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**NORTH MAHARASHTRA UNIVERSITY,  
JALGAON**

**Syllabus for**

**DIPLOMA IN  
COMPUTER PROGRAMMING**

**(D.C.P.)**

**Part-time One Year  
Diploma Course**

**(w.e.f. July, 2001)**

**NORTH MAHARASHTRA UNIVERSITY, JALGAON.**

**DIPLOMA IN COMPUTER PROGRAMMING**

(Revised from June, 2001)

- 1) Name of the course :- Diploma in Computer Programming
- 2) Duration :- Part-time one year diploma course.
- 3) Objectives :- To gain functional literacy at operational level and to acquire basic programming skills. *of 100 marks each*
- 4) Structure :- There shall be six papers. The break-up of these papers shall be as under:-
  - (A) :- Four theory courses and two practical courses of 100 marks each.
  - (B) :- The title of each course shall be as under.

Sr.No.	Course No.	Course Title
01.	DCP-I	Fundamentals of Information Technology and Internet
02.	DCP-II	Programming in Fox-pro
03.	DCP-III	Lab-I (based on DCP-I & DCP-II - practical)
04.	DCP-IV	Techniques in Desk Top Publishing
05.	DCP-V	Programming in Visual Basic (6.0)
06.	DCP-VI	Lab-II (based on DCP- <del>V</del> & DCP- <del>IV</del> - practical) <span style="float: right;">IV V</span>

- 5) Special emphasis shall be on practicals.
- 6) Ordinarily in each class not more than 60 students be admitted.
- 7) Eligibility for admission:- A candidate who has passed H.S.C. or equivalent examination of any recognized board or Diploma course of recognized technical board.

(2)

8) Number of lectures and practicals:- It is expected that 48 to 52 lectures and at least 12 practicals of 90 minutes duration for each paper shall be provided. Every student shall maintain practical file.

9) Medium of instruction shall be English.

10) Assessment:-

(a) DCP-I, DCP-II, DCP-IV and DCP-V shall be the theory papers and the theory examination shall be for *three hours* duration with maximum 60 marks each.

(b) DCP-I, DCP-II, DCP-III AND DCP-V shall have 40 marks for internal assessment. It is to be based on at least two tutorials and one test/seminar.

(c) DCP-III and DCP-VI shall be the practical courses of which DCP-III shall be based on DCP-I and DCP-II. DCP-VI shall be based on DCP-IV and DCP-V.

(d) The practical examination for DCP-III and DCP-VI shall be as under:-

- |      |          |   |                                 |
|------|----------|---|---------------------------------|
| (i)  | Internal | - | 40 marks                        |
| (ii) | External | - | 60 marks (three hours duration) |

There shall be separate head of passing for internal and external examination.

(e) Examination shall be scheduled in April/May in such a manner, so that it will avoid clashes with F.Y./S.Y./T.Y Arts/Commerce/Science examinations.

(f) Standard of passing:- 40% marks in each course.

11) Syllabi for courses from DCP-I to DCP-VI are enclosed.

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Syllabus for - DCP Paper I

1

FUNDAMENTALS OF INFORMATION TECHNOLOGY  
AND INTERNET

(W.E. FROM 2001 - 2002 )

A) Computer Fundamentals :

1. Introduction to computer :  
Definition, Block diagram of Computer, Explanation of each block with examples, characteristics, Types of computers (Digital, Analog and Hybrid).
2. Number Systems :  
Binary number system, Decimal number system, Conversion of Decimal to Binary and vice versa, EBCDIC code, ASCII code.
3. Operating System :  
Concepts, types (DOS, WINDOWS-98, UNIX/LINUX, WINDOWS NT), Functions.
4. Introduction to Programming :  
Algorithm, Flowchart, Concept of program.
5. Computer Languages :  
Machine language, High level language, Object oriented language, language processors.
6. Computer Applications :  
Education, Business, Scientific and Industrial.

B) Information Technology :

1. Data Processing Techniques :  
Concept of file, record, field data, meaning of information, storage, retrieval, presentation, Manipulation and transmission. Online processing, Batch processing, Multiprogramming and Real time processing.
2. Computer Communication :  
Concept of communication, types, concept of networking, (LAN, WAN), meaning of Gateway.
3. Means of Communication : (Concept)  
MODEM, FAX and Electronic mail.

## C) Introduction to INTERNET :

1. Concept of Internet, Website, Web page, portals, Host Computer, connecting to Internet, Web browsing (using Internet Explorer), Web surfing, Down loading and search engines (~~any two~~). VALID, ALT, -STA
- E-mail : Creation of an e-mail account, sending and receiving e-mail.
2. Introduction to HTML, HTML tags, (TITLE, HEADER, TABLE, FRAME, MARQUE, UL, OL, LINK.

## Reference Books :

- |  |                     |
|--|---------------------|
| 1. Fundamentals of Computers                 | - V. Rajaraman      |
| 2. Computer and Common sense                 | - Shunt & Healy     |
| 3. Learning guide to the INTERNET.           | } B P B Publication |
| 4. Mastering HTML                            |                     |
| 5. Teach yourself - The Internet in 24 hours | - Techmedia.        |

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## PROGRAMMING IN FOXPRO

(W.E. From 2001 - 2002)

1. Introduction to Database & Foxpro :  
What is database ?, What is a database file, record & field ?, What is Foxpro?
2. Getting started :  
Introduction to Foxpro, menu pad, creating database file, adding OLE & picture in database, appending record, List command & its options, closing database, field types, window moving & sizing windows, changing windows, scroll bars, command window.
3. Viewing & Editing data :  
Displaying information with DISPLAY, Searching information with LOCATE, Editing data with EDIT, CHANGE, BROWSE, Replacing field with REPLACE, DELETING, RECALLING commands.
4. Modify structure, memo field & File utilities :  
Modify structure, using memo field enter long text, File utilities - COPY, FILE, RENAME, ERASE, Using DOS command within Foxpro.
5. Understanding Indexes & Expressions:  
Types of Index ( simple, compound, structural & compact), Indexing commands, understanding expressions, selecting & controlling Index file.
6. Printing Reports :  
Designing report form, page layout, layout tools, title/summary, data grouping, variables.
7. Introduction of custom screen :  
Use of @ command, Introduction of SAY ..... GET command, create screen using CREATE SCREEN command using all options. Creation of Menu using @ PROMPT & MENU TO command.
8. Memory variables & DATE, TIME functions.  
What is memory variable ? , Creating simple & array memory variable, use of ? , ?? , ??? , Date arithmetic functions, TIME(), DATE(), DTCC(), CTOD(), DAY(), MONTH(), CMONTH(), DOW(), CDOW(), STR().
9. Mathematical commands & functions :  
SQRT(), INT(), ABS(), ROUND(), EXP(), SIGN(), LEN(), BETWEEN(), MAX(), MIN(), SUM, AVERAGE, COUNT.

**10. Programming with Foxpro :**

What is program file?, creating command file with MODIFY command, use DO WHILE .... ENDDO loop, use of ACCEPT, INPUT, WAIT. Making decisions with IF .... ENDIF, Use of SCAN .... ENDSCAN, FOR ... ENDFOR & DO CASE ... ENDCASE, Executable & other commands.

**11. Concepts of Multiple database & SQL :**

Use of SET RELATION command, JOIN command, What is SQL?, RQBE Window ?, writing simple SQL with commands.

**Reference Books :**

1. Programming with Foxpro - R. K. Taxali
2. Fox pro 2.5 for Windows - Edward Jones.
3. Fox pro 2.5 for Windows at a glance - Nesbitt.

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Syllabus for DCP Paper III

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Lab I

(V.E. From 2001 - 2002)

Practicals based on Paper - I

1. Booting of System.
2. Use of DOS commands.
3. Starting Windows- 98 & Study of windows elements.
4. Connecting to INTERNET.
5. Use of various search engines. (Nahoo & altavista)
6. Down loading & printing Web pages.
7. Creating of an e-mail account.
8. Sending & receiving e-mail.
9. Create a simple Web page using HTML.

Practicals based on Paper - II

1. Creation of database structure & entering data in it by using APPEND command.
2. Creating a database & executing various commands like EDIT, CHANGE, BROWSE, REPLACE commands.
3. Creating a database & executing various commands like DELETE, COPY, SEEK, LOCATE, FIND.
4. Sorting a database on two or more fields for a database file.
5. Creating single independent compound & structural index file.
6. Creation of report using REPORT writer.
7. Design the structure of Library system & create the different report with proper database. The system must contain Member addition program, Book issue / return program, Fine calculation program, Bookwise, Authorwise & issued report.

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**NORTH MAHARASHTRA UNIVERSITY, JALGAON**

**Subject:-(D.C.P.-IV)Techniques In Desk Top Publishing**

( W.E.From 2001-2002 )

Introduction to Concept of Desk Top Publishing uses of D.T.P. and Various DTP Packages available

**Skills in Page Maker 6.5**

- Creating new Publication
- Adding text /Importing text of other editors
- Saving the Publication

**Text Formatting :-**

- Character Formatting
- Paragraph Formatting
- Creating, Modifying, Joining Text blocks
- Leading, Paragraph Spacing , Indenting, Tabs using Ruling Lines
- Working in Story Editor

**Page Layouts :-**

- Defining page Sizes ,margins, orientations
- Setting Rules, Guide Lines, Zero lock
- Handling multiple pages
- Adding Header, Footers, & Page numbering
- Inserting & Removing Pages, Adding Running Text
- Setting of Master Page
- Creating Multiple Columns Page

**Working with Table Editor :-**

- Creating and Modifying table
- Inserting table in a Publication

**Working with Graphics :-**

- Drawing Lines and different Shapes
- Rectangle, Square, Ellipse, Circle
- Importing Graphics/Images
- Modifying Graphics/Images
- Cutting, Pasting, Copying, Applying Line Styles
- Filling Patterns, Rotating , Mirroring, Skewing, Cropping, Text Wrapping
- Using Colour Palettes

**Working with utilities, Plug ins and plug in Palettes :-**

- Spell Check, find, Replace
- Creating Contents, Table of Contents
- Drop cap, Seek Line, Balancing Columns, Building booklets, etc

**Working with Styles :-**

- Applying readymade Styles
- Creating new Styles
- Modifying Styles

**Working with templates :-**

- Using Pre-made templates
- Creating & Modifying templates

**Printing Publication:-**

- Printing a file
- Creating a Print file
- Printing Multiple file

**Using Devanagari fonts :-**

- Shree Lipi
- Akrun

**:- Books :-**

Teach yourself page Maker 6.5	Busch	BPB Publication
page Maker 6.5 Complets	Schmmas	BPB Publication

NORTH MAHARASHTRA UNIVERSITY, JALGAON.

Syllabus for

DCP

PAPER-V

**PROGRAMMING IN VISUAL BASIC**

(w.e. From 2001-2002)

**THE VISUAL BASIC ENVIRONMENT**

Introduction to GUI, Why Windows and Why Visual Basic, Event based model of Visual Basic, How to start VB, Overview of developing a VB application, Initial VB Screen, SDI environment, Toolbar, Toolbox, Help System, Use of different menus of Visual Basic's initial screen.

**ELEMENTS OF TOOLBOX**

Command buttons, Image controls, Text Boxes, Check Boxes, Radio Buttons, Frame Control, Scroll Bar, List controls, Labels, Starting new project, Introduction to form, creating different controls in project.

**USING PROPERTIES WINDOWS**

Changing properties of Various controls that are used in project. Default property, Boolean Property, Name, Label, Back Color, Forecolor, Caption, Font, Height, Width, Visible, Tooltip text, Left, Top, Text, MultiLine, ScrollBars, etc.

**DIFFERENT EVENTS FROM VISUAL BASIC**

Click, Dblclick, Change, MouseMove, MouseDown, Change etc. Using Code Window, Message Boxes, Input Boxes, Variable types, Declaring Variables, Declaring Constant, Operators: Arithmetic, Relational

**USING DIFFERENT BUILT-IN FUNCTIONS FROM VB**

Format, Val, Str, Chr, Date, Len, Ltrim, Rtrim, Ucase, Lcase, RGB, Strcmp, Rnd, Numeric Functions, Financial Function etc.

**USING DIFFERENT CONTROL LOOPS TO CONTROL THE PROGRAM FLOW**

For loop, Nested for loop, Do...Loop...Until, Do...While, While...Wend, If...then, If...Else, Select Case.

**PROCEDURES AND FUNCTIONS**

Declaring User-defined Function and procedure, Trapping different Errors.

**CONTROL ARRAYS**

Adding & Removing controls in a Control array, One dimensional Array, Using Dynamic Lists, Arrays more than one dimension, Using Records, With Statement, Enum.

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## CREATING CLASS MODULE

Creating user defined class.

## CREATING MENUS IN A PROJECT MODULE

Using Menu design window, using Common dialog boxes, Using Custom controls

## INTRODUCTION TO GRAPEICS

Lines, Boxes, Circles, Ellipses, Curves, Pixel controls, Shape controls

## WORKING WITH FILES

File commands, File System controls, Sequential controls, Random-Access files, Binary files

## USING DATABASES FEATURES

Introduction to Modern databases, Using data control, Programming with data control, Accessing Data from Databases such as Foxpro, Dbase IV, Oracle.

DCP - Paper VI L-10-V

### LIST OF PRACTICALS based on Paper - V

1. Write a VB program using various controls from Toolbox.
2. Write a VB program to make use of different inbuilt functions.
3. Write a VB program using various control loops.
4. Write a VB program to create a scientific calculator
5. Write a VB program using user define function/procedure.
6. Write a VB program using user define class and make use of it in a program.
7. Write a VB program using a control array.
8. Write a VB program using menus, pop-up menu.
9. Write a VB program using various events provided by VB.
10. Write a VB program to access data using Data Control.
11. Write a VB program using various graphical controls.
12. Write VB program using files handling functions.

### List of Practicals based on Paper III

1. Preparing Notices, Letter Heads
2. Preparing Advertisement cards.
3. Preparing Advertisements (Single double column)
4. Preparing running pages of magazines.
5. Preparing Booklets
6. Preparing Brochures.
7. Preparing Pamphlets (1/8 size).