

MANONMANIAM SUNDARANER UNIVERSITY
B.C.A
(CHOICE BASED CREDIT SYSTEM)
(WITH EFFECT FROM THE ACADEMIC YEAR 2017 -2018)

Se m	PartI /II/II I/IV/ V/VI	Sub - No.	Subject Status	Subject Title	Conta ct Hrs/ week	L Hrs/ Wee k	T Hrs/ Wee k	P Hrs/ Wee k	Cr edi ts
IV	III	24	Core	Visual Basic	5	5	0	0	4
	III	25	Core	E-Commerce	4	4	0	0	4
		26	Core	Resource Management Techniques	4	4	0	0	4
	III	27	Major Practical IV	Visual Basic Lab	4	0	0	4	2
		28	Allied - IV	Accounting software- Tally	3	3	0	0	3
	III	29	Allied Practical IV	Tally Lab	4	0	0	4	2
	III	30	Skill Based core Theory II	Micro Processor	4	4	0	0	4
	IV	31	Non major elective	Introduction to Internet with HTML/ MS WORD	2	2	0	0	2
	IV	32	Common	Computer for digital era(Excluding contact hrs& Credit)	2	2	0	0	2
	V	33	Extension activity	NCC,NSS,YRC,YWF	-	0	0	-	1
Sub Total					30				26

Total Credit = 21+21+25+26+24+25 >= 140 (Excluding computer era & Yoga)

L-Lecture T-Tutorial P- Practicals

Distribution of marks between External and Internal Assessment is

For Theory 75 : 25

For Practical 50 : 50

SEMESTER IV

CORE SUBJECT – I

VISUAL BASIC

L T P C
5 0 0 4

COURSE OBJECTIVES:

- To study properties and events, methods of controls and how to handle events of different controls.
- To understand the use of active controls and how to design VB application.
- To study connectivity between VB and databases.

UNIT I GETTING STARTED WITH VISUAL BASIC 6.0

Introduction to Visual Basic, Visual Basic 6.0 Programming Environment, Working with Forms, Developing an Application, Variables, Data types and Modules, Procedure and Control Structures, Array in Visual Basic, Additional examples. Working with Controls: Introduction, Creating and Using Controls, Working with Control Arrays, Additional examples.

(12 L)

UNIT II MENUS & GRAPHICS

Menus, Mouse Events and Dialog Boxes: Introduction, Mouse Events, Dialog Boxes, Additional examples. Graphics, MDI and Flex Grid: Introduction, Graphics for Applications, Multiple Document Interface (MDI), Using the flex Grid Control, Additional examples.

(12 L)

UNIT III OPEN DATABASE CONNECTIVITY

ODBC and Data Access Objects: Evolution of Computer Architecture, Data Options, Additional examples. ODBC Using Data Access Objects and Remote Data objects: Open Database Connectivity (ODBC), Remote Data objects, Additional examples.

(12 L)

UNIT IV REPORT CREATION

Data Environment and Data Report: Introduction, Data Environment Designer, Data Report, Additional examples. Object Linking and Embedding: Introduction, OLE Fundamentals, Using OLE Container Controls, Using OLE Automation Objects, OLE Drag and Drop, Additional examples.

(12 L)

UNIT V ACTIVE X CONTROLS

Built – in Active X Controls: Working with Built – In Active X Controls, Additional examples. Working with Active X Data objects; An Overview of ADO and OLE DB, ADO Object Model, Additional examples. Files, and File System Controls: Introduction, File System Controls, Accessing Files, Interface with Windows, Additional examples.

(12 L)

COURSE OUTCOMES:

- Demonstrate knowledge of programming terminology and how applied using Visual Basic (e.g., variables, selection statements, repetition statements, etc.).
- Develop a Graphical User Interface (GUI) based on problem description.
- Develop an Event Planning Chart based on problem description so as to define the processing that is to occur based on specific events.

TEXT BOOK:

1. Visual Basic 6.0 Programming – Content Development Group – Tata McGraw hill Publishing Company Limited, New Delhi. (Chapters 1,2,3,4,5,6,7,8,9,13,16,17)

REFERENCE BOOKS:

1. Microsoft Visual Basic 6.0 Professionals, Michael Halvorson – PHI.
2. Visual Basic 6 in Record Time by Steve Brown, BPB Publications.
3. Visual Basic 6 from the Ground UP – Gary Cornell - Tata McGraw hill.

CORE SUBJECT – II

E - COMMERCE

L T P C
4 0 0 4

COURSE OBJECTIVES:

- To provide adequate basic understanding about Management Education among the students.
- To prepare students to exploit opportunities being newly created in the Management Profession.
- To train the students in communication skills effectively.

UNIT 1 E - COMMERCE INTRODUCTION

What is Electronic Commerce? – Types of Electronic Commerce Technology. (12 L)

UNIT II E - COMMERCE MODELS AND TYPES

Types of E-Business Models and Markets - Types of E-Commerce Providers and Vendors - E-Commerce website Creation. (12 L)

UNIT III E - COM WEB DEVELOPMENT

Managing E-Commerce website Development – Building Shopping Cart Applications – Mobile Electronic Commerce. (12 L)

UNIT IV E - COM DATABASES

Enhancing a web server with E-Commerce Application Development – Strategies, Techniques and tools – Implementing Merchandising Strategies – Implementing E-Commerce Databases. (12 L)

UNIT V E - COMMERCE APPLICATIONS

Applying and Managing E-Business Intelligence Tools for Application Development – Types of Security Technologies – protocols for the Public Transport of Private Information. (12 L)

COURSE OUTCOMES:

- Design and implement an e-commerce application with a shopping cart.
- Integrate the waterfall model in the development of e-commerce applications.
- Integrate user-centered design guidelines in developing user-friendly websites.

TEXT BOOKS:

1. Electronic Commerce, by Pete Loshin and John Vacca, Fourth edition, Firewall Media, New Delhi.
2. E-Business Parag Kulkarni, SunitaJahirabadkar, and Pradip Chande.Oxford University Press.

REFERENCE BOOKS:

1. Electronic Commerce, by Gary O.Schnelder James T.Perry, First edition 2000, Thomson Learning.
2. Electronic Commerce, by Elias M.Awad, Prentice Hall of India 2002.

CORE SUBJECT –III

RESOURCE MANAGEMENT TECHNIQUES

L T P C
4 0 0 4

COURSE OBJECTIVES:

- To solve optimization problems using simplex method.
To learn to solve problems in linear programming and Integer programming.
- To use PERT and CPM for problems in project management.

UNIT I LINEAR PROGRAMMING I

Introduction – Advantages and disadvantages of LP – Basic characteristics of LP – General linear Programming problem – Algebraic solution of a LP (Simplex Method).

(10 L)

UNIT II ASSIGNMENT PROBLEM

Introduction – Definition and Mathematical formulation – Methods of solutions – Application area of AP – Comparison between AP and TP – Basic theorems – Hungarian method – Exceptional cases of AP – AP with restrictions – Multiple optimal solution of an AP.

(12 L)

UNIT III JOB SEQUENCING & NETWORK MODEL PROBLEMS

Introduction, Basic terms and Notations used in Sequencing – Priority sequencing rules – Gantt Chart – Types of Job sequencing problems. Network models: Introduction – Basic features of Network models – Main advantages of Network models – Network models – Minimum spanning tree algorithm – Shortest route problem – Maximum flow and minimum cost flow problems – Travelling salesman problem as a network model – Unifying model: Minimum cost flow network – Linear programming approach to a network model.

(14 L)

UNIT IV PROJECT MANAGEMENT

Introduction – Basic concepts – Project planning techniques – CPM & PERT techniques – Critical path method – The PERT approach – Expected length of a project - Probability of project completion by due date – cost consideration in project scheduling – similarities and differences in CPM & PERT. **(12 L)**

UNIT V GAME THEORY

Introduction – Definitions and Terminology – Basic game theory models – Fundamental Principles of game theory – Assumptions underlying game theory – Pure strategies: Games with saddle point – The rules of Dominance – mixed strategies: Games without saddle point – Solution of $2 \times n$ and $m \times 2$ Games (graphical approach) – Linear programming solutions of Games. Inventory control: Fundamentals of Inventory theory – Basic terminology – Advantages & disadvantages of Inventory – formula for the quantity to order and lead time – EOQ with price-breaks.

(12 L)

COURSE OUTCOMES:

- Make use of simplex method to solve optimization problems.
- To find solution for various shortest route problems.
- Utilize PERT and CPM in project management.

TEXT BOOK:

1. Operations Research Models & Methods – Chandrasekhar Salimath, Bhupenderparashar – Universities press 2014.

REFERENCE BOOKS:

1. Operations Research – Nita H.Shah , Ravi M. Gor, HardikSoni – PHI Learning Private Limited, New Delhi, 2009.
2. Operations Research – P.K.Gupta.
3. Operations Research – Taha.

MAJOR PRACTICAL - IV

VISUAL BASIC LAB

PRACTICAL LIST

L T P C
0 0 4 2

1. Design of a Desktop Calculator.
2. Design of a Color Mixer using basic colors.
3. Create an application to format text inside a text box.
4. Create an application using File controls and use two option buttons to show and hide a picture in the picture box.
5. Create an Application to do Matrix Addition using Flex Grid Control.
6. Create an Editor with File and Edit menus using Menu Editor Tool.
7. Create an MDI application with tile and cascade child forms.
8. Create an Application to implement OLE Drag and Drop.
9. Create a mailing address database in Access and view the records using Data Control.
10. Create a student database in Access and prepare a Report using Data Report Control.

ALLIED - IV

ACCOUNTING SOFTWARE – TALLY

L T P C
3 0 0 3

COURSE OBJECTIVES:

- This course is designed to impart knowledge regarding concepts of Financial Accounting Tally is an accounting package which is used for learning to maintain accounts.
- As this course is useful for Commerce and computer students to get placements in different offices as well as companies in Accounts departments.

UNIT I CREATING COMPANY IN TALLY

Creating Accounting and Inventory Ledger - creating stock item group, category, pos – Trial balance - Final accounts with adjustments.

(10L)

UNIT II VALUES DDED TAX

Values added Tax – VAT Rate – VAT classification – VAT composition Report – VAT composite returns – Voucher entry. (10 L)

UNIT III TDS, TCS, ST

Features of TDS – TDS Deduction for advance payment & Balance payment – TDS computation report – TCS report – Service Tax Reports.

(10 L)

UNIT IV EXISE DEALER

Dealer Excise report – Excise stock register – Bank Reconciliation statement – Ledger creation and effective Date for Reconciliation. (8 L)

UNIT V PAYROLL

Payroll info- pay heads –employee groups – salary- unit of a attendance – pay sheet report – pay slip pay roll statement – payroll with PF and ESI. (7 L)

COURSE OUTCOMES:

- Company Setup & Configurations.
- Charts of Accounts Setup.
- Recording Financial Transactions.
- Financial Reports Analysis.

TEXT BOOK :

1. Accounting Package Tally 9.0. by Ms,A.KNanthini Himalaya publications.

REFERENCE BOOK:

1. Tally 9.0 by Dr. Namrata Agrawal, Professor, NIFS.

ALLIED PRACTICAL IV

TALLY LAB (ACCOUNTING PACKAGE)

L T P C
0 0 4 2

- 1(a). Develop a purchase day book as your own data
 - (b). Create a sales daybook as your imaginary figures
 - (c). Give a format of a petty cash book with your own figure
 - (d). Prepare a invoice book with your own figure
2. With the following particulars prepare a trail balance:

Capital	50,000
Sales	5,50,000
Purchases	5,60,000
Salaries	2,200
Carriage inwards	400
Lightings	300
Rates & insurance	400
Discount earned	500
Buildings	30,850
Furnitures	6,000
Carriage Outwards	500
Sundry Debtors	8,000
Sundry Creditors	20,000
Cash at Bank	12,850

3. Prepare a proper Subsidiary book and do the transactions with your own data
4. Prepare a Petty Cash book with your own data
5. Prepare a Balance Sheet of a Software company with your own data
6. Prepare sales invoice of a medical store with your own data

SKILL BASED CORE THEORY

MICROPROCESSOR

L T P C
4 0 0 4

COURSE OBJECTIVES:

- To study about microprocessor Architecture.
- To learn about basic 8085 microprocessor and its operations and applications.
- To do arithmetic manipulations using 8085 processor.

UNIT I MICROPROCESSORS, MICROCOMPUTER AND ASSEMBLY LANGUAGE

Microprocessors – Microprocessors Instruction set and Computer Languages – Computers to single chip microcontrollers. Mention to 8085 assembly language Programming – The 8085 Programming model action Classification – Instruction, data format and storage – How to write, store and execute simple program, Overview of 8085 instruction set.

(12 L)

UNIT II MICROPROCESSOR ARCHITECTURE AND MICRO COMPUTER SYSTEMS

Microprocessor Architecture and its operations – Memory – Input and Output (I/O) – Example of a Micro Computer System. Microprocessor Architecture and Memory interfacing: The 8085 MPU – Example 8085 based microcomputer - Memory interfacing - Interfacing the 8155 memory.

(12 L)

UNIT III DATA TRANSFER OPERATION

Arithmetic operations – Logic operations – Branch operations - Writing assembling Language programs – Debugging a program. Programming techniques with additional Instruction: Programming techniques – Counting and Indexing – Additional data transfer and 16 bit arithmetic operations – Arithmetic operations related to memory - Logic operations related to memory - Logic operations – Rotate – Dynamic debugging.

(12 L)

UNIT IV COUNTERS AND TIME DELAYS

Counters Time Delays – Hexa decimal counter. Modulo ten counter – Pulse Wave forms – Debugging counter and time Delay programs. Subroutine: Stack – Subroutine – Restart – Conditional call and Return subroutine concepts.

(12 L)

UNIT V CONVERSIONS

BCD to Binary conversion – Binary to BCD conversion - BCD to seven segment. LED code conversion – BCD addition – BCD Subtraction – Multiplication- Subtraction with carry.

(12 L)

COURSE OUTCOMES:

- To write programs to run on 8086 microprocessor based systems.
- Design system using memory chips and peripheral chips for 16 bit 8086 microprocessor.
- Understand and devise techniques for faster execution of instructions, improve speed of operations and enhance performance of microprocessors.

TEXT BOOKS:

1. Ramesh S. Goanker - Microprocessor Architecture Programming and Applications with the 8085 – 5th Edition, Penram International Publisier.
2. Microprocessor and Microcontrollers N.Senthil Kumar, M.Saravanan, S.Jeevananthan. OxfordUniversity Press.

REFERENCE BOOK:

- 1.8085 Microprocessor Programming and Interfacing N.K.Srinath, PHI Publication.

**NON MAJOR ELECTIVE
(CHOOSE ANY ONE)**

INTRODUCTION TO INTERNET WITH HTML

**L T P C
2 0 0 2**

COURSE OBJECTIVES:

- To learn the principle of Web page design.
- To visualize the basic concept of HTML.
- To recognize the elements of HTML.

UNIT I INTRODUCTION TO INTERNET

Computer is business – networking – internet - e-mail-gopher-world wide web, Internet Technologies – Internet Browsers.

(6 L)

UNIT II INTRODUCTION TO HTML

History of HTML - HTML generation and Documents – Tags and Links, Head And Body Section.

(6 L)

UNIT III DESIGNING

Body Section – Ordered And Unordered List – Table Handling.

(6 L)

UNIT IV INTRODUCTION TO DHTML

Features of DHTML – Defining styles – Working with Colors – Text and Fonts with Style. **(6 L)**

UNIT V FRAMES

Frame set Definition – Nested frames – A web design project – forms.

(6 L)

COURSE OUTCOMES:

- Understand basic concepts in HTML.
- Create basic web pages.
- Implement a variety of hyperlinks to connect pages and communicate with users via email link.

TEXT BOOK:

1. World Wide Design with HTML by C.XAVIER – TMH Publications.

REFERENCE BOOK:

1. Fundamental of the internet and the World Wide Web by Greenlaw and Hepp. TMH Publications.

MS WORD

L T P C
2 0 0 2

COURSE OBJECTIVES:

- To identify word processing terminology and concepts, create technical documents, format and edit documents, use simple tools and utilities, and print documents.
- To do Mail merging process.
- To Create and edit a Word document.

UNIT I Introduction to Microsoft Word 2003.
(6 L)

UNIT II Creating a document in Microsoft Word 2003. (6 L)

UNIT III Working with tables, Charts and Graphics – MAILMERGE. (6 L)

UNIT IV Additional Commands of Microsoft Word 2003. (6 L)

UNIT V Menu Commands of Microsoft Word 2003. (6 L)

COURSE OUTCOMES:

- Demonstrate fundamental knowledge of MS Word.
- Relate real-life MS Word applications for professional or personal use.
- Develop an informal business letter.
- Apply MS Word techniques to create promotional hand-outs.

TEXT BOOK:

1. Straight to the Point Microsoft Word 2003, Firewall Media.

REFERENCE BOOKS:

1. Gini Courter & Annette Marquls – Microsoft Office 2000 No Experience required, BPB Publications.
2. Stephen L. Nelson - Office 2000: The complete reference, Tata McGraw Hill Publishing Company Limited.