MANGALORE UNIVERSITY

Revised Syllabi for

B.A - Data Processing Degree Course

Credit Based Semester System (2012-13 onwards)

MANGALORE UNIVERSITY

B.A-DATA PROCESSING COURSE PATTERN AND SCHEME OF EXAMINATIONS

I Semester B.A-DATA PROCESSING

Paper Code	Subject Title	Hrs. per week	Duration of Exams	Marks	Marks and Credit		
		Theory /Practical.	Theory/ Practical.	I.A	Exam	Total	Credits
DP101	Fundamentals of Computer & Office Automation –I	04	03	20	80	100	2
DP102	Office Automation Lab–I	03	03	10	40	50	1
Total		07				150	3

II Semester B.A-DATA PROCESSING

Paper Code	Subject Title	Hrs. per week	Duration of Exams	Marks	Marks and Credit		
		Theory /Practical.	Theory/ Practical.	I.A	Exam	Total	Credits
DP151	Computer Fundamentals & Office Automation-II	04	03	20	80	100	2
DP152	Office Automation Lab-II	03	03	10	40	50	1
Total		07				150	3

III Semester B.A-DATA PROCESSING

Paper Code	Subject Title	Hrs. per week	Duration of Exams	Marks	Marks and Credit		
		Theory /Practical.	Theory/ Practical.	I.A	Exam	Total	Credits
DP201	Desktop Publishing	04	03	20	80	100	2
DP202	DTP Lab	03	03	10	40	50	1
Total		07				150	3

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B.A-DATA PROCESSING COURSE PATTERN AND SCHEME OF EXAMINATIONS

IV Semester B.A-DATA PROCESSING

Paper Code	Subject Title	Hrs. per week	Duration of Exams	Marks	Marks and Credit		
		Theory /Practical.	Theory/ Practical.	I.A	Exam	Total	Credits
DP251	Introduction to Data Analysis	04	03	20	80	100	2
DP252	Data Analysis Lab	03	03	10	40	50	1
Total		07				150	3

V Semester B.A-DATA PROCESSING

Paper Code	Subject Title	Hrs. per week	Duration of Exams	Marks	Marks and Credit		
		Theory /Practical.	Theory/ Practical.	I.A	Exam	Total	Credits
DP301	Introduction to System Analysis Design	03	03	20	80	100	2
DP302	Web Design	03	03	20	80	100	2
DP303	Web Design Lab	04	04	20	80	100	2
Total		10				300	6

VI Semester B.A-DATA PROCESSING

Paper Code	Subject Title	Hrs. per week	Duration of Exams	Marks	Marks and Credit		
		Theory /Practical.	Theory/ Practical.	I.A	Exam	Total	Credits
DP351	Fundamentals of Visual Programming	03	03	20	80	100	2
DP352	Database Concepts and Oracle	03	03	20	80	100	2
DP353	Visual Basic and Oracle Lab	04	04	20	80	100	2
Total		10				300	6

Total Marks :1200
Total number of Credits: 24

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I Semester B.A-DATA PROCESSING

Paper Code	Subject Title	Hrs. per week	Duration of Exams	Marks	Marks and Credit		
		Theory /Practical.	Theory/ Practical.	I.A	Exam	Total	Credits
DP101	Fundamentals of Computer & Office Automation –I	04	03	20	80	100	2
DP102	Office Automation Lab–I	03	03	10	40	50	1
Total		07				150	3

PAPER-I	DP 101: Computer Fundamentals & Office Automation –I	48 hours
Theory/Week: 4 Hrs **Credits: 2**		**I.A: 20** **Exam: 80**
	UNIT-I	**12 Hrs.**
Introduction to Computer - Introduction, Digital and Analog Computers, Characteristics of Computers, History of development of computers, Computer generations, Classifications of computers, Computer system, Applications of Computer. **Computer System Hardware** – Introduction, Central Processing Unit(CPU), Memory unit, Microprocessors, Interconnecting units of a computer, performance of a computer, Inside a computer cabinet.	
	UNIT-II	**12 Hrs.**
Computer Memory and Storage devices: Introduction, memory representation, memory hierarchy, CPU registers, cache memory, primary, secondary memory, access, Access types of storage devices, magnetic tape, magnetic disk, optical disk, Magneto-optical disk. **Input and Output devices:** Introduction, Input-output unit, Input devices, Human data entry devices, source data entry devices, output devices – hard copy devices, softcopy devices.	
	UNIT-III	**12 Hrs.**
Data representation: Introduction, Number system- Decimal, Binary, Octal, Hexadecimal, conversion to different bases, binary arithmetic, signed and unsigned numbers, binary data representation, Binary coding schemes. **Interaction of User and Computer:** Introduction, types of software, system software, application software. **Operating System**: Introduction, objectives of operating system, types, functions, examples of operating system.	
	UNIT-IV	**12 Hrs.**
MS Windows : Introduction to M.S. Windows XP; Features of Windows; Desktop, structure, Windows Explorer, the search, Recycle bin, configuring the screen and mouse, adding or removing programs, adding new hardware, system tools, scandisk, Windows XP media player, help, Windows Vista, Windows 7. **MS Word:** Introduction, starting with MS Word, MSWord screen and its components, the office button, the ribbon, solved examples. **MS Excel:** Introduction, starting with MS Excel, basics of MS Excel, the office button, the ribbon, solved examples.	
colspan	**Text book** Anita Goel, **Computer Fundamentals**, Pearson Education, 2011.	
colspan	**Reference Books** 1. Peter Norton, **Introduction to Computers**, Tata Mcgraw Hill, 6 or 7th Edition 2. ITL Education Solution Limited, **Introduction to Information Technology**, Pearson Education, 2012. 3. Saxena S, **MS Office 2007 in A Nutshell**, Vikas Publishing, 2011 4. Vikas Gupta, **MS OFFICE 2007**, Wiley	

Practical-I	Office Automation Lab-I	36 Hours
Theory/Week: 3 Hrs **Credits: 2**	Exercises on MS-Word and MS-Excel Packages and Windows	**I.A: 20** **Exam: 80**

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II Semester B.A-DATA PROCESSING

Paper Code	Subject Title	Hrs. per week	Duration of Exams	Marks	Marks and Credit		
		Theory /Practical.	Theory/ Practical.	I.A	Exam	Total	Credits
DP151	Computer Fundamentals & Office Automation-II	04	03	20	80	100	2
DP152	Office Automation Lab-II	03	03	10	40	50	1
Total		07				150	3

PAPER-II	DP151: Computer Fundamentals of & Office Automation –II	48 hours
Theory/Week: 4 Hrs Credits: 2		I.A: 20 Exam: 80
	UNIT-I	**12 Hrs.**
Computer Programming Fundamentals: Introduction, Program development life cycle, control structure, flow chart, pseudo code, algorithm, programming paradigms. **Information Systems:** Introduction, Data, information, knowledge, Characteristics of information, Information system, Computer based Information Systems, need for efficient Information Systems, categories of Information Systems.	
	UNIT-II	**12 Hrs.**
	Data communication and Computer Network: Introduction, importance, data transmission media, Computer Network, Wireless networking . **The Internet and Internet Services:** Introduction, History, Internetworking protocol, Internet architecture, managing Internet, connecting to Internet, Internet address, services, uses.	
	UNIT-III	**12 Hrs.**
	Fundamentals of Database – Introduction, Database, Database system, Database management system, Database system architectures, database applications. **Multimedia** – Introduction, definition, characteristics, elements, multimedia system features, multimedia applications. **Computer Security** – Introduction, security threat and security attack, malicious software, security services, Digital signature, firewall, user identification and authentication.	
	UNIT-IV	**12 Hrs.**
	MS PowerPoint: Introduction, Basics of MS Power point, MS Power point screen and its components, the office button, the ribbon, an example. **MS Access:** Introduction, database terminology, start MS Access, MS Access screen and its components, the office button, the ribbon, solved example. **Network and Internet connections** – Introduction, start network connection, create a new connection, manage a network connection, network setup, windows firewall, sharing of files, setup internet properties, choosing an internet connection.	
	Text book Anita Goel, **Computer Fundamentals**, Pearson Education, 2011.	
	References 1. Peter Norton, **Introduction to Computers**, Tata Mcgraw Hill, 6 or 7th Edition 2. Saxena S, **MS Office 2007 in A Nutshell**, Vikas Publishing, 2011 3. Vikas Gupta, **MS OFFICE 2007**, Wiley	

Practical-II	Office Automation Lab-I	36 Hours
Theory/Week: 3 Hrs Credits: 2	Exercises on MS-Access and MS-Powerpoint Packages	I.A: 20 Exam: 80

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III Semester B.A-DATA PROCESSING

Paper Code	Subject Title	Hrs. per week	Duration of Exams	Marks	Marks and Credit		
		Theory /Practical.	Theory/ Practical.	I.A	Exam	Total	Credits
DP201	Desktop Publishing	04	03	20	80	100	2
DP202	DTP Lab	03	03	10	40	50	1
Total		07				150	3

PAPER-III	**DP201: DESKTOP PUBLISHING**	**48 hours**
Theory/Week: 4 Hrs **Credits: 2**		**I.A: 20** **Exam: 80**
	UNIT-I	**12 Hrs.**

Desktop Publishing: Introduction, The steps in conventional publishing, the steps in Desktop publishing, uses of DTP, Desktop publishing programs

PageMaker: Introduction, Creating and opening publications, Opening publications created in previous PageMaker versions, about templates, applying masters to new pages as you create them, working with Palettes, Adding text and graphics to templates, Building your own template, specifying a save option preference, Setting up pages-Changing document setup options, Creating master pages, Applying master pages, Applying Grids, Text Formatting and word processing: Threading text blocks, Threading text frames. Balancing columns-controlling page and column breaks, Adding jump lines, Formatting characters, Formatting paragraphs-Setting indents and tabs-Adding rules above or below paragraphs, Using paragraph styles-Understanding how text is composed-Tracking type-Setting word and letter spacing-Customizing hyphenation for specific words- Customizing hyphenation for paragraphs-Leading: Adjusting the space between lines of text. Grouping and ungrouping objects, locking objects- Masking objects-Aligning and distributing objects-Rotating, skewing, and reflecting objects. Drawing and editing lines and shapes-Using frames-Changing the stacking order of objects- Cropping a Graphic-Wrapping text around graphics- Attaching a graphic to text. Using image control on a bitmap -Using Photoshop effects- Compressing and decompressing a TIFF image- Viewing images on-screen at different resolutions

	UNIT-II	**12 Hrs.**

Photoshop: Getting started with Photoshop, Opening an Existing File, The Photoshop Program Window, Screen Modes, Saving Files, Reverting Files, Closing Files, Preferences, Working With Images: Vector and bitmap Images, Image Size, Image Resolution, Editing Images, Opening Files created in Illustrator or Freehand, color Modes, Setting a current Foreground and Background Colors, File Formats, Making Selection, The Grow and Similar Commands, Moving a Portion of an Image, Editing Selections, Copying a Selection in to another Image, Filling a Selection, Transforming selections, Painting, Drawing and Retouching Tools: The Painting Tools, The Drawing tools, The Retouching Tools., Layers Palette, Working with Layers, , Layer Effects Type, Creating Type, Type Tool, Moving the Text, Creating Paragraph Type, Resizing a bounding Box, Changing the Type settings, Converting the Point Type to Paragraph Type, Converting Type Layers to Standard Layers, Type Making Filters: The Filter Menu, Filter Gallery, Extract Filter, Liquify Filter, Vanishing Point Filter, Artistic Filters, Blur Filters, Brush Stroke Filters, Distort Filters, Noise Filters, Pixelate Filters, Lighting Effects, Difference Clouds, Sharpen Filters, Sketch Filters, Stylize Filters, Other Filters

	UNIT-III	**12 Hrs.**

CorelDraw Basics: Getting started with CorelDraw, The CorelDraw Screen, Property Bar, Drawing Basic, Geometric Figures, Drawing Polygon, Creating a File, Opening in Existing CorelDrawing, Views, the View Manager, Undoing, Redoing, and Repeating action, Drawing and Selecting: Getting familiar with the Toolbars, Getting started with the Project, more about Lines, Working with Objects shapes, using the transformation Decker, Adding Effects to Object, Working with Text-The Text Tool, Getting started with the book cover, converting from one text type to another, Formatting Text, The text editor

UNIT-IV	12 Hrs.
CorelDraw advanced: The Text Images: Working with Images, importing Images, resizing, rotating and skewing images, copying an image, importing images from a CD, converting to Bitmap, Adding special effects to bitmaps, Exporting files to other applications, publishing to PDF, Managing color for display, Input and Output, Working with color profiles, Backup and Recovering Files, Page Layout and Background: Changing the page size, Changing the Page Layout, Changing the page Background, Page Frame, Inserting Pages, Renaming Pages. Deleting Pages, Rulers, Templates, Creating a new Templates	

Text Books:
1. M.C Sharma, **Desk Top Publishing on PC**, BPB Publications, 2000.
2. Adobe**, Adobe PageMaker 7.0 - Classroom in a Book**, BPB Publications, 2002.
3. Gary David Bouton, **CorelDRAW X5 : The Official Guide**, Tata Mcgraw Hill Education Private Limited, 2011.
4. Robert Shufflebotham, **Photoshop CS5 in Easy Steps**, Tata Mcgraw Hill Education Private Limited, 2010.

Reference Books:
1. Kevin G Proot, **Adobe PageMaker 7. 0**, Cengage Learning India, 2009.
2. Kogent Learning Solutions Inc., **CorelDraw X5 in simple steps**, Dreamtech Press, 2011.
3. Lisa Danae Dayley, Brad Dayley, **Adobe Photoshop CS5 Bible**, Wiley's India Publications, 2011.

Practical-III	**DP202: DTP Lab**	**36 Hours**
Theory/Week: 3 Hrs Credits: 2	Lab Exercises in PageMaker, Photoshop and CorelDraw	I A: 20 Exam: 80

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IV Semester B.A-DATA PROCESSING

Paper Code	Subject Title	Hrs. per week	Duration of Exams	Marks	Marks and Credit		
		Theory /Practical.	Theory/ Practical.	I.A	Exam	Total	Credits
DP251	Introduction to Data Analysis	04	03	20	80	100	2
DP252	Data Analysis Lab	03	03	10	40	50	1
Total		07				150	3

PAPER-IV	DP 251: INTRODUCTION TO DATA ANALYSIS	48 hours
Theory/Week: 4 Hrs **Credits: 2**		**I A: 20** **Exam: 80**
	UNIT-I	**12 Hrs.**

Progressions: Application of Arithmetic Progression and Geometric Progression. Arithmetic progressions finding the nth term of an AP and also sum to nth terms of an AP. Insertion of Arithmetic means in given terms of AP and representation of AP. Geometric progression: finding nth term of GP. Interest Applications: Simple interest, compound interest including half yearly and quarterly calculation, Installment Purchases (Cost of Installment, Effective rates, amortization of a loan) Percentage and Ratios' Applications: Percents, Commissions, Discounts, e.g., bill discounting, mark up and concepts of Ratios.

	UNIT-II	**12 Hrs.**

Introduction, Definition and scope of statistics,
Classification, Tabulation and Graphical Representation: Classification of Data, Preparation of tables Presentation of Data, Variable, Frequency, Frequency Distribution, Cumulative frequency, Diagrammatic representation of data, Histogram, Pie chart, Line graph, Frequency polygon, Ogive
Measures of Central Values: Arithmetic Mean, Median, Mode, Geometric Mean, Harmonic Mean, Relation between the measures of central tendency.
Measures of Dispersion: Range, Quartile Deviation or semi-interquartile range, Mean Deviation, Standard Deviation, Relation between the measures of dispersion, Coefficient of variation.

	UNIT-III	**12 Hrs.**

Index Numbers: Definition, Methods of Construction of Index Numbers, Index numbers-Laspeyere-Passche-Fisher's price and quantity index numbers-Time reversal and factor reversal tests
Time Series-Different components-Trend analysis by moving average and Least squares method-Measurement of Cyclical variation by residual method-Measurement of seasonal variation by simple average and ratio to moving average method-Irregular variation

	UNIT-IV	**12 Hrs.**

Regression: Introduction, Regression model, estimation using Regression line, the method of least squares, Two regression equations, Regression coefficients and properties.
Correlation : Concept and importance of correlation, types of correlation, graphic method of correlation, algebraic methods of correlation, co-efficient of determination, Rank correlation

Text books:
1. Padmalochan Hazarika, **A Textbook of Business Mathematics**, 2nd Edition, S. Chand Publishing, 2010. (Unit I)
2. B L Agarwal, **Basic Statistics**, 5th Edition, New Age International ltd, Publishers, 2011(Unit: II & III)
3. G C Beri, **Business Statistics**, 3rd Edition, McGraw Hill, 2011 (Unit: IV)

Reference Books:
1. S.C. Gupta, **Fundamentals of Statistics**, Sultan Chand & sons, Delhi.
2. D.N. Elhance, **Fundamentals of Statistics**, Kitab Mahal, Allahabad.
3. Asthana, Hari Shankar, Bhushan, Braj, **Statistics for Social Sciences (with SPSS Applications)**, PHI, 2007
4. Rutkosky, **Excel 2007**, BPB

Practical -IV	DP 252: Data Analysis Lab	36 Hours
Theory/Week: 3 Hrs Credits: 1	Mathematical and Statistical exercises using MS- Excel or SPSS package	I.A: 10 Exam: 40

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V Semester B.A-DATA PROCESSING

Paper Code	Subject Title	Hrs. per week	Duration of Exams	Marks	Marks and Credit		
		Theory /Practical.	Theory/ Practical.	I.A	Exam	Total	Credits
DP301	Introduction to System Analysis Design	03	03	20	80	100	2
DP302	Web Design	03	03	20	80	100	2
DP303	Web Design Lab	04	04	20	80	100	2
Total		10				300	6

PAPER-V	DP301: INTRODUCTION TO SYSTEM ANALYSIS AND DESIGN	48 hours
Theory/Week:3 Hrs **Credits: 2**		**I.A: 20** **Exam: 80**
	UNIT-I	**12 Hrs.**

System concepts and the information system environment: Introduction, system and its parts, system concepts, organization, managers and information, computer based information system. **System Development life cycle:** Introduction, The six phases of system analysis and design, system document considerations, life cycle models, Different approaches to improvement development, object oriented analysis and design. **Role of the system analyst**: Introduction, System analysts role and other organizational responsibilities in system development, Analytical, technical, managerial and interpersonal skills, ethics.

	UNIT-II	**12 Hrs.**

Requirement determination and specification: Performing requirements determination, traditional methods for requirement determination, contemporary methods for determining systems requirements, radical methods for determining system requirements, requirements determination using agile methodologies.

	UNIT-III	**12 Hrs.**

Process modeling: using DFDs in analysis process; Logic modeling using structured English and decision trees, Conceptual data modeling and ER models.

	UNIT-IV	**12 Hrs.**

Designing forms and reports, designing databases, input and output design, System development: SDLC

Text Book:
    J. B. Dixit, Raj Kumar, **Structured System Analysis and Design**, Laxmi Publications, 2008.

Reference Books:
1. Senn, **Analysis and Design of Information Systems,** 2nd Edition, Tata McGraw Hill
2. Elias M Awad, **System Analysis and Design**, 2nd edition, Galgotia Publications Pvt Ltd, New Delhi

PAPER-VI	DP 302: Web Design	48 hours
Theory/Week: 3 Hrs **Credits: 2**		**I A: 20** **Exam: 80**
	UNIT-I	**12 Hrs.**
Internet Basic - Introduction to HTML - List - Creating Table - Linking document Frames - Graphics to HTML Doc - Style sheet - Style sheet basic - Add style to document - Creating Style sheet rules - Style sheet properties - Font - Text - List - Color and background color - Box - Display properties.		
	UNIT-II	**12 Hrs.**
Introduction to Javascript - Advantage of Javascript - Javascript Syntax – Data type - Variable - Array - Operator and Expression - Looping Constructor - Function - Dialog box.		
	UNIT-III	**12 Hrs.**
JavaScript document object model - Introduction - Object in HTML - Event Handling - Window Object - Document object - Browser Object - Form Object - Navigator object Screen object - Build in Object - User defined object - Cookies.		
	UNIT-IV	**12 Hrs.**
ASP. NET Language Structure - Page Structure - Page event, Properties & Compiler Directives. HTML server controls - Anchor, Tables, Forms, Files. Basic Web server Controls- Label, Textbox, Button, Image, Links, Check & Radio button, Hyperlink. Data List Web Server Controls - Check box list, Radio button list, Drop down list, List box, Data grid, Repeater.		

Text Book

Ivan Bayross, **Web Enabled Commercial Application Development Using HTML, JavaScript, DHTML & PHP**, BPB Publications, 2009

Reference Books
1. Sean McManus, **Web Design in Easy Steps**, Tata McGraw hill education private limited, 2011
2. Paul J. Deitel, **Harvey M. Deitel Internet & World Wide Web: How to Program**, 4th Edition, PHI, 2007
3. Greg Buczek, **ASP.NET: Developer's Guide**, Tata McGraw Hill Education private limited, 2002
4. Kogent Learning Solutions Inc, **HTML5 Black Book: Covers CSS3, Javascript, XML, XHTML, Ajax, PHP and Jquery** (With CD), Dreamtech press, 2011
5. Jon Duckett, **Beginning HTML, XHTML, CSS and Javascript**, Wiley India Pvt Ltd, 2010

Practical-VI	DP303: Web Design lab	48 Hours
Theory/Week: 4 Hrs Credits: 1	Exercises on Web design	I.A: 20 Exam: 80

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VI Semester B.A-DATA PROCESSING

Paper Code	Subject Title	Hrs. per week	Duration of Exams	Marks	Marks and Credit			
		Theory /Practical.	Theory/ Practical.	I.A	Exam	Total	Credits
DP351	Fundamentals of Visual Programming	03	03	20	80	100	2
DP352	Database Concepts and Oracle	03	03	20	80	100	2
DP353	Visual Basic and Oracle Lab	04	04	20	80	100	2
Total		10				300	6

PAPER-VII	DP 351: FUNDAMENTALS OF VISUAL PROGRAMMING	48 hours
Theory/Week: 3 Hrs **Credits: 2**		**I. A: 20** **Exam: 80**
	UNIT-I	**12 Hrs**.

Introduction to Visual Basic: Features of Visual Basic; The Integrated Development Environment; The Menu Bar; The Tool Bar; The Project Explorer; The ToolBox; The Properties; Window; The Form Designer; The Form Layout; The elements of the user; Interface; Designing the User Interface; Event – Driven Programming, **Variables in Visual Basic: W**hat is a variable; Declaring variables: Explicit, Implicit; Types of variables; Converting variable types: Data type conversion, Functions of Visual Basic; User-Defined Data Types: Type …EndType; Special Values: The Empty value, The Null Value, The Nothing Value, The Error Value; Scope of a Variable: Procedure level, Module level; Constants: Declaring constants, scope of constants; Arrays: Declaring Arrays, Multidimensional Arrays, Dynamic Arrays – Redim and Preserve keyword; Handling Operators: Arithmetic, comparison, Logical.

	UNIT-II	**12 Hrs.**

Handling Strings: Variable length, Fixed length; String Functions: StrComp, StrConv, Format, Lcase, Ucase, Space, String, Len, Lset, Rset, Instr, Left, LTrim, Mid, Right, Rtrim, Trim, Asc, Chr, **Mathematical, Date Functions: a**bs, Exp, Fix, Int, Rnd, Sng, Sqr, Date, Now, Time, DateAdd, DateDiff, DateValue, **Control Flow statements:** If … Then, If … Then … Else, Select Case, **Loop statements:** Do … Loop: Do While …Loop, Do Until.. Loop, Do... Loop While …, Do... Loop Until, For …Next, For Each ….Next Loop, While ….. Wend, The Exit statement: Exit For, Exit Do, Exit Function, Exit Sub; **Nested Control structures: Using For … Next Loop and If statements.**

	UNIT-III	**12 Hrs.**

Text Boxes: Creating Multiline, Word-Wrap text boxes(Multiline property); Aligning text in text boxes (Alignment Property); Adding scroll bars (Scroll Bar Property),Making a text box read-only(Locked Property); Disabling a text box(Enabled Property); Accessing text in a text box(Text Property); Creating a password control; Events: LostFocus, GotFocus, Change, **Command Buttons:** Setting the caption(Caption Property); Setting a Buttons Background color(Backcolor, Style Property); Setting a Buttons Text color (Forecolor Property); Setting a Buttons Fonts(Font Property); Disabling Buttons(Enabled Property); Showing and Hiding Buttons(Visible Property); Adding picture to a Buttons(Picture Property); Events: Click, LostFocus,GotFocus,**Check Box, Option Buttons: S**etting and getting a CheckBox's state(Value Property), Click Event; Setting and getting an Option Button's state(Value Property), Click Event. **List Boxes:** Adding items to a list box(Additem method); Referring to items in a list box(List Property); Removing items from a list box, Sorting a list box(Sorted Property); Determining number of items in a list box (ListCount Property); Clearing a list box(Clear method); Events: Click, DblClick, **Combo Boxes:** Creating simple Combo Boxes, Drop-Down Combo Boxes and Drop-Down list Combo boxes(Style Property); Adding items to a Combo Box (AddItem Method); Removing items from a Combo Box(RemoveItem Method); Getting the current selection in a Combo Box(Text Property); Sorting a Combo Box (Sorted Property); Clearing a Combo Box (Sorted Property); Getting number of items in Combo Box (Listcount Property); Events: Change, Click, DblClick,**Scroll Bar:**Adding Horizontal or vertical scroll Bars to a form; Setting Scroll Bars Minimum and Maximum values(Min and Max Property); Setting up Scroll Bars Clicks (Largechange Property); Setting up Scroll Bars; Clicks SmallChange Property); Setting a Scroll Bar's Current Value(Value Property); Showing and Hiding Scroll Bar(Enabled, Visible Property); Control Event: Scroll, Change,**Picture Boxes and Image Controls:**Adding a Picture Box to a form; Setting or getting the picture in a picture Box(Picture Property, LoadPicture Property); Adjusting Picture Box size to contents(Autosize Property); Aligning a Picture Box in a form(Align Property); Events: Change,Click, DblClick.;Adding an Image Control to a form.; Stretching an image in an Image

Control (Stretch Property); Events: Click, DblClick

	UNIT-IV	12 Hrs.

Dialog Boxes: Using different types of Dialog boxes in the application: Predefined Dialog Box, Custom Dialog Box, Common Dialog Box,**The Timer control:** Adding a Timer Control to a program; Initialising a Timer Control(Enabled, interval Property); Handling a Timer Events(Timer Event);**Frame Control:**Uses; Adding a frame to a program; Setting frame size and location(height, width, left, top Property); Other properties (Caption, Name, appearance, ToolTipText Property),**Labels:** Adding a label to a program; Properties: caption, Top, Left, Width, Height); Advantages of Labels over Text Boxes; Formatting text in Labels: Autosize, Wordwrap, Font Property); Aligning Text in Labels(Alignment Property); Handling Label Control Events(click, DblClick)

Text Book:
Evangelos Petroutsos, **Mastering Visual Basic 6**, Wiley India Pvt. Ltd.

Reference Books:
1. Steven Holzner, **Visual Basic 6 Programming Black Book**, Dreamtech Press
2. Gary Cornell, **Visual Basic 6 From the Ground Up**, McGraw-Hill Osborne Media
3. Mohammed Azam, **Programming with Visual Basic 6.0**, Vikas

PAPER-VIII	DP 352: DATABASE CONCEPTS AND ORACLE	48 hours
Theory/Week:3 Hrs **Credits: 2**		**I.A: 20** **Exam: 80**
	UNIT-I	**12 Hrs**.
Database System Concepts and Architecture: History of Database Systems, Database Systems versus File Systems. Data Abstraction, Data independence, Schemas and Instances, Data models, Database Languages, Database Users, DBA. Structure of Database Systems, Data Modeling using E-R model, Entity types, sets, Attributes, Keys, Relationships, Relationship Types, Roles, and Structural Constraints, Weak Entity sets, E-R Diagrams, Data Models- Relational, Network and Hierarchical models.		
	UNIT-II	**12 Hrs.**
Creation of Database: Creating, changing and dropping the tables. Integrity Constraints specification, maintaining reference integrity constraints, Data insertion, deletion and modification. Querying the database : Information retrieval using SELECT statement, Various features of SELECT statement , Aggregate functions, ORDER BY clause, Working with expressions and sub queries, Handling of multiple tables, Views : Creation of views, modification, data insertion and limitations of views.		
	UNIT-III	**12 Hrs.**
PL/SQL Basics: Introduction, character set, reserve words, Block structure, Data types, Conditional statements, looping statements, procedures, functions. Oracle Transactions		
	UNIT-IV	**12 Hrs.**
Cursors: Implicit and explicit cursors, cursor attributes, cursor FOR loops, triggers		

Text Books :
1. Silberschatz and Korth, **Database System Concepts**, McGraw Hill Publication. (Chapter 1).
2. Elmasri and Navathe, **Fundamentals of Database Systems**, Pearson Education Asia Publication
(Chapter 3)
3. Ivan Bayross, **Commercial Application Development using Oracle D2K**, BPB Publications. (Chapter 1, 2, 3)

Reference Books:
1. Ivan Bayross, **SQL: PL/SQL : The programming Language**, BPB Publications
2. Scott Urman, **Oracle 8 PL/SQL Programming**, Tata McGraw Hill Edition

Practical-VI	DP353: Visual Basic and Oracle Lab	48 Hrs.
Theory/Week: 4 Hrs Credits: 2	Programming exercises in Visual Basic and Oracle.	I.A: 20 Exam: 80