MATS UNIVERSITY
POST GRADUATE DIPLOMA OF COMPUTER APPLICATION (PGDCA)

REGULATIONS

Introduction

INFORMATION Technology today is recognized as a frontier area of knowledge and also a critical enabling tool for assimilating, processing and productivity in all other spheres of knowledge. It is also recognized the world over that information technology is going to change every facet of human existence and will usher in knowledge based society. It is estimated that in India in the current plan period there will be demand of over 45 lakh computer professionals and with the availability of present educational facilities, the short fall can be in the range of over 25 lakhs. Therefore, there is a need to take up IT education programmes in a big way.

There are three basic skill levels for an IT Professional. The first level is that of an operator, the second is a programming assistant or a programmer and the third is of a system analyst or a manager. There are new skills required in the changing IT scenario in the world which include web designing, handling of internet based information and programming for the networked environment. The additional skills also include hardware maintenance, networking and marketing.

This course will provide basic and in-depth knowledge to the students desirous of taking computer as their professional. Such students are in good demand in the field, both in the original and unrecognized sector, industry and educational institutions.

Program Objective

PGDCA programme is aimed towards building prospective career in the field of computer application. The programme is designed with the objective to provide knowledge and skills in the various aspects of computer applications and core programming. Students will also be trained in the latest trends of information technology.

Program Outcome

PGDCA equips the students with skills required for designing, developing applications in Information Technology. Students will able to learn the latest trends in various subjects of computers & information technology.

1. Scope and Content

1.1 The regulations documented here are applicable to the P.G.D.C.A. programme offered by the university.

1.2 The applicability of the Regulations must be understood in the context of the given Scheme of study and the Syllabus of the programme.

1.3 The Regulations given here are in addition to the rules and regulations notified at the time of the admission.

1.4 The authorities of University may modify, add, delete, expand or substantiate any part of the Regulations and syllabi, at any time.

2. Course Content

The programme shall be for a duration of two semesters, spread out in one years. Each semester of the programme shall consist of either all or some of the following components:

a. Core Subjects
b. AECC (Ability Enhancement Compulsory Course)
c. SEC (SkillEnhancement Course)
d. DSE (Discipline Specific Electives) /Choice Based
e. GE (Generic Electives)
f. Lab Course
g. Project Work/

2.1 Core Subjects

Core subjects comprises of subjects that form an integral part of the programme. These subjects provide a strong ground in basic disciplines of study.

2.2 AECC (Ability Enhancement Compulsory Course)

The students who have not done English up to class XII are to opt for Hindi Communication. They can opt Environment studies and other languages also.

2.3 SEC (SkillEnhancement Course)

This will facilitate student mobility across institutions within and across countries and also enable potential employers to assess the performance of students.

2.4 DSE (Discipline Specific Electives) /Choice Based

Elective courses may be offered by the main discipline/subject of study is referred to as Discipline Specific Elective. The University/Institute may also offer discipline related Elective courses of interdisciplinary nature (to be offered by main discipline/subject of study)

2.5 GE (Generic Electives)

An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is called a Generic Elective. P.S.: A core course offered in a discipline/subject may be treated as an elective by other discipline/subject and vice versa and such electives may also, be referred to as Generic Elective.

2.6 Lab Courses

These subjects are totally practical-based subjects. The learning of these subjects will be performed in laboratories/practical sites with equipment's/resources. These subjects shall support the practical implementation of the core/core-bracket subjects. The processes of evaluation of their subjects will depend on the nature of that individual subject.

2.7 Project Work

The project work shall be done for a duration as specified by the Coordinator, in the area, related to the main subject of study or the specialization. The project work shall give the student an insight to the situations existing in the field/marked/industries, etc.

3. Eligibility for admission and mode of selection

3.1 The minimum qualification required to be eligible for admission is a pass in the HSC or 10+2 examination of a Board of a State Government, or a course recognized as equivalent there to buy the University, desirably with the relevant or related subjects as one of the subjects of study.

3.2 The method of selection for the course shall normally be by means of a Personal interview. However, the admission might also by means of an entrance test.

4. Attendance and Examination

A student is eligible to appear for the term-end examinations, only if he/she has put in a minimum of 75% attendance in each subject individually.

5. Assessment and Examination

5.1 Credits

Credit Points will be awarded for all the subjects. One credit is equivalent to ten classroom contact hours.

Each core subjects will carry either 4 or 2 credits, each core bracket subject will carry 2 credits and practical courses will carry either 4 or 2 credits depending on the number of hours of teaching and training.

5.2 Pattern of Assessment

Assessment of student's performance will be based on two components i.e. Internal Assessment and Term-end Examination conducted at the end of each semester.

A six-credit subject will comprise of an Internal Assessment component of 30 marks and a Term-end Examination component of 70 marks.

A three-credit subject will comprise of an Internal Assessment component of 15 marks and a Term-end Examination component of 35 marks.

purpose of Internal assessment.

The Term-end Examination will be conducted as per the University Regulations Sessional tests, assignment, mid-term examination, etc. will be conducted in each subject during the course of each semester, for the.

5.3 Assessment for Core Bracket subjects

Depending on the participation and performance of students, the faculty of the Core Bracket subject will grade the student in term of a five-point scale as given below:

Marks Secured	Grade Point	Letter Grade
85 and above	10	Outstanding(O)
75 and above but below 85	9	Excellent (A+)
65 and above but below 75	8	Very Good (A)
55 and above but below 65	7	Good (B+)
45 and above but below 55	6	Above Average (B)
35 and above but below 45	5	Average (C)
25 and above but below 35	4	Pass(P)
Below 25	0	Fail (F)
	0	Absent (AB)

This assessment is purely based on internal assessment of the subject faculty/coordinator.

5.4 Assessment of Project work

The project work will carry a total of 50 marks. Of this, 70% marks are for the external examination and 30% marks will be awarded for internal evaluation.

5.5 Eligibility to appear for the Term-end Exam.

Students, who have put in a minimum of 75% attendance in each subject, shall be eligible to appear for the Term-end examination.

6. Eligibility for Pass

6.1 A student shall be declared to have passed in a subject, if he/she secures at least 25% marks in the term-end examination and an aggregate of 35% including internal assessment.

6.2 When a student reappears for the failed subject(s), the internal assessment marks originally secured by him/her in the first appearance in the subject(s), if any, will be carried forward.

6.3 A student shall be declared to have passed in Core Bracket subject, if he/she secures at least a pass grade.

6.4 Promotion of the student to the next semester, is not automatic, but is dependent on certain other conditions.

7. Classification of successful students

7.1 on successful completion of the programme, the students will be classified as below: -

Distinction : Those securing an aggregate mark of 75% and above in all the subjects;

First Class : Those securing an aggregate mark of less than 75%, but above 60% in all the subjects;

Second Class : Those securing an aggregate mark of less than 60%, but above 50% in all the subjects;

Pass : Those securing an aggregate mark of less than 50% in all the subjects;

7.2 Ranks

Only students, who have passed each of the semester examination at the first appearance, shall be eligible for award of Ranks. The first three ranks shall be notified.

8. Award of Qualification

Students will be awarded the Bachelor Degree of P.G.D.C.A., upon fulfillment of the following criteria-

a. Must have passed all the subjects of the two semesters with a minimum of 25% on each subject including Internal assessment and secured 35% in aggregate;
b. Must have secured at least a pass grade in all the Core Bracket subjects.
c. Must have secured a minimum of 35% marks in the project work (wherever applicable).
d. Must have complied with all other assessment guidelines and criteria notified during the conduct of the programme.

9. Maximum period for the complement of the Programme

The maximum period for the completion of the programme shall be 1 years from the date of joining the programme.

10. General Guidelines

10.1 Academic Integrity and Ethics

a. A student who has committed an act of academic dishonesty will be deemed to have failed to meet a basic requirement of satisfactory academic performance. Thus, academic dishonesty is not only a

basic for disciplinary action but also is relevant to the evaluation of student's level of performance and progress.

b. Where there has been violation of the basic ethos and principles of academic integrity and ethics, the Director/Board of Examiners/Course coordinator may use their discretion in terms of disciplinary action to be taken.

c. Academic dishonesty includes, but is not necessarily limited, to the following:
   i. Cheating or knowingly assisting another student in committing a act of cheating;
   ii. Unauthorized possession of examination materials, destruction or hiding of relevant materials;
   iii. Act of plagiarism;
   iv. Unauthorized changing of marks or marking on examination records.

10.2 Attendance

a. Student are required to attend and participate in all scheduled class sessions, guest lecturer, workshops, outbound learning programs and club/ forum activities of both academic and non-academic nature.

b. Students may be dropped from the programs due to excessive and non-intimated absences.

c. Students must notify the program coordinator in writing, the reasons for absence, if any, from class sessions, activities and assessment components.

d. On notification of absences (including anticipated absences), the Director/ Programmer coordinator would determine whether the absences could be rectified or whether it is possible to satisfactorily complete the subject with the number of identified absences.

10.3 General

a. The students are expected to spend a considerable amount of time in research, reading and practice.

b. All students are expected to develop and maintain a positive profession attitude and approach throughout the Programme and in conduct of all other activities.

c. Attendance alone is not sufficient. Students are expected to participate, to help the class learn and understand the topics under consideration.

d. Food and drinks are not permitted in the classroom / conference hall.

e. All students are expected to dress as per stipulated dress code.

POST GRADUATION DIPLOMA IN COMPUTER APPLICATION (PGDCA)						
SEMESTER -I						
Subject Code	**Subject**	**Credit 1 Cr= 1 hrs**	**L+T+P**	**Univ. Exam Marks**	**Int. Marks**	**Total Marks**
CORE COURSES						
PGDCA101	Essentials of InformationTechnology	**4**	3+1+0	70	30	100
PGDCA102	Programming in C++	**4**	3+1+0	70	30	100
PGDCA103	DBMS Concepts	**4**	3+1+0	70	30	100
AECC (ABILITY ENHANCEMENT COMPULSORY COURSE)						
PGDCA104	Communication Skill	**2**	1+1+0	35	15	50
SEC(SKILL ENHANCMENT COURSE)						
DSE (DISCIPLINE SPECIFIC ELECTIVES) /CHOICE BASED						
GE(GENERIC ELECTIVES)						
LAB COURSES						
PGDCA105	Practical Based onOffice Automation and DBMS Concepts LAB	**2**	0+0+2	35	15	50
PGDCA106	Programming in C++ LAB	**2**	0+0+2	35	15	50
		18		**315**	**135**	**450**

POST GRADUATION DIPLOMA IN COMPUTER APPLICATION (PGDCA)						
SEMESTER -II						
Subject Code	**Subject**	**Credit 1 Cr= 1 hrs**	**L+T+P**	**Univ. Exam Marks**	**Int. Marks**	**Total Marks**
CORE COURSES						
PGDCA201	Programming using VB .NET	**4**	3+1+0	70	30	100
PGDCA202	Programming in JAVA	**4**	3+1+0	70	30	100
PGDCA203	Web technology & Multimedia	**4**	3+1+0	70	30	100
AECC (ABILITY ENHANCEMENT COMPULSORY COURSE)						
PGDCA204	Mini Project	**2**	1+1+0	35	15	50
SEC(SKILL ENHANCMENT COURSE)						
DSE (DISCIPLINE SPECIFIC ELECTIVES) /CHOICE BASED						
GE(GENERIC ELECTIVES)						
LAB COURSES						
PGDCA205	Practical Based on VB .NET and Java	**2**	0+0+2	35	15	50
PGDCA206	Practical Based on Programming in JAVA	**2**	0+0+2	35	15	50
		18		**315**	**135**	**450**

PGDCA101

Essentials of Information Technology

COURSE OBJECTIVES

To teach students fundamentals of computers and give introduction of the latest technology.

COURSE OUTCOMES:

After completion of this course, students will be able to understand the fundamentals of computers and known the latest technology.

MODULE – I: Brief history of development of computers, Computer system concepts, Computer system characteristics, Capabilities and limitations, Types of computers Generations of computers, Personal Computer (PCs) – evolution of PCs, configurations of PCs- Pentium and Newer, PCs specifications and main characteristics. Basic Components of a computer system - Control unit, ALU, Input/Output functions and characteristics, memory - RAM, ROM, EPROM, PROM and other types of memory, Number System.

MODULE – II: Input/Output& Storage Units-:Keyboard, Mouse, Trackball, Joystick, Scanners, Digital Camera, MICR, OCR,OMR, Bar-code Reader, Voice Recognition, Light pen, Touch Screen, Printers & types - Daisywheel, Dot Matrix, Inkjet, Laser, Line Printer, Plotter, Sound Card and Speakers, Storage fundamentals - Primary Vs Secondary Data Storage and Retrieval methods - Sequential, Direct and Index Sequential, Various Storage Devices - Magnetic Tape, Magnetic Disks, Cartridge Tape, Hard Disk Drives, Floppy Disks(Winchester Disk), Optical Disks, CD, CD-R, CD-RW, Zip Drive, flash Physical structure of floppy & hard disk.

MODULE – III: Software and its Need, Types of Software - System software, Application software, System Software - Operating System, Utility Program, Programming languages, Assemblers, Compilers and Interpreter, Introduction to operating system for PCs-DOS Windows, Linux, File Allocation Table, files & directory structure and its naming rules, booting process, Programming languages- Machine, Assembly, High Level, 4GL, their merits and demerits, Application Software and its types - Word-processing, Spreadsheet, Presentation Graphics, Data Base Management Software, characteristics, Uses and examples and area of applications of each of them, DOS commands.
Multimedia concepts, multimedia system configuration, types of multimedia, application of Multimedia.

MODULE – IV: Use of communication and IT , Communication Process, Communication types- Simplex, Half Duplex, Full Duplex, Communication Protocols, Communication Channels - Twisted, Coaxial, Fiber Optic, Serial and Parallel Communication, Modem - Working and characteristics, Types of network Connections - Dialup, Leased Lines, ISDN, DSL, RF, Broad band ,Types of Network - LAN, WAN, MAN ,Internet, VPN etc., Topologies of LAN - Ring, Bus, Star, Mesh and Tree topologies, Components of LAN -Media, NIC, NOS, Bridges, HUB, Routers, Repeater and Gateways. Internet-Evolution, World Wide Web Internet Services and E - Commerce

MODULE – V: System Planning and initial investigation: basis for planning in systems analysis, initial investigation, fact finding, fact analysis, determination of feasibility. Information Gathering: Kind of information, Information gathering tools, Structured Analysis, DFD, Data Dictionary, Decision Tree, Structured English, Decision Table. System Performance & Feasibility Study. Software Engineering Fundamentals: Software Design Life cycle The Role of System Analyst

TEXT & REFERENCE BOOKS:

- Anurag Seetha, “Introduction to Computers and Information Technology”, Ram Prasad & Sons, Bhopal.
- S.K.Basandra, “Computers Today“, Galgotia Publications.
- Chetan Shrivastav “Fundamental of IT”
- P.K. Sinha,” Fundamental of Computers”
- System Analysis and Design - Elias M. Awad.
- System Analysis and Design - Alan Dennis & Barbara Haley Wixo
- Introduction to Data communication & Networking - Behrouz &Forouzan
- Computer Networking - Andres & Tanenbaum

PGDCA102

Programming in "C++"

COURSE OBJECTIVES

Teaches student the programming concept and full syntax of C++ and All features of C++ and its application.

COURSE OUTCOMES:

After completion of this course, students will be able to understand the programming concept and full syntax of C++ and All features of C++ and its application.

MODULE – I: Programming Language, high level and low level languages, Algorithms, flow charts, Structural language, overview of c language, Procedural Vs Object oriented language, Object oriented programming Concepts, Advantages, Usage, object oriented language features, Introduction to various C++ compilers, C++ standard libraries, comments, main function in C++, constants and variables, Standard I/O: cin, cout, Data types: Primitive data type, User defined data types: Structure, Class. Writing C++ programs. Cmpling and running the program.

MODULE – II: Operators: Introduction, Types of Operators: Arithmetic, Assignment, Relational, Logical. Decision Control: if, if-else, if-else, Loop control: for, while, do-while, beak, Case control: switch, functions: Introduction, function prototyping, returning values from a function, arguments passed by value, global variables & local variables. Pointers: Introduction, pointer initialization, the & operator, Array: introduction, array initialization, the & operator, Array: introduction, array initialization, passing arrays to a function, Strings, String functions.

MODULE – III: Classes &Objects : Specifying a class, Define member function, Scope of class and its member , Access specifier, Friend function, Array within a class, static member, Static Member function, Inline Function, Scope resolution operator, Passing Objects to Function, Returning Objects, Friend Function, Friend Classes. Constructor & Destructor: Introduction, constructor, access specifiers for constructors, and instantiation, parameterized Constructor, Multiple Constructor in A Class, Constructor with Default Argument, Copy Constructor, Destructor, Dynamic memory allocation

MODULE – IV: Polymorphism: Function Overloading 7 Operator Overloading: Function Overloading, Overloading Constructor, Creating a Member Operator Function, overloading arithmetic operator (+,-,*,/), Inheritance, pointer & Virtual function: Define derived classes, single inheritance, multilevel inheritance, Hierarchical inheritance, Hybrid Inheritance, Pointers to objects, this pointer, Pointers to derived class, Virtual function, Pure Virtual function, Abstract classes.

MODULE – V: File I/O Templates: files streams, opening & closing a file, read () &write() functions, detecting end-of-file seepk(), tellg(), tellp()function, Introduction to Templates & Exception, Creating and handling Templates and Exception in OOP.

TEXT & REFERENCE BOOKS:

- Herbert Schildt, "C++ The complete reference " - TMH Publication ISBN 0-07-463880-7
- E. Balguruswamy, "C++ ", TMH Publication ISBN 0-07-462038-x
- M Kumar "Programming in C++", TMH Publications
- Mastering C++, "Venugopal"

PGDCA103

DBMS Concepts

COURSE OBJECTIVES

Teaches student fundamentals of database, SQL commands and its application.

COURSE OUTCOMES:

After completion of this course, students will be able to understand the fundamentals of database, SQL commands and its application.

MODULE – I: Traditional file processing system: Characteristics, limitations, Database: Definition, composition., Database Management system: Definition, Characteristics, advantages over traditional file processing system, Implication of Database approach, User of database, DBA and its responsibilities, Database schema ,Database languages: DDL, DML, DCL,Database utilities, Data Models, Keys: Super, candidate, primary, unique, foreign.

MODULE – II: Entity relationship model: concepts, mapping cardinalities, entity relationship diagram, weak entity sets, strong entity set, aggregation, generalization, converting ER diagrams to tables, Overview of Network and Hierarchical model, Relational Data model: concepts, constraints. Relational algebra: Basic operations, additional operations

MODULE – III: Database design: Functional dependency, decomposition, problems arising out of bad database design, normalization, multi-valued dependency. Database design process, database protection, database integrity, database concurrency: Problems arising out of concurrency, methods of handling concurrency. Data recovery, database security: Authentication, authorization, methods of implementing security

MODULE – IV: Introduction to SQL ,Data Types ,Character, Char, Varchar/Varchar2,Long, Number - Column-name number, column-name number(p) - fixed point, column-name number (p,s) - floating point ,Date data type, Raw data type, Long raw data type ,LOB data type - CLOB, BLOB, BFILE, Table - Constraint definition, Domain, Entity, Referential ,Create table - Alter table, Drop table, Normalization (Applied) Commands and clause - Insert, update, delete, with where clause ,Queries and SQL functions ,Select with all options ,Operations and operators - Arithmatic, Comparison, Logical (in, out, between, like, all, %, any, exists, not exists, is null, is not null, and, or, not) Query Expression Operators - Union, intersect, minus SQL functions ,Date - Sys_date, new_time, next_day, add_month, last_day, months_between Numeric - round, trunc, abs, ceil, cos, exp, floor Character - initcap, lower, upper, trim, translate, length, char Conversion - to_char, to_date, to_number Miscellaneous - Uid, User, nvl, vsize

MODULE – V: Group function Avg, max, min, sum, count, Group by clause, having clauseExpression (Set operations : join) Set Operations - union, union all, intersect, minus, Relating data through join concept - Join theory, Simple join, Equi join ,Non equi join - Self join, Outer join ,Table aliases Query and sub-queries ,Introduction to object oriented database - Concept ,Object binding in Oracle - Class, Attribute, Methods, Object type, Definition, Declaring and initializing, Methods , Alter and Drop type, Views and synonyms ,Synonym - Introduction ,Object type - User definition with example , Create, synonyms as alias for table and view, drop, Sequence - Introduction, creates with option, alter sequence, drop ,View - into, creates, update, drop ,Index - Introduction, create ,Primary introduction to DBA, User create, granting ,Privileges - Object, System, User (GRANT, REVOKE, COMMIT, ROLLBACK, SAVEPOINT) ,Report writer using SQL.

TEXT & REFERENCE BOOKS:

- Understanding ORACLE by Perry J. and Later J.SQL by Scott Urman ORACLE PL/SQL Programming by Scott Urman
- Expert One on One : Oracle by WroxPL/SQL by Ivan Bayross
- Database system concept - H. Korth and A. Silberschatz, TMH
- Data Base Management System - Alexies& Mathews [Vikas publication]
- Data Base Management System - C. J. Date [Narosha Pub.]
- Data Base Management System - James Matin
- Principles of Database System - Ullman
- An Introduction to database systems - Bipin Desai, Galgotia Publication.
- Database Management System - A. K. Majumdar &P.Bhattacharya, TMH

PGDCA104

Communication Skill

COURSE OBJECTIVES

Teaches students how to develop personality, communication and documents.

COURSE OUTCOMES:

After completion of this course, students will be able to understand about development of personality, communication and documents.

MODULE - I

- What is communication? Its relevance in today's world.
- Formal vs. informal communication.
- Importance of English
- Usage of dictionary
- Functional words
- Vocabulary enhancement
- Verb & Tense agreement
- Pronunciation
- Phonetics
- Reading sessions
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MODULE – II

- Voice modulation – speed, pitch variation, volume, pauses, stress.
- Non-verbal communication ---- Body language, gestures, eye contact, posture, posture, appearance.
- Proximics
- Vocabulary enhancement
- Verb & Tense agreement
- Pronunciation
- Phonetics
- Reading sessions

MODULE – III

- Describing situations, objects
- Non-verbal communication—image projection, dressing up, behaviour in public
- Use of correct words & phrases
- Vocabulary enhancement
- Verb & Tense agreement
- Pronunciation
- Phonetics
- Reading sessions

MODULE – IV

- American influence in communication.
- Vocabulary enhancement
- Verb & Tense agreement
- Pronunciation
- Phonetics
- Reading sessions

MODULE – V

- Vocabulary enhancement
- Verb & Tense agreement
- Pronunciation
- Phonetics
- Reading sessions

REFERENCE BOOKS

- English Grammar & Composition By- Wren & Martin

- A Practical English Grammar by- A.J.Thompson&A.V.Martinet
- Intermediate grammar usage & Composition By- M.L.Tickoo, A.E.Subramanium,&P.R.Subramanium
- Business Communication – K.K.Sinha
- Effective Business communication – Herta.A.Murphy,HERBER.W.
- Effective Business Communication – Asha Kaul
- Business Correspondence and report writing – R.C.Sharma and Krishna Menon.
- Communication Skills – Rajendra Pal,J.S.Korlahalli
- Letters for all occasions – S.K.Puri
- Business Communication – Urmila Rai ,S.M. Rai
- Business Communication – M.S.Ramesh,C.C.Pattanshetti
- Essential Communication Skills – Shirley Taylor
- Essentials of Business Communication – Rajendra Pal and J.S.Korlahalli

PGDCA201

Programming Using VB .NET

COURSE OBJECTIVES

Teaches students the basic of .Net technology ,how it is useful in resent technology.

COURSE OUTCOMES:

After completion of this course, students will be able to understand the basic of .Net technology.

MODULEI : Introduction to .NET: - NET Framework features & architecture, CLR, Common Type System, MSIL, Assemblies and class libraries. Introduction to visual studio, Project basics, types of project in .Net, IDE of VB.NET- Menu bar, Toolbar, Solution Explorer, Toolbox, Properties Window, Form Designer, Output Window, Object Browser. The environment: Editor tab, format tab, general tab, docking tab. visual development & event drive Programming -Methods and events.

MODULE II: The VB.NET Language: - Variables -Declaring variables, Data Type of variables, Forcing variables declarations, Scope & lifetime of a variable, Constants, Arrays, types of array, control array, Collections, Subroutines, Functions, Passing variable Number of Argument Optional Argument, Returning value from function. Control flow statements, conditional statement, loop statement. Msgbox&Inputbox

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MODULE III: Object oriented Programming: - Classes & objects, fields Properties, Methods & Events, constructor, inheritance. Access Specifiers, Public Private, Projected. Overloading, Friend, Overloading Vs Overriding, Interfaces, Polymorphism, My Base & My class keywords. Overview of OLE, Accessing the WIN32 API from VB.NET & Interfacing with office 97, COM technology, advantages of COM+, COM & .NET, Create User control, register User Control, access com components in .net application.

MODULE IV: Working with Forms: - Loading, showing and hiding forms, controlling One form within another. GUI Programming with Windows Form: Textbox, Label, Button, Listbox, Combobox, Checkbox, PictureBox, RadioButton, Panel, scroll bar, Timer, ListView, TreeView, toolbar, StatusBar.There Properties, Methods and events. OpenFileDilog, SaveFileDialog, FontDialog, ColorDialog, PrintDialog. Link Label. Designing menus, ContextMenu, access &shorcut keys, System.io Namespace, Reading and Writing data from and into files,File class and related Methods,Stream Reader, Stream Writer , Binary Reader, Binary Writer class, File and Directory Classes,

MODULE V: Databases in VB .NET: - Database : Connections, Data adapters, and datasets, Data Reader, Connection to database with server explorer, Multiple Table Connection, Creating Command, Data Adapter and Data Set with OLEDB and SQLDB. Display Data on data bound controls, display data on Data grid. Data binding with controls like Text Boxes, List Boxes, Data grid etc. Navigating data source, Data Grid View, Data

form wizard, Data validation, Connection Objects, Command Objects, Data Adapters, Dataset Class, Overview of ADO, from ADO to ADO.NET, Generate Reports Using Crystal Report Viewer. Crystal Report : Connection to Database, Table, Queries Building, Report, Modifying Report, Formatting Fields and Object, Header, Footer, Details, Group Header, Group footer, Working with formula fields, Parameter fields, Group, Special fields, Working with Multiple Tables, SQL in Crystal Report, Report Temples

Text & Reference Books:

1. VB.NET Programming Black Book by Steven Holzner – Dreamtech publications.
2. Mastering VB.NET by EvangelosPetroutsos- BPB publications.
3. Introduction to .NET framework-Wrox Publication.

PGDCA202

Programming in Java

COURSE OBJECTIVES

Teaches student the basic concept of Java, how to write program in Java and learn how to use its packages.

COURSE OUTCOMES:

After completion of this course, students will be able to understand the basic concept of Java, program in Java and its packages.

MODULE I: Overview of the JAVA Language, Intro to the JVM, Garbage collection, Java Program structure, Object Orientated Programming, Classes, Objects, Attributes, Methods, Constructors, Packages, Imports .

MODULE II: Identifiers, Comments, Primitive types, Variables, Operators Assignment, If Statements, Loops, Booleans, Arrays, Abstract methods, Inner Classes, Abstracts classes, Java Inheritance, Encapsulation ,Polymorphism,Overloading,Wrapper Classes.

MODULE III: What are exceptions , Exceptions syntax, Exception Categories, Using Exceptions, JAVA Applications, Build a simple command-line application,Read and write to files,File streams,Intro to GUI Applications,Intro to AWT and Swing,Containers,Components, Layout Manager,Frame and Panel Containers,User Interface Events,Adapter Classes

MODULE IV: What is a Java applet, Intro to 3 tier architecture ,Intro to TCP/IP Networking ,Web Server Basics ,<Applet> tags ,Applet methods ,Basic applet configuration ,Build a simple applet ,Applets and Swing ,URL's ,What is a thread, Creating and Controlling threads, Thread issues, Wait (), Notify ().

MODULE V: What is a stream, java.io package, Node streams, Processing streams, Readers, Writers, Creating Streams, Serialization Interface, Accessing database data using Java, Driver types, Statement, Prepared Statement and Callable Statement, Retrieving and using the ResultSet , Using ResultSetMetaData.

Text Books:

1. Complete Reference Java 2 – HerbirtSchildt Pub. TMH.
2. SAMS teach yourself Java – 3rd edition Roger Cedenhead pub. Pearson

References Books

1. Programming in java – E. Balaguruswami
2. Beginning Java programming – Wrox Series
3. JAVA Certification - Khalid Mugal

PGDCA203

Web technology and Multimedia

COURSE OBJECTIVES

Teaches students the basic concept of Web pages, how to design Webpages, basic of Multimedia and Animations and teaches some basics software.

COURSE OUTCOMES:

After completion of this course, students will be able to understand the basic concept of Web pages, design of Webpages, Multimedia and Animations and basics software.

MODULE I: WebPages; Hyper Text Transfer Protocol (HTTP); File Transfer Protocol (FTP) Domain Names; URL, Website, Web browser, Web Servers; Basic Tags of HTML: HTML, HEAD, TITLE, BODY, Heading tag (H1 to H6) and attributes,FONT tag and Attributes, P, BR, Comment in HTML (<! >), Formatting Text (B, I, U, EM, BLOCKQUOTE,PREFORMATTED, SUB, SUP, STRIKE), Ordered List-OL Unordered List, ADDRESS Tag;Creating Links: Link to other HTML documents or data objects, Links to other places in the same HTML documents, Links to places in other HTML documents; Anchor Tag <A HREF> and <A NAME>, Inserting Images Image Link, Horizontal Rules <HR ALIGN, WIDTH, SIZE, NOSHADE>;

MODULE II: Tables: Creating Tables, Border, TH, TR, TD, CELLSPACING, CELLPADDING, WIDTH,COLSPAN, CAPTION, ALIGN, CENTER;Frames: Percentage dimensions, Relative dimensions, Frame – Src, Frameborder, height and width, Creating two or more rows Frames <FRAMESET ROWS >, Creating two or more Page 3 Columns Frames <FRAMESET COLS >, <FRAME NAME SRC MARGINHEIGHT MARGINWIDTH SCROLLING AUTO NORESIZE>, <NOFRAMES>, </NOFRAMES>; Forms: Definition, Form Tags: FORM, <SELECT NAME, SIZE, MULTIPLE / SINGLE><OPTION></SELECT>, <TEXTAREA NAME ROWS COLS > , </TEXTAREA>, METHOD,CHECKBOX, HIDDEN, IMAGE, RADIO, RESET, SUBMIT, INPUT <VALUE, SRC,CHECKED, SIZE, MAXLENGTH, ALIGN>;

MODULE III: Introduction, Adding VBScript code to HTML page, VBScript Data type-Variant subtypes, VBScript Variables, VBScript Constants, VBScript Operators, and Operator Precedence; MsgBox: functions of message box , Return values of MsgBox function, button argument setting. Conditional statements: If Then.. Else, Select case; Loops: Do loops, While… Wend, For.. Next, For..Each..Next;VBScript variables: Sub procedures, Function procedures;Using VBScript with HTML form controls, Data handling functions, String functions, Date and Times functions;

MODULE IV: Introduction to Multimedia: types of Multimedia, hardware and software requirement,Multimedia Operating System , Applications, MIDI Basic Concepts, MIDI Devices, MIDI Messages, Video and Animation, Computer Based Animation,Animation principles, Methods of controlling Animation, Display of Animation, Transmission of Animation

MODULE V: Learn the basic of flash animation, creating a new movie, animate text, drawing and painting tools , creating layers motion twinning, shape twining, mask layers, importing sound, the photoshop workspace use of menus palettes and toolbox, creating new images, using selecting tools, lasso tool Direct select lasso, convert point tool, image adjustment through photoshop.

Text Books:

1. FLASH MX Bible – Robert Reinhart
2. Sams Teach Yourself Macromedia Flash 8 in 24 hrs – Phillip Kerman
3. Photoshop Bible – Willey Publication
4. Multimedia Making it works – Tay Vaughan Tata Mcgraw Hills
5. Introduction to HTML- Kamlesh N agrawal
6. Introduction to web and DHTML – Ivan Bayross

PGDCA204

MINI PROJECT

COURSE OBJECTIVES

Experiential and participative Learning of Subject.