MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION , MUMBAI
TEACHING AND EXAMINATION SCHEME

COURSE NAME : ADVANCE DIPLOMA IN INFORMATION TECHNOLOGY

COURSE CODE : IA

DURATION OF COURSE : TWO SEMESTERS/ONE YEAR   **DURATION: 16 WEEKS**

SEMESTER : FIRST   **WITH EFFECT FROM 2007-08**

FULL TIME / PART TIME: FULL TIME   **SCHEME - C**

SR. NO	SUBJECT TITLE	SUBJECT CODE	TEACHING SCHEME			EXAMINATION SCHEME												
			TH	TU	PR	PAPER HRS	TH		TEST	TOTAL		PR		OR		TW	
							Max	Min		Max	Min	Max	Min	Max	Min	Max	Min
1	Computing Essential	9734	03	--	04	03	80	36	20	100	50	50@	25	--	--	--	--
2	Programming in C	9735	02	02	04	03	80	36	20	100	50	50#	25	--	--	50@	25
3	Database Programming	9736	03	--	04	03	80	36	20	100	50	50#	25	--	---	50@	25
4	Visual Basic	--		02	--	04	--	--	--	--	--	--	50#	25	--	--	50@	25
5	Professional Practice	--	--	--	04	--	--	--	--	--	--	--	--	--	--	50@	25
6	Mini Project	--	--	--	02	--	--	--	--	--	--	--	--	--	--	50@	25
	TOTAL		10	02	22	--	240	--	60	300	--	200	--	--	--	250	--

STUDENT CONTACT HOURS PER WEEK(FORMAL TEACHING) : **34 HRS**

THEORY AND PRACTICAL PERIODS ARE OF 60 MINUTES EACH

@ - INTERNAL ASSESSMENT , # - EXTERNAL ASSESSMENT

TOTAL MARKS – 750

ABBREVIATIONS : TH – THEORY , TU – TUTORIAL , PR – PRACTICALS , OR –ORAL, TW – TERMWORK

All assessment of practical, oral and term work are to be done as per the prevailing norms of implementation and assessment

COURSE NAME : ADVANCE DIPLOMA IN INFORMATION TECH NOLOGY

COURSE CODE : IA

SEMESTE : FIRST

SUBJECT NAME : COMPUTING ESSENTIALS

SUBJECT CODE : 9734

TEACHING AND EXAMINATION SCEME:

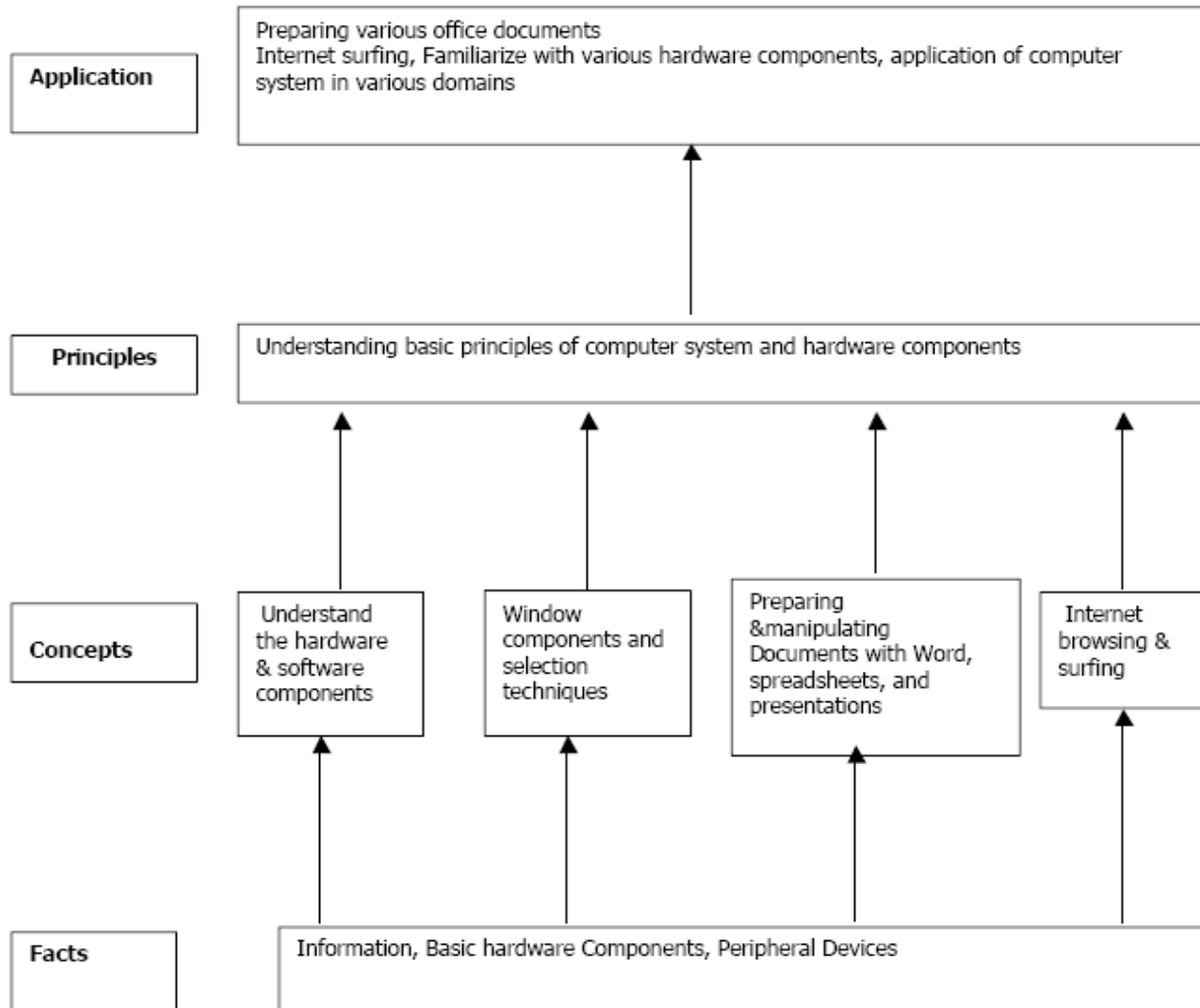| Teaching Scheme			Examination Scheme						
TH	TU	PR	PAPER HRS	TH	TEST	PR	OR	TW	TOTAL
03	-	04	03	80	20	50@	--	--	150

RATIONALE:

Computer plays an important role in human lives. The primary purpose of using a computer is to make life easier. It is a gateway to a wonderful world of information and various applications. Computers have established an indispensable part in a business, academics, defense, budgeting, research, engineering, medicine, space. This subject introduces the fundamentals of computer system focusing various hardware and software components. It also provides biblical worldview regarding computer ethics by means of Internet.

OBJECTIVES:-The students will be able to :

1. Understand a computer system that has hardware and software components, which controls and makes them useful.
2. Understand the operating system as the interface to the computer system.
3. Use the basic functions of an operating system.
4. Set the parameter required for effective use of hardware combined with and application software's
5. Compare major OS like Linux and MS-Windows
6. Use file mangers, word processors, spreadsheets, presentation software's and Internet.
7. Have hands on experience on operating system and different application software
8. Use the Internet to send mail and surf the World Wide Web.

Learning Structure:

Application	Preparing various office documents Internet surfing, Familiarize with various hardware components, application of computer system in various domains

↑

Principles	Understanding basic principles of computer system and hardware components

↑ ↑ ↑ ↑

Concepts	Understand the hardware & software components	Window components and selection techniques	Preparing &manipulating Documents with Word, spreadsheets, and presentations	Internet browsing & surfing

↑ ↑ ↑ ↑

Facts	Information, Basic hardware Components, Peripheral Devices

CONTENTS: Theory

Note: Contents of theory are to be taught in Practical Period

Chapter	Name of the Topic	Marks	Hours
1	**Fundamentals Of Computer** Introduction Block Diagram Of Computer Components of PC The system Unit Front part of system Unit Back part of system Unit CPU, Memory of computer,Monitor Mouse, Keyboard Disk, Printer, Scanner, Modem, Video, Sound cards, Speakers, Applications of Computers	10	06
2	**Operating Systems** **1.Disk Operating System** Internal and External commands	08	05
	2. Windows Operating system Working with window Desktop Components of window Menu bar option Starting window Getting familiar with desktop Moving from one window to another Reverting windows to its previous size Opening task bar buttons into a windows Creating shortcut of program Quitting windows	08	05
3	**GUI Based Editing ,Speadsheets,Tables & Presentation** **a)MS-Word** Menus Opening, menus, Toolbars, standard toolbars, formatting toolbars & closing Quitting Document ,Editing & designing your document, inserting table,inserting pictures,mail merging,page setup,printing of documents.	10	06
	b) MS-Excel Spreadsheets, Working & Manipulating data with Excel changing the layout,inserting functions and formulaes Working with simple graphs,	12	06
4	**c) MS-Powerpoint**	06	06

	Presentation, Working With PowerPoint and Presentation		
5	**d)MS-Access** Creating tables, inserting data	08	04
6	**Introduction To Internet** What is Internet, Equipment Required for Internet connection Sending &receiving Emails, Browsing the WWW Creating own Email Account, Internet chatting	10	06
7	**Information Technology For Benefits of Community** Impact of computers on society Social responsibilities Applications of IT Impact of IT Ethics and information Technology Future with information Technology	08	04
	TOTAL	**80**	**48**

Practical skills to be developed:-

Intellectual Skills:-

        1.Idenfying options
        2.Logical thinking
        3.Designing

Motor Skills:-

1.Drawing the table,inserting pictures.
2.Debugging.
3.Testing.

List Of Practicals:-
1. Working with windows desktop, start icon ,task bar,recycle bin ,my computer icon,creating shortcuts on desktop**.**
2. The windows accessories
      Wordpad-editing an existing document
      Paint-drawing tools
      Calculator,Clock
3. The windows explorer window,concept of drives, folders,files,Folder selection techniques,switching
drives, folder creation, moving and copying files, renaming , deleting files and folders.
4. Printing
installing a printer driver
setting up printer
Default and installed printer
Controlling print queues
Viewing installed fonts.
5. Entering text into word document ,selection techniques, deleting text, moving through word document menu bar.
6. Formatting
Paragraph Formatting

Bullets and numbering

Page formatting, page margin, page size and orientation, page breaks, headers and footers.

7. Inserting tables, inserting rows and columns into table, deleting rows and columns.

8. Development of an application using mail merge.
Mail merging addresses for envelops
Printing an addressed envelope and letter.

9. Creating and opening workbook
Entering data
Navigating in the workbook
Inserting and deleting cells,rows and columns
Moving between worksheets, saving worksheet, workbook

10 Entering formulaes, functions, and chart

11. Creating simple text slide
selecting a slide layout
Manipulating slide information within normal and outline view
Inserting pictures and backgrounds
Applying various animation effects,slide show transition,slide show timings.
Grouping and ungrouping objects

12. Searching the web via Microsoft internet explorer
searching internet using yahoo,searge engines

13 Creating email account,sending and receiving mails
Attaching files

14 Chatting on internet

Learing Resources:-
Books:-

Sr. No.	Author	Title	Publisher
1.	Vikas Gupta	Comdex computer course kit	Dreamtech
2.	Henry Lucas	Information Technology for Management	Tata Mc-Graw hill
3.	B. Ram	Computer Fundamentals Architecture and Organisation	New Age International Publisher
4.	Computer Fundamentals	P.K.Sinha	BPB Publication
5.	Elements of computer Science	S. K. Sarkar V.Gupta	S.Chand

Note : Any book which covers the above syllabus can also be used.

2.Video Cassettes/CDS: MS OFFICE 2003
3.IS/International Codes:---
4.Additional Equipments, Instruments:LCD Projector,Transparancies
5.Web Sites:codecuru.com

COURSE NAME : ADVANCE DIPLOMA IN INFORMATION TECH NOLOGY

COURSE CODE : IA

SEMESTE : FIRST

SUBJECT NAME : PROGRAMMING IN 'C'

SUBJECT CODE : 9735

TEACHING AND EXAMINATION SCEME:

Teaching Scheme			Examination Scheme						
TH	TU	PR	Paper Hrs	TH	TEST	PR	OR	TW	TOTAL
02	02	04	03	80	20	50#	--	50@	200

Rationale:

'C' is the most widely used computer language, which is being taught as a core subject. C is general-purpose structural language that is powerful, efficient and compact, which combines features of high-level language and low-level language. It is closer to Man and Machine both. Due to this inherent flexibility and tolerance it is suitable for different development environments .Due to these powerful features C has not lost its importance and popularity in recently developed and advanced software industry C can also be used for system level programming, C is still considered as first priority programming language.
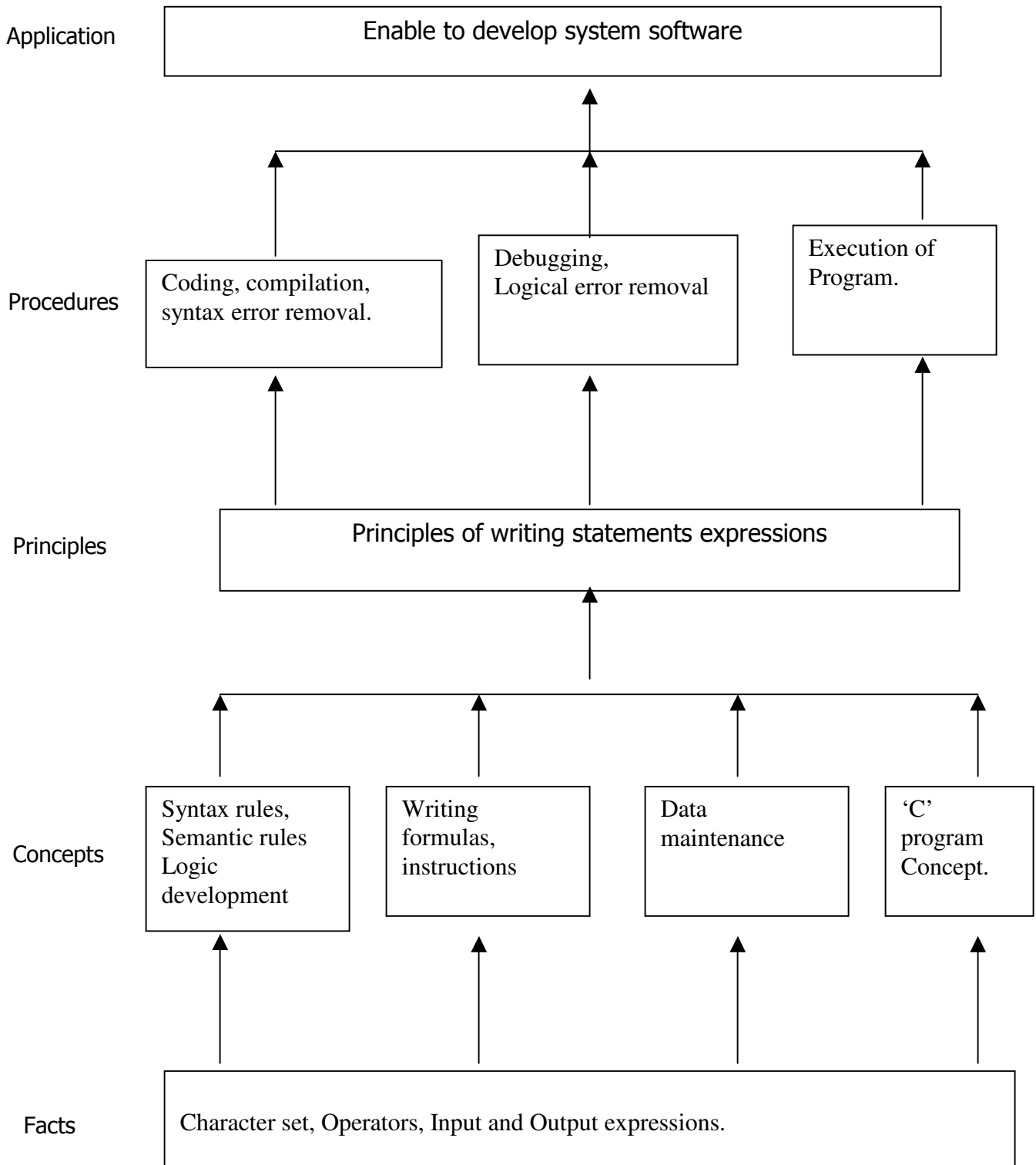
This subject covers from the basic concept of C to pointers in C. This subject will act as "programming concept developer" for students. It will also act as "Backbone" for subjects like OOPS, VB, Windows Programming, JAVA, OOMD, etc.

Objectives:

The students will be able to

- Describe the concepts of constants, variables, data types and operators.
- Develop programs using input and output operations.
- Write programs using different looping and branching statements.
- Write programs based on arrays and strings handling functions.
- Write programs using user-defined functions, structures and union.
- Write programs using C pointers.

Learning Structure:

Application	Enable to develop system software		

Procedures	Coding, compilation, syntax error removal.	Debugging, Logical error removal	Execution of Program.

Principles	Principles of writing statements expressions

Concepts	Syntax rules, Semantic rules Logic development	Writing formulas, instructions	Data maintenance	'C' program Concept.

Facts	Character set, Operators, Input and Output expressions.

Contents: Theory

Chapter	Contents	Hours TH	Hours TU	Marks
01	**Basics of C**	4	4	12
	1.1 History of C, where C stands 1.2 C character set, tokens, constants, variables, keywords 1.3 C operators (arithmetic, Logical, assignment, relational, increment and decrement, conditional, bit wise, special, operator precedence), C expressions data types 1.4 Formatted input, formatted output.			
02	**Decision making**	06	06	18

	2.1 Decision making and branching
	  if statement (if, if-else, else-if ladder, nested if-else)
	  Switch case statement, break statement.
	2.2 Decision making and looping while, do, do-while statements
	  for loop, continue statement			

03	**Arrays and Strings**	05	05	10

	3.1 Arrays
	  Declaration and initialization of one dimensional, two dimensional and character arrays, accessing array elements.
	3.2 Data Structure
	  Introduction to data structure, Linear and non-linear data structure, STACK and QUEUE data structure.
	3.3 Declaration and initialization of string variables, string handling functions from standard library (strlen(), strcpy(), strcat(), strcmp()).			

04	**Functions, Structures**	05	05	10

	4.1 Functions
	  Need of functions, scope and lifetime of variables, defining functions, function call (call by value, call by reference), return values, storage classes. category of function(No argument No return value, No argument with return value, argument with return value), recursion
	4.2 Structures
	  Defining structure, declaring and accessing structure members, initialization of structure, arrays of structure.			

05	**Pointers**	06	06	14
	5.1 Understanding pointers, declaring and accessing pointers, Pointers arithmetic, pointers and arrays, dynamic memory allocation . 5.2 Link list and Tree data structure			
06	File Management in c	06	06	16

	6.1 Introduction. 6.2 Defining and opening a file. 6.3 closing a file. 6.4 I/O operation on file. 6.5 Error handling during I/O operation. 6.6 Random access to file. 6.7 Command line argument			
	Total	**32**	**32**	**80**

Practical:

Skills to be developed**:**

Intellectual skills:

- Apply different logics to solve given problem.

- Write program using different implementations for the same problem

- Identify different types of errors as syntax semantic, fatal, linker & logical

- Debugging of programs.

Motor skills:

- Proper handling of Computer System**.**

List of Practical:

Write a C program

Any One from 1 to 3

1) To display hexadecimal, decimal, octal format of the entered numbers.

2) To display entered number with leading zeros and trailing zeros.

3) To display entered numbers with right justification and left justification.

4) To demonstrate all possible formatting specifiers.

Any one from 5 and 6

5) To find greatest/ smallest of 3 numbers.

6) To display pass class, second-class, distinction according to the marks entered.

Any one from 7 and 8

7) To find even or odd numbers.

8) To display spellings of number 1-10 on entry.

Any one from 9 and 10

9) To display menu 1. Addition 2. Subtraction 3. Multiplication 4. Division and execute it using switch case.

10) To demonstrate continue and BREAK statements.

Any one from 11 to 13

11)   To display our College name twenty times on screen.

12)   To display all even numbers from 1-100.

13)   To perform addition of 1-100 numbers.

Any one from 14 and 15

14)   To find smallest / largest number from array elements.

15)   To sort array elements in ascending / descending order.

Any one from 16 to 18

16)   To enter elements for 3X3 matrix and display them.

17)   To calculate addition / subtraction of 2 dimensional matrix.

18)   To calculate multiplication of 2 dimensional matrix.

19)   To demonstrate output of standard library functions

        Strlen(), strcpy(), strcat(),strcmp().

Any one from 20 and 21

20)   To calculate area of circle using function.

21)   To calculate factorial of any given number using recursion.

22)   To demonstrate call by reference, call by value

23)   To maintain and manipulate student data using structure.

24)   To perform 4 arithmetic functions on pointers.

COMPULSORY

25) To manipulate file.

25)   To implement command line argument.

LIST   OF MINI PROJECTS:

1. Student data management

2.Railway reservation system.

Learning Recourses:

1. Books

Sr. No.	Name of Book	Author	Edition	Publication
1	Programming in 'C'	Balgurusamy	3rd	Tata Mc-Graw Hill
2	Let's 'C'	Kanetkar	3rd	BPB
3	Complete reference C	Herbert Shildt	4th	Tata Mc-Graw Hill
4	Pointers in 'C'	Kanetkar		BPB

2. CD of 'C' Compiler.

3.Websites:

- **http://cplus.about.com/od/beginnerctutoriali/a/blctut.htm**
- **http://computer.howstuffworks.com/c.htm**
- **Objective questions:**

http://www.indiastudycenter.com/studyguides/sc/objtest/default.asp

Demo lectures with power point presentations using LCD projector should be arranged to develop programming concepts of students.

COURSE NAME   **: ADVANCE DIPLOMA IN INFORMATION TECH NOLOGY**

COURSE CODE   **: IA**

SEMESTE   **: FIRST**

SUBJECT NAME   **: DATABASE PROGRAMMING**

SUBJECT CODE   **: 9736**

TEACHING AND EXAMINATION SCEME:

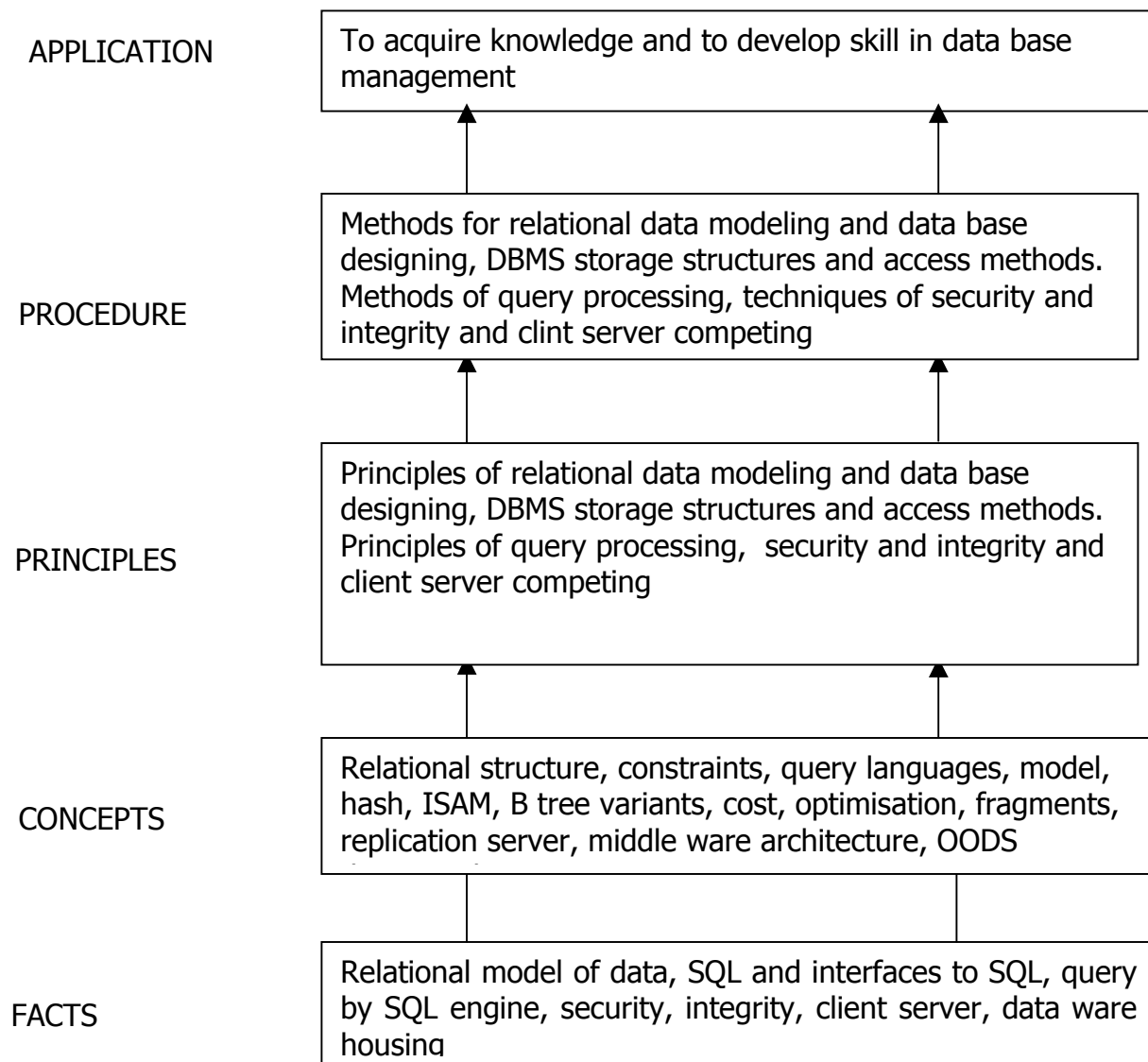| Teaching Scheme			Examination Scheme						
TH	TU	PR	Paper Hrs	TH	TEST	PR	OR	TW	TOTAL
03	--	04	03	80	20	50#	--	50@	200

Rationale:

The major objective of this module is to provide a strong formal foundation in database concepts, technology and practice to the participants to groom them into well-informed database application developers. To provide a sound introduction to the discipline of database management as a subject in its own right, rather than as a compendium of techniques and product specific tools.

Objectives:

1) To give a good formal foundation on the relational model of data.
2) To present SQL and procedural interfaces to SQL comprehensively.
3) To present the concepts and techniques relating to query processing by SQL engines.
4) To introduce the concepts of transactions and transaction processing,
5) To introduce client-server applications, object-oriented database management.
6) To introduce concepts of data warehousing and data mining.

GRAPHICAL STRUCTURE

APPLICATION

> To acquire knowledge and to develop skill in data base management

PROCEDURE

> Methods for relational data modeling and data base designing, DBMS storage structures and access methods. Methods of query processing, techniques of security and integrity and clint server competing

PRINCIPLES

> Principles of relational data modeling and data base designing, DBMS storage structures and access methods. Principles of query processing, security and integrity and client server competing

CONCEPTS

> Relational structure, constraints, query languages, model, hash, ISAM, B tree variants, cost, optimisation, fragments, replication server, middle ware architecture, OODS

FACTS

> Relational model of data, SQL and interfaces to SQL, query by SQL engine, security, integrity, client server, data ware housing

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DETAILED CONTENTS

CHAPTER	CONTENTS	MARKS	HOURS
1	**DATABASE SYSTEM – BASIC CONCEPTS** 1.1 Data: Database, Database Systems, Database Management Systems,Drawbacks of file system, Data Models, Data abstraction , Data independence. 1.2 Architecture: Three level architecture, Data definition language (DDL), Data Manipulation language (DML), Overall system architecture of DBMS. , Data dictionary, Schema Processor, Query Processor, 1.3 Data Models : Three classical Data Models, - Hierarchical, Networking and Relational Data Model. 1.4 Examples of DBMS : Foxpro,Access,SQL,Oracle.	08	06
2	**RELATIONAL DATA MODEL** 2.1 Relational Structure- Tables (relations), Rows (tuples), domains, attributes 2.2 Keys: Candidate Keys, Primary Keys. 2.3 Constraints: Referential Integrity constraints, Entity integrity constraints 2.4 Query Languages: Relational algebra, Relational Calculus etc 2.5 Database Design : Relational Database Design, Normalization based on functional dependencies and multi-valued dependencies, Normal forms 1NF, 2 NF, 3 NF, BC NF, 4 NF, 5 NF 2.6 Conceptual design: Entity Relationship Model,Translation of E-R schemes to relational schemes.	08	06
3	**SQL – AN OVERVIEW** 3.1 Working of SQL: Components of SQL, Types of SQL* Plus data types, Basic SQL operations. 3.2 SQL Commands: Creating tables, inserting data into tables, querying tables, deleting and updating tables, adding columns and dropping tables, changing table structure, renaming a table, altering a table,commit, rollback and autocommit statement.	12	08

CHAPTER	CONTENTS	MARKS	HOURS
4	**DATABASE QUERIES** 4.1 Projection: selecting columns from a table. 4.2 Selection : selecting rows from the table. 4.3 Ordering results: order by. Grouping the results,the group by option, the having option, the break command, the compute command. 4.4 Joins:Accessing related data from several tables:, using outer joins.	12	06
5	**INTRODUCTION TO PL/SQL** 5.1 PL/SQL overview: Declaration section, executable commands section, conditional logic, loops, case statements. Exception handling. 5.2 Triggers:What is trigger, types of triggers: row level triggers ,statement level trigger, BEFORE and AFTER triggers, INSTEAD OF triggers, Enabling and Disabling triggers, replacing triggers, Dropping triggers, Replacing triggers, Dropping triggers.	12	08
6	**PROCEDURES, FUNCTIONS AND PACKAGES** 6.1 Procedures And Functions: Procedures,functions,create procedure syntax, create function syntax, compiling, Dropping procedures and functions. 6.2 Packages:Create package syntax, initializing packages,Compiling packages, replacing dropping packages.	12	06
7	**DATABASE SECURITY** 7.1 Security: Authorization and views, Security specification in SQL , creating users. 7.2 Privilege management: Granting and ,Revoking privileges, locks and partitions.	08	04
8	**DISTRIBUTED DATABASES AND CLIENT SERVER COMPUTING** 8.1 Overview of distributed database system 8.2 Concepts of fragments and distribution of Fragments 8.3 Introduction to Client server computing. 8.4 Two and three layer architecture,Middleware. 8.5 Object oriented database system,Data Warehousing,Data Mining.	08	04
	TOTAL	**80**	**48**

Practical skills to be developed:-

Intellectual Skills:-
    1.Logical thinking
    2.Programming

Motor Skills:-
    1.Proficieny in coding and data entry.
    2.Debugging.
    3.Testing.

List Of Practicals:-
 1.Create tables and insert data into tables.
 2.Use various commands such as update,alter and select.
 3.Use various mathematical functions on the table.
 4.Create multiple tables and join them.
 5.Access related data from several tables.
 6.Create users and grant privileges.
 7. create PL/SQL block using loop structure
 8.Use of exception handling in PL/SQL block
 9.Use of triggers in PL/SQL block
 10. Create procedures, functions & packages
 11.Use locks and partition on the table**.**

Learning Resources:-

Reference Books :

Author	Title	Edition	Year of Publication	Publisher & Address
Arun K. Mujumdar, & P. Bhattacharyya	Database Management Systems	Ist	1996	Tata McGraw Hill Publishing Co. Ltd.
Abraham Silberschtz, Henry Korth & S. Sudarshan	Database System concepts	3rd	1997	McGraw Hill International .
Bipin Desai	An Introduction to Database Systems	Ist	1991	Galgotia Publication
Perry Latter	Understanding Oracle			

Note : Any book which covers the above syllabus can also be used.

2.Video Cassettes/CDS: Oracle 8i

3.IS/Internation Codes:-

4.Additional Equipments, Instruments: LCD Projector

5.Web Sites: www.oraclepower.com, www.oracle-base.com, www.oracle.com.

COURSE NAME   : ADVANCE DIPLOMA IN INFORMATION TECH NOLOGY

COURSE CODE   : IA

SEMESTE   : FIRST

SUBJECT NAME   : VISUAL BASIC

SUBJECT CODE   :

TEACHING AND EXAMINATION SCEME:

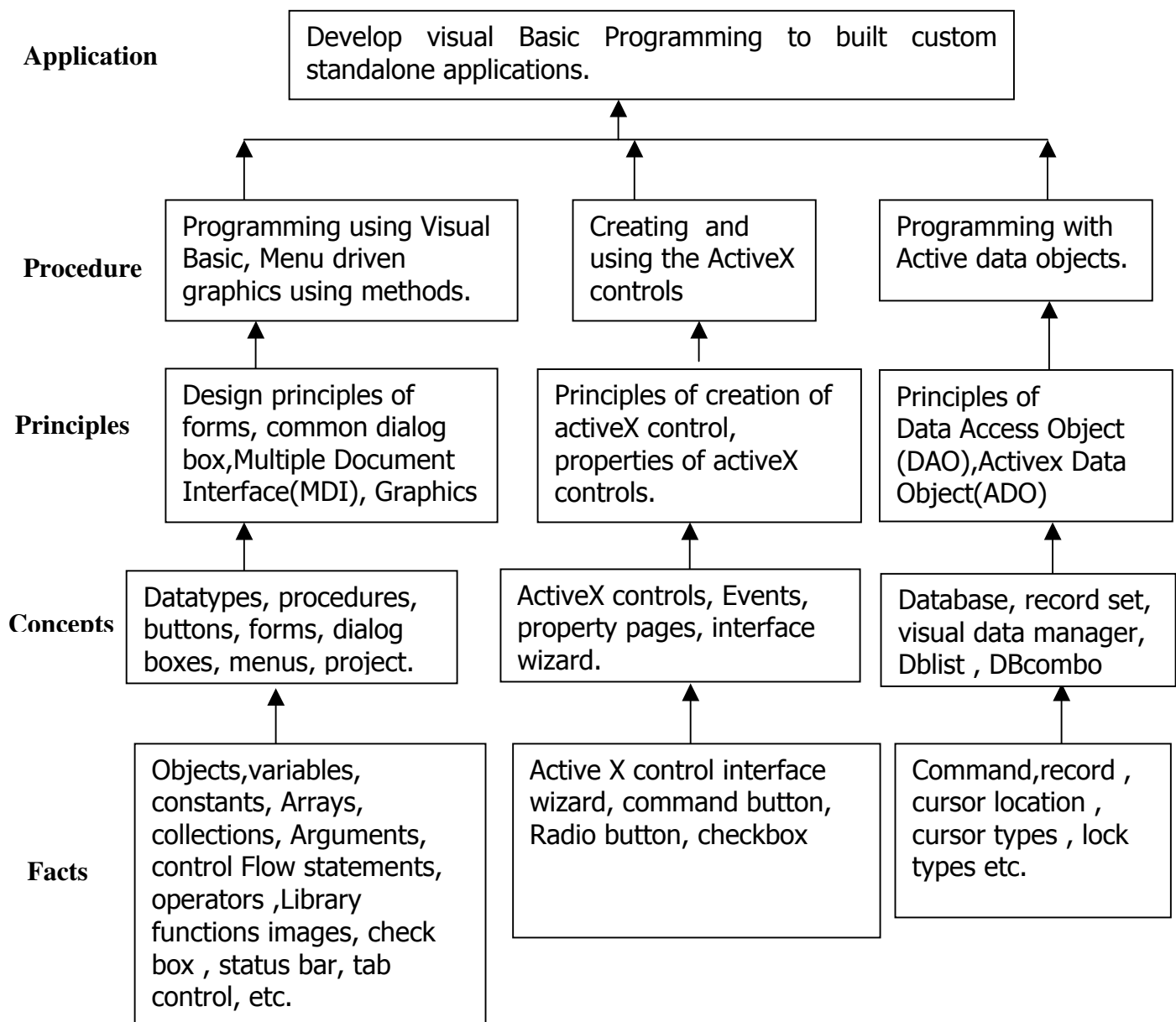| Teaching Scheme			Examination Scheme						
TH	TU	PR	Paper Hrs	TH	TEST	PR	OR	TW	TOTAL
02	--	04	--	--	--	50#	--	50@	100

RATIONALE:

       Visual Basic 6.0 is a front end tool which is used for programming in application like Microsoft Office and is supported in different flavors by Microsoft Excel and PowerPoint. In fact VBA is used in creating applications of all types ,including Activex controls, Client Applications, Internet Information Server Application Designer, Integrated Visual Database tools and Data Environment, Activex Data Objects and the Dynamic HTML page designer.

OBJECTIVES:-The student will be able to :

       1) Implement the Event Driven Architecture of Visual Programming.

       2) Identify and use of different categories of controls.

       3) Use of forms and different data access techniques,

       4) Establish a data base connection

       5) Identify the categories of ActiveX controls and creating them.

LEARNING STRUCTURE

Application

> Develop visual Basic Programming to built custom standalone applications.

Procedure

| Programming using Visual Basic, Menu driven graphics using methods. | Creating and using the ActiveX controls | Programming with Active data objects. |

Principles

| Design principles of forms, common dialog box,Multiple Document Interface(MDI), Graphics | Principles of creation of activeX control, properties of activeX controls. | Principles of Data Access Object (DAO),Activex Data Object(ADO) |

Concepts

| Datatypes, procedures, buttons, forms, dialog boxes, menus, project. | ActiveX controls, Events, property pages, interface wizard. | Database, record set, visual data manager, Dblist , DBcombo |

Facts

| Objects,variables, constants, Arrays, collections, Arguments, control Flow statements, operators ,Library functions images, check box , status bar, tab control, etc. | Active X control interface wizard, command button, Radio button, checkbox | Command,record , cursor location , cursor types , lock types etc. |

DETAILED CONTENTS:

CHAPTER	DETAILED CONTENTS	HOURS
1	**INTRODUCTION TO VISUAL ENVIRONMENT** Concepts of visual programming, object, features Environment of VB – Menu bar, toolbar, project explorer, toolbox, properties window, form designer, form layout, immediate window. Concept of project, elements of projects, form etc.	02
2	**INTRODUCTION TO VISUAL BASIC** Data types, variables, constants, arrays, collections, procedures, Arguments, function return values, control flow statements, loop statements, Nested control structures, The exit statement, math operators & formulas, logical operators, string functions, special functions available in VB like Input Box ( ), Message Box ( ), Format ( ).	06
3	**CONTROLS AND EVENTS**. 3.1 Text box, list Box, Combo Box, Scrollbar and slider Control. 3.2 Container – picture box, frame. 3.3 Option button, checkbox, command button, images. 3.4 OLE controls, 3.5 File controls. 3.6 Designing a form using controls, concepts of event & properties, changing properties (runtime & design time) Important events of each control & creating applications using controls. 3.7 Timer.	06
4	**ADVANCE CONTROLS & EVENTS** 4.1 Common Dialog Box controls, The Tree view and List View controls, the rich textbox controls. 4.2 Windows common controls – status Bar, Tab control, image list control, ms chart control, slider control. 4.3 Important properties, changing properties at design or run time event handling.	06
5	**MODULE, CLASS MODULE MDI, MENU EDITOR AND GRAPHICS** 5.1 Concept of module, class module, MDI, how to use them. 5.2 Creating own menu using menu editor, popup menu. 5.3 Graphics :- 5.4 Basic controls – Line & shape control , line method, circle method, Pset method, RGB ( ) Functions, Paint picture ( ) method, Load picture ( ) function.	04

CHAPTER	DETAILED CONTENTS	HOURS

6	**DATABASE CONNECTION AND REPORT GENERATION**
	
	6.1 Concept of database, Record, Record set, Data control &
	    its important properties, validating data, entering data,
	    visual data manager, data bound grid control, DB List,
	    DB combo.
	6.2 Programming with ADO (Active data objects) ADO
	    Objects, connection, command, record set , parameter,
	    Creating & closing a connection; executing a command
	    Object, executing a stored procedure from a command
	    Object, creating record sets objects, cursor Location,
	    Cursor types, lock types.
	6.3 Report generation using Data report. Crystal report
		08

	TOTAL	**32**

Practical skills to be developed:-

Intellectual Skills :

1.Indifying controls
2.Logical thinking
3.Designing

Motor Skills :

1.Proficieny in coding and data entry.
2.Debugging.
3.Testing.

List of Practicals:
1. Design a form using textbox, label, command button and set their properties.
2. Design form to create a font dialog box using combo/ list, text, option buttons, and check box control.
3. Design a form using Tab control, image list, status bar, tool bar, which facilitates different arithmetic operations.
4. Design a form using menu editor, MDI, common dialog box which has standard format like Notepad. (eg. File , Edit , format) open copy, font, save and cut.)
5. Design a form to create pop-up menu.
6. Design a form for speed control program using scroll bars.
7. Design a form to display a picture using image box/picture box selected from a file in file list box directory list box, drive list box.
8. Design a form using shape control to display signal and change it timely using timer control.
9. Design a simple application using OLE control.
10. Design a simple database application using DAO.
11. Design a simple database application using ADO.
12. Design a simple database application using RDO.
13. Generate report for the above database application.

Term Work Assignment :-
1. Design calculator using control array.
2. Design Notepad.Use all options of Notepad.
3. Create Explorer like Windows
4. Create menubar,toolbar like windows.
5. Develop an application for I-card.

Learning Resources:-

References:-

1.Books:

Author	Title	Publisher & Address
Evangelos Petront Sos.	Mastering VB6	BPB publications, B-14 connaugh place New Delhi
Nel Jerka	The complete reference-VB6	Tata Mcgraw Hill publishing company Ltd., New Delhi
Michel Vine	VB Programming	PHI Publication

Note : Any book which covers the above syllabus can also be used.

2.Video Cassettes/CDS: Crystal Report ,Visual Basic 6.0

3.IS/Internation Codes:-

4.Additional Equipments, Instruments:

5.Web Sites: www.vbcodes.com,www.codeguru.com

COURSE NAME : ADVANCE DIPLOMA IN INFORMATION TECH NOLOGY

COURSE CODE : IA

SEMESTE : FIRST

SUBJECT NAME : PROFESSIONAL PRACTICES

SUBJECT CODE :

TEACHING AND EXAMINATION SCEME:

Teaching Scheme			Examination Scheme						
TH	TU	PR	Paper Hrs	TH	TEST	PR	OR	TW	TOTAL
--	--	04	--	--	--	--	--	50@	50

Rationale:

Due to globalization and competition in the industrial and service sectors the selection for the job is based on campus interviews or competitive tests.

While selecting candidates a normal practice adopted is to see general confidence, ability to communicate and attitude, in addition to basic technological concepts.
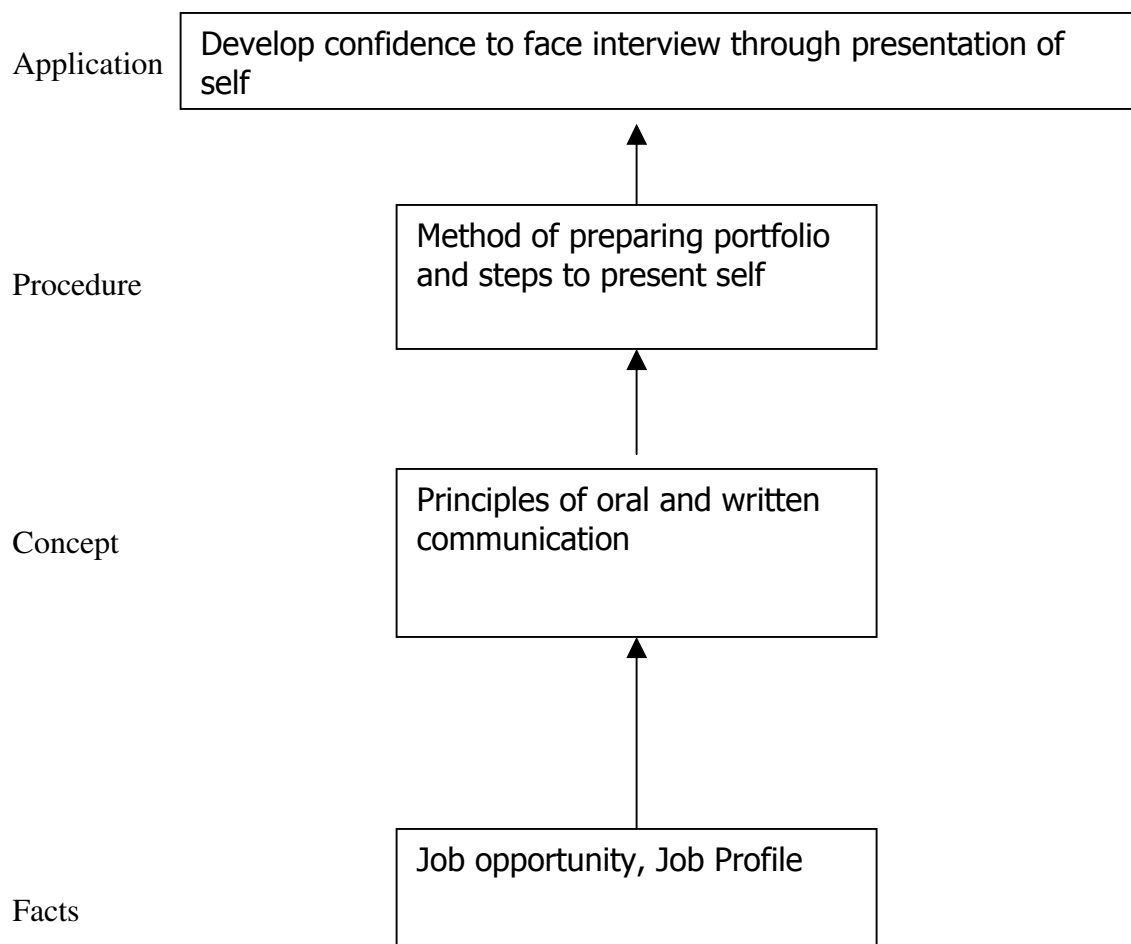
The purpose of introducing professional practices is to provide opportunity to students to undergo activities which will enable them to develop confidence. Industrial visits, expert lectures, seminars on technical topics and group discussion are planned in a semester so that there will be increased participation of students in learning process.

Objectives:

Student will be able to:

1. Acquire information from different sources
2. Prepare notes for given topic
3. Present given topic in a seminar
4. Interact with peers to share thoughts
5. Prepare a report on industrial visit, expert lecture

Learning Structure:

Application | Develop confidence to face interview through presentation of self

↑

Procedure | Method of preparing portfolio and steps to present self

↑

Concept | Principles of oral and written communication

↑

Facts | Job opportunity, Job Profile

Activity	Content
01	**Industrial Visits** Structured industrial visits be arranged and report of the same should be submitted by the individual student, to form part of the term work. 1. Visit a industry 2. Collect organization chart 3. Roles and responsibilities of each post. 4. No. of resources available in industry etc 5. Software used into that industry
02	**Lectures by Professional / Industrial Expert be organized from any of the following areas:** i. Meditation. Yoga to improve concentration ii. Robotics iii. Any latest tool useful for software development iv. Mobile computing v. Data Mining vi. SAP vii. Neural network viii. Software project Management ix. Wi-fi Technology x. Any other suitable topic
03	**Information Search :** a) Current technology in computer field
04	**Group Discussion :** The students should discuss in group of six to eight students and write a brief report on the same as a part of term work. The faculty members may select the topic group discussions.
05	**Student Activities** : The students in a group of 3 to 4 will perform any one of the following activities (other similar activities to be considered), and write a report as part of term work. Activity : i) Collect information from Computer repairing center (at which level repairing is done, cost). ii) Collect information regarding latest requirement for a job from any industry

COURSE NAME : ADVANCE DIPLOMA IN INFORMATION TECH NOLOGY

COURSE CODE : IA

SEMESTE : FIRST

SUBJECT NAME : MINI PROJECT

SUBJECT CODE :

TEACHING AND EXAMINATION SCEME:

Teaching Scheme			Examination Scheme						
TH	TU	PR	Paper Hrs	TH	TEST	PR	OR	TW	TOTAL
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RATIONALE

The project will enable the students to integrate the knowledge and skills acquired in the past one semester of the diploma.

PROJECT:

Project Development: The Right Approach

Project Selection

    i)   Project must be based on knowledge acquired from first semesters of Diploma. Students must be aware with languages, packages hardware, he/ she is using in his/her project..

    ii)   Repetition of project should be avoided as far as possible.

    iii)   After start of Academic year, two weeks period is to be provided for project selection. At the end of second week. student must submit a 3-4 page document (synopsis) giving outline of project and feasibility study report.

    iv)   Feasibility study should includes:
        a)   Time feasibility.
        b)   Software, Hardware availability.
        c)   Sufficient information source
        d)   Cost effectiveness, etc.

    v)   A group of maximum 2 students can develop a project,

    vi)   Project may be:
        a)   Application Oriented
        b)   System Software.

Project Design

    This is Second phase in which students will actually start collecting detail information about their project.

i)   Group must visit concern persons in the field to collect the system requirement. A practical design and development is to be achieved.

ii)   They must adopt standard procedures, rules, regulation used in the real system and no imaginary model should be developed.

iii)   Group can collect information about any other package, software currently under development on same subject or already developed and group should study what facilities the available software provide and what are its drawbacks.

iv)   If any such software is implemented/installed at some industry students must visit and collect on site information.

v)   Taking into consideration all requirements, design total system in top down fashion.

vi)   Design must be modular and there must be clear distribution of task among group members.

Project Development

In Third Phase students are expected to utilize their time for actual coding, testing, of project.

i)   Independent module development is necessary.

ii)   Enough time must be provided in time-table for project development

iii)   There must be continuous assessment of project development.

iv)   Prototype model may be developed and tested.

Project Report

Must Include:-

a) Feasibility analysis of Project (as per point no. 4 in Project selection).
b) Project design and implementation.
c) Algorithms.
d) DFDs/Flowchart, wherever applicable.
e) Future development.
f) Costing.
g) Bibliography.
h) User manual.
i) Project source code with entire set of accessories such as database, drivers etc. in form of CD.

This document should be included in the syllabus and be available in library for reference to students at the start of academic year.