection , Alignment of text.

UNIT-2

Finding and Replacing , Formatting text : Paragraph indenting , Bullets and Numbering , Changing case Inserting and Creating tables , Mail merge, Word art.

UNIT-3

Introduction to Ms-excel , Element of electronic Spread sheet : Opening of spread sheet , addressing of cell , Printing of Spread sheet , Saving Workbook , Formula bar , Menu bar, Tool bar and Status bar.

UNIT-4

Page setup , Fonts , Alignment numbers , Functions and getting worksheet printed , Introduction of Charts , Types of charts : Bar chart , Line chart , Pie chart , XY chart and Stack chart.

UNIT-5

Introduction to Power point , Using power point , Opening and Saving power point presentation , Creation of presentation , Preparation of slides , Presentation of slides and slide show.

POST GRADUATE DIPLOMA IN COMPUTER APPLICATION

CM-005(Java Application Programming)

100 Marks

UNIT-1

Introduction to java: An overview of JAVA, JAVA Applets and applications. Difference between Java script and application,Object-oriented programming features,Data Types and Variables : Java token and Keyword , Integers Types , Floating point types. The JAVA classes libraries , Declaring a variables , Dynamic initialization.

UNIT-2

The Scope and lifetime of variables , Type conversion and casting.

Arrays : One dimensional Array , Multidimensional arrays .

Operators : Airthmetic operators , Relational operators , Boolean logical operators , Bitwise operators, The assignment operator , The ? operator , Operator precedence.

UNIT-3

Control Statements: Selection Statement, Iteration Statements, Jump Statements.

Introduction classes and objects : Class fundamentals , Declaring objects , The 'this' Keywords , Garbage

collection , A stack class , Constructors , Overloading constructors , using object as parameters, Arguments passing , Returning objects.

UNIT-4

Inheritance : Inheritance basis , Type of inheritance , Member access and inheritance , Using Super class,

Creating a multilevel hierarchy , Method overriding , Method overloading, Using abstract classes ,Using

final with inheritance, The object class.

UNIT-5

Multithreaded Programming : introduction , Creating thread , Stopping and blocking a Thread, Life Cycle of a thread , Exceptions , Syntax of exception handling , Multiple catch statements . Java programming.

POST GRADUATE DIPLOMA IN COMPUTER APPLICATION

CM-006(SQL AND INTERNET)

100 Marks

UNIT-1

Introduction : An overview of database management system, Database system concepts and architecture , data models schema and instances, data independence and data base language and interfaces, Data definition language. DML.

UNIT-2

Data Modelling using the Entity Relationship Model: ER model concepts, notation for ER diagram, mapping constraints , Keys , Concept of Super Key , candidate Key , primary Key ,Generalization , aggregation.

UNIT-3

Introduction to SQL:Characteristics of SQL, Advantage of SQL , SQL data types and literals , Types of SQL
commands , SQL operators and their procedure, Table , view and indexes, Queries and sub queries, Aggregate functions , Insert , update and delete operations , Joins , Unions, Intersection, Minus , Cursors
in SQL, PL/SQL , Triggers and clusters.

UNIT-4

Concept of Network , Working of Network , Domain Name System . Classification of Network , Lan topology , Access method , LAN , WAN , MAN, etc. , Hardware and software in networks.

UNIT-5

Governance of Internet , Tools of Internet , Email , FTP , Telnet , EDI , Bitnet , ISDN , NICNET , Web.

POST GRADUATE DIPLOMA IN COMPUTER APPLICATION

(Practicals and Assignments)

400 Marks

Practicals related to Paper II, Paper III, Paper IV, Paper V and Paper VI.

Project Work   : 100 Marks

Problem Solving : 200 Marks

Viva-Voci   : 100 Marks

****