

MANNAR THIRUMALAI NAICKER COLLEGE
PASUMALAI, MADURAI- 625 004

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

(Re-accredited with 'A' Grade by NAAC)



B.Com., (CA)

SYLLABUS AND REGULATIONS

UNDER
CHOICE BASED CREDIT SYSTEM (CBCS)
(For those who joined during 2018-2019 and after)

Eligibility

Candidates should have passed the Higher Secondary Examination conducted by the Board of Higher Secondary Education, Tamil Nadu or any other examination accepted by Academic Council with Commerce and Accountancy as the subjects in Higher Secondary.

Duration of the course

The duration of the course shall be three academic years comprising six semesters with two semesters in each academic year.

Subjects of Study

The main subjects of study offered for B.Com(CA) Degree Course shall consist of following:

Part I : Tamil / Aluvalaga Melanmai and Kappeedu– Kotpadugalum Nadaimuraikalum

Part II : English

Part III :

1. Core Subjects
2. Allied Subjects
3. Electives

Part IV :

1. Non Major Electives
2. Skill Based Subjects
3. Environmental Studies
4. Value Education

Part V :

Extension activities

The scheme of Examination

The components for continuous internal assessment are:

Two tests and their average --15 marks

Seminar /Group discussion --5 marks

Assignment --5 marks

Total --25 marks

Pattern of the questions paper for the continuous Internal Assessment

(For Part I, Part II, Part III , NME & Skilled Paper in Part IV)

The components for continuous internal assessment are:

Part –A

Six multiple choice questions (answer all) 6 x 01= 06 Marks

Part –B

Two questions (‘either or ‘type) 2 x 07=14 Marks

Part –C

One question out of two 1 x 10 =10 Marks

Total		30 Marks

Pattern of the question paper for the Summative Examinations:

Note: Duration- 3 hours

Part –A

Ten multiple choice questions 10 x 01 = 10 Marks

No Unit shall be omitted: not more than two questions from each unit.)

Part –B

Five Paragraph questions (‘either or ‘type) 5 x 07 = 35 Marks

(One question from each Unit)

Part –C

Three Essay questions out of five 3 x 10 =30 Marks

(One question from each Unit)

Total		75 Marks

The Scheme of Examination (Environmental Studies and Value Education)

Two tests and their average		--15 marks
Project Report		--10 marks*
Total		<u> --25 marks</u>

** The students as Individual or Group must visit a local area to document environmental assets – river / forest / grassland / hill / mountain – visit a local polluted site – urban / rural / industrial / agricultural – study of common plants, insects, birds – study of simple ecosystem – pond, river, hill slopes, etc.

Question Paper Pattern

Pattern of the Question Paper for Environmental Studies & Value Education only) (Internal)

Part –A

(Answer is not less than 150 words)

Four questions ('either or 'type) 4 x 05=20 Marks

Part –B

(Answer is not less than 400 words)

One question ('either or 'type) 1 x 10=10 Marks

Total -----
30 Marks

Pattern of the Question Paper for Environmental Studies & Value Education only) (External)

Part –A

(Answer is not less than 150 words)

Five questions (either or type) 5 x 06 =30 Marks

(One question from each Unit)

Part –B

(Answer is not less than 400 words)

Three questions out of Five 3 x 15 = 45 Marks

each unit (One question from each Unit) -----

Total 75 Marks

Minimum Marks for a Pass

40% of the aggregate (Internal +Summative Examinations).

No separate pass minimum for the Internal Examinations.

27 marks out of 75 is the pass minimum for the Summative Examinations.

PROGRAMME EDUCATIONAL OUTCOMES (PEO)

- PEO1:** Acquire proficient skills in areas like Accounting, Banking, Taxation, Insurance and E-Commerce.
- PEO2:** Discover solutions to the real time problems in the industry with the specific knowledge developed through realistic training.
- PEO3:** Pursue exploration in their chosen field of marketing, finance, and HR.
- PEO4:** Work in groups with developed communication and knowledgeable abilities

PROGRAMME OUTCOMES (POs)

After completing three years of Bachelors in Commerce with Computer Application (B.Com with CA) program, students would be able to:

- PO1:** Apply the knowledge of mathematics, financial accounting, and computer specialization to the solution of commercial law & management problems.
- PO2:** Incorporate the right performance in personality education.
- PO3:** Design solutions for financial problems and design software processes to meet the specifications with consideration for the societal and environmental considerations.
- PO4:** Create, select, and apply appropriate techniques, resources, and modern statistical tools & software.
- PO5:** Understand the impact of the professional accounting solutions in societal and environmental contexts, and demonstrate the knowledge of and need for sustainable development.
- PO6:** Apply proper principles and obligate to professional integrity and responsibilities and norms of the accounting practices.

PROGRAMME SPECIFIC OUTCOMES

- PSO1:** To provide quality education both in Computer skills and Business studies.
- PSO2:** To provide various accounting courses, which enables the students to gain theoretical and problem solving ability.
- PSO3:** To train the students to have knowledge in Business Software Applications like MS Office, Tally, etc ...
- PSO4:** To facilitate the students to work effectively in IT fields, Banks, Industries, etc...and to develop knowledge in the principles and rules of Taxation.

B.Com CA
(For those who joined in 2018-2019 and after)

COURSE PATTERN

	Study Component	Sem I	Sem II	Sem III	Sem IV	Sem V	Sem VI	Total hours	Total Credits	No of Papers	Total Marks
Part – I	Tamil / Alternative Subject	5(3)	5(3)	-	-	-	-	10	6	2	200
Part – II	English	6(3)	6(3)	-	-	-	-	12	6	2	200
Part – III	Core Subject	5(4) 5(4)	5(4) 5(4)	5(4) 5(4) 5(4) 6(4)	5(4) 5(4) 5(4) 6(4)	6(4) 6(4) 6(4)	6(4) 6(4) 6(4)	98	72	18	1800
	Elective Subject	-	-	-	-	5(5) 5(5)	5(5) 5(5)	20	20	4	400
	Allied Subject			5(4)	5(4)	-		10	8	2	200
	Allied Subject(P)	5(4)	5(4)			-	-	10	8	2	200
	Allied Project	-	-	-	-	-	-	-	-	-	-
Part –IV	Skill Based Subject	2(2)	2(2)	2(2)	2(2)	2(2)	2(2)	12	12	6	600
	Environmental Studies / Value Education	2(2)	2(2)	-	-	-	-	4	4	2	200
	Non Major Elective	-	-	2(2)	2(2)	-	-	4	4	2	200
Part –V	Extension Activities				0(1)		-	-	1	1	100
	Total	30 (22)	30 (22)	30 (24)	30 (25)	30 (24)	30 (24)	180	141	41	4100

I SEMESTER

Part	Course	Subject Code	Name of the Subject	Hours/Week	Credit	Max Marks (Internal)	Max Marks (External)	Total 100
I	Tamil/ Alternative Subject	18UCCG11	Aluvalaga Melanmai	5	3	25	75	100
II	English	18UBEG11	Business English – I	6	3	25	75	100
III	Core	18UCCC11	Financial Accounting – I	5	4	25	75	100
III	Core	18UCCC12	Introduction to PC Software and MS Office	5	4	25	75	100
III	Allied	18UCCAP1	Introduction to PC Software and MSOffice - Lab	5	4	40	60	100
IV	Skill Based	18UCCSP1	HTML Programming - Lab	2	2	40	60	100
IV	Mandatory	18UEVG11	Environmental Studies	2	2	25	75	100
			TOTAL	30	22	205	495	700

II SEMESTER

Part	Course	Subject Code	Name of the Subject	Hours / Week	Credit	Max Marks (Internal)	Max Marks (External)	Total 100
I	Tamil/ Alternative Subject	18UCCG21	Kappeedu - Kotpadugalum Nadaimuraigalum	5	3	25	75	100
II	English	18UBEG21	Business English – II	6	3	25	75	100
III	Core	18UCCC21	Financial Accounting – II	5	4	25	75	100
III	Core	18UCCC22	Business Application Programming Using C	5	4	25	75	100
III	Allied	18UCCAP2	Business Application Programming Using C – Lab	5	4	40	60	100
IV	Skill Based	18UCCSP2	Multimedia - Lab	2	2	40	60	100
IV	Mandatory	18UVLG21	Value Education	2	2	25	75	100
			TOTAL	30	22	205	495	700

SEMESTER

Part	Course	Subject Code	Name of the Subject	Hours / Week	Credit	Max Marks (Internal)	Max Marks (External)	Total 100
III	Core	18UCCC31	Special Accounting	5	4	25	75	100
III	Core	18UCCC32	Cost Accounting	5	4	25	75	100
III	Core	18UCCC33	Database Management System	5	4	25	75	100
III	Core	18UCCCP1	Database Management System – Lab	6	4	40	60	100
III	Allied	18UCCA31	Business Statistics	5	4	25	75	100
IV	Skill Based	18UCCS31	Written Communication Skill	2	2	25	75	100
IV	NME	18UCCN31	Vaniga Kadithangal	2	2	25	75	100
			TOTAL	30	24	190	510	700

SEMESTER

Part	Course	Subject Code	Name of the Subject	Hours/Week	Credit	Max Marks (Internal)	Max Marks (External)	Total 100
III	Core	18UCCC41	Partnership Accounting	5	4	25	75	100
III	Core	18UCCC42	Banking Theory, Law and Practice	5	4	25	75	100
III	Core	18UCCC43	Tally with ERP Concepts	5	4	25	75	100
III	Core	18UCCCP2	Tally Lab	6	4	40	60	100
III	Allied	18UCCA41	Business Mathematics	5	4	25	75	100
IV	Skill Based	18UCCS41	Soft Skills Development	2	2	25	75	100
IV	Non Major Elective	18UCCN41	Vaniga Amaippu Murai	2	2	25	75	100
V		18UEAG40-18UEAG49	Extension Activities	0	1	25	75	100
			TOTAL	30	25	215	585	800

V - SEMESTER

Subject Code	Title of the Paper	Hours /Week	Credit	Max. Marks CA	Max. Marks SE	Total
	Part III – Core					
18UCCC51	Corporate Accounting	6	4	25	75	100
18UCCC52	Financial Management	6	4	25	75	100
18UCCC53	Income Tax Law and Practice-I	6	4	25	75	100
	Part III – Elective I					
18UCCE51	Object Oriented Programming with C++	5	5	25	75	100
18UCCE52	Programming in C #					
18UCCE53	Programming in Python					
	Part III – Elective II					
18UCCEP1	Object Oriented Programming with C++ - Lab	5	5	25	75	100
18UCCEP2	Programming in C # - Lab					
18UCCEP3	Programming in Python - Lab					
	Part IV – Skill					
18UCCSP4	PHP Programming - Lab	2	2	40	60	100
	Total	30	24	195	405	600

VI - SEMESTER

Subject Code	Title of the Paper	Hours /Week	Credit	Max. Marks CA	Max. Marks SE	Total
	Part III – Core					
18UCCC61	Advanced Corporate Accounting	6	4	25	75	100
18UCCC62	Income Tax Law and Practice-II	6	4	25	75	100
18UCCPR1	Project Work & Viva Voce	6	4	40	60	100
	Part III – Elective I					
18UCCE61	1. Industrial Law	5	5	25	75	100
18UCCE62	2. Goods and Services Tax					
18UCCE63	3. Investment Management					
	Part III – Elective II					
18UCCE64	1. Internet and Web technology	5	5	25	75	100
18UCCE65	2. Management Information Systems					
18UCCE66	3. Mobile Computing					
	Part IV – Skill					
18UCCSP5	Visual Programming – Lab	2	2	40	60	100
	Total	30	24			



MANNAR THIRUMALAI NAICKER COLLEGE (Autonomous)
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Class	: B.Com (CA)	Part III	: Core
Semester	: V	Hours	: 06
Sub Code	: 18UCCC51	Credits	: 04

CORPORATE ACCOUNTING

Course Outcomes:

On successful completion of this course, the learners should able to:

- CO1:** Demonstrate a thorough knowledge of companies act 2013 and the ability to apply them to Solve practical problems related to company form of organization
- CO2:** Interpret the company final accounts
- CO3:** Calculate the goodwill and shares of Companies to acquire a business.
- CO4:** Evaluate an idea about internal reconstruction
- CO5:** Prepare the financial statements of Joint Stock Companies

Unit-I ISSUE OF SHARES AND DEBENTURES

Issue of Shares and Debentures – Issue of shares at par, discount, at premium – Under and over subscription – Pro-rata allotment – Forfeiture of shares – Re-issue of forfeited shares – Bonus shares and Right shares.

Unit-II REDEMPTION OF PREFERENCE SHARES AND DEBENTURES

Redemption of preference shares - Redemption of debentures – Profit prior to incorporation - Treatment of profit or loss prior to incorporation.

Unit-III FINANCIAL STATEMENTS

Objectives of Financial Statements –Preparation and Presentation of Financial Statements of Joint Stock Companies; Form and Contents of Profit & Loss Account and Profit & Loss Appropriation Account-Calculation of Managerial Remuneration - Form of Balance Sheet – Report to be attached-Preparation of Cash Flow Statement (AS-3).

Unit-IV VALUATION OF GOODWILL AND SHARES

Valuation of Goodwill – Simple profit method – Super profit method – Valuation of Shares – Net Asset method - Yield method.

Unit-V WINDING UP OF COMPANIES

Winding up of Companies – Liquidator Remuneration – Liquidator Final Statement of Account.

80% of marks must be allotted to problem solving questions.

20% of marks must be allotted to Theory questions.

Text Book:

1. T.S.Reddy and A.Murthy, **Corporate Accounting**, Margham Publications, Chennai,

Reference Books:

1. 2018S.P.Jain and K.L. Narang, **Advanced Accountancy -II**, Kalyani Publishers, New Delhi, 2014.
2. R.L.Gupta and M.Radaswamy, **Corporate Accounting**, Sultan Chand Publisher, Kolkatta,2013.



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Class	: B.Com (CA)	Part III	: Core
Semester	: V	Hours	: 06
Sub Code	: 18UCCC52	Credits	: 04

FINANCIAL MANAGEMENT

Course Outcomes:

On successful completion of this course, the students will be able:

CO1: Understand the cost of capital in wide aspects

CO2: Interpret capital budgeting proposals.

CO3: Analyze dividend policies and various dividend models

CO4: Create good capital structure

CO5: Judge the working capital requirement

UNIT-I INTRODUCTION TO FINANCIAL MANAGEMENT

Meaning, objectives and importance of finance – Sources of finance – Functions of Financial management – Role of financial manager in financial management.

UNIT-II COST OF CAPITAL AND CAPITAL STRUCTURE

Cost of capital – Cost of equity – Cost of preference capital – Cost of debt – Cost retained earnings – Weighted average (or) composite Cost of capital(WACC) - Capital structures planning – Factors affecting capital structures – Determining Debt and equity proportion – Theories of capital structures — Leverages – Types of Leverages.

Unit –III CAPITAL BUDGETING

Capital budgeting – Meaning – Nature – Need – Importance – Capital budgeting process – Kinds of capital investment proposals – Factors affecting capital investment decisions- capital budgeting appraisal methods.

UNIT-IV WORKING CAPITAL

Working capital – Components of working capital – Working Capital Operating Cycle – Factors influencing working capital – Determining (or) forecasting of working capital requirements.

UNIT-V DIVIDEND POLICIES

Dividend policies – Factors affecting dividend payment – Company law provisions on Dividend payment – Various Dividend models (Walter’s Gordon’s – M.M. Hypothesis) .

60% of marks must be allotted to problem solving questions.

40% of marks must be allotted to Theory questions.

Text Book:

1. S.N.Maheswari, **Financial Management**, Sultan Chand and Sons, New Delhi 2013.

Reference Books:

1. Reddy T.S. and Hari Prasad Reddy, **Cost Accounting** , Margham Publications, Chennai,2013.
2. Dr.A.Murthy, **Financial Management**, Margham Publication, Chennai, 2018.



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Class	: B.Com (CA)	Part III	: Core
Semester	: V	Hours	: 06
Sub Code	: 18UCCC53	Credits	: 04

INCOME TAX LAW AND PRACTICE-I

Course Outcomes:

On successful completion of this course, the students will be able:

- CO1:** Remember with basic principles underlying the provisions of Income Tax
- CO2:** Apply the provisions of income tax Act 1961
- CO3:** Analyze different heads of income
- CO4:** Assess the income for business or profession
- CO5:** Plan for income tax to the salaried class and business

UNIT -I INTRODUCTION TO INCOME TAX

Income Tax Act, 1961 – Definitions – Income – Assessment – Assessment Year – Previous Year – Person – Assesses – Deemed Income – Residential status – Incidence of tax – Exempted Income u/s 10.

UNIT -II HEADS OF INCOME – INCOME FROM SALARY

Income from salary – Allowances – Perquisites – Gratuity – Pension – Leave encashment – Deduction of salary income.

UNIT- III INCOME FROM HOUSE PROPERTY

Income from House Property – Exempted House Property income – Gross annual value – Computation of income from let out and Self Occupied House property – Deduction U/S 24.

UNIT -IV INCOME FROM BUSINESS OR PROFESSION

Income from Business or Profession – Allowable and Not Allowable Expenses – General Deductions – Computation of Taxable Income from Business or Profession.

UNIT-V INCOME FROM CAPITAL GAINS

Income from Capital gains – Exempted under section 54, 54B, 54EC and 54F - Income from other sources – Gift – Causal Income – Owning & Maintaining of horse

80% of marks must be allotted to problem solving questions.

20% of marks must be allotted to Theory questions.

Text Book:

1. Gaur, V.P. and Narang, D.B., **Income Tax Law and Practice**, Kalyani Publishers, New Delhi, 2018.

Reference Books:

1. Vinod, K.Singhania, **Students Guide to Income Tax**, Taxmann Publications Pvt. Ltd. New Delhi, 2018.
2. Hariharan.N, **Income Tax Law and Practice**, Tata McGraw-Hill Publishing Company Ltd, New Delhi, 2018.



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Class : B.Com (CA)

Semester : V

Sub Code : 18UCCE51

Part III : Elective

Hours : 05

Credits : 05

OBJECT ORIENTED PROGRAMMING WITH C++

Course Outcomes

CO1: Explain the benefits of object oriented design and understand when it is an appropriate methodology to use.

CO2: Apply the dynamic memory management techniques using pointers, constructors, destructors, etc .

CO3: Examine the differences between C and C++ in the areas of strings, pass by reference / passing pointers

CO4: Evaluate real world applications using C++ concepts.

CO5: Design object oriented solution for small systems involving multiple objects.

Unit - I

Principles of OOP: Basic concepts of Object Oriented Programming – Benefits of OOP – Applications of OOP - Beginning with C++ - Applications of C++ - A simple C++ Program - Structure of C++ Program

Unit- II

Tokens, Expressions and Control Structures: Tokens – Keywords – Identifiers and constants - Basic data types – User defined data types - Derived data types – Declaration of variables - Operators in C++ - Manipulators – Expressions and their types – Control structures

Unit- III

Functions in C++: Introduction – Main function – Function prototyping – Call by reference – Return by reference – Inline functions – Recursion – Function overloading – Math Library functions

Classes and Objects: Introduction - Specifying a class – Defining member function - Nesting of member functions – Arrays within a class - Arrays of objects – Friendly functions.

Unit- IV

Constructors and Destructors: Constructors - Parameterized Constructor - Copy constructor – Destructors

Operator Overloading and Type Conversion: Defining operator overloading - Overloading unary operators – Overloading binary operators – Rules for operator overloading – Type conversion

Unit – V

Inheritance: Introduction - Single Inheritance - Multilevel Inheritance - Multiple Inheritance - Hierarchical Inheritance - Hybrid Inheritance.

Pointers, Virtual Functions and Polymorphism: Introduction - Pointers To Objects - Pointers to derived classes - Virtual Functions - Pure Virtual Functions.

Text Book:

1. E. Balagurusamy, Object Oriented Programming with C++, Tata McGraw Hill Publishing Company, New Delhi, Sixth Edition, 2014.

Reference Books:

1. Herbert Schildt, C++ : The Complete reference, Tata McGraw Hill, New Delhi, 2006.
2. ALStevensen, C++ Programming ,Wiley India Private Ltd, New Delhi, 7th Edition, 2003.
3. Andrew Koenig and Barbera E.MooAccelerated C++ Practical Programming by Example, Addison – Wesley, 2000, Second Printing

Web References:

1. <https://www.w3schools.in/cplusplus-tutorial/intro>
2. <https://www.studytonight.com/cpp/introduction-to-cpp.php>
3. <http://www.doc.ic.ac.uk/~wjk/C++Intro/>



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Semester : V
Sub Code : 18UCCE52

Part III : Elective
Hours : 05
Credits : 05

PROGRAMMING IN C#

Course Outcomes:

CO1: Explain the uses of programming language C# for various programming technologies.

CO2: Develop correct well documented program using C# Programming languages.

CO3: Analyze user requirements for software functionality require to decide whether the programming language C# can meet user requirements.

CO4: Choose the programming language to solving problems starting from the acquire knowledge of C#.

CO5: Propose the use of certain technologies by implementing them in the C# programming language to solve the given problem.

Unit-I:

Introducing C#: C# Basics – Evolution of C# - Characteristics of C# - Applications of C# .

Overview of C#: Introduction - Simple C# Program - Namespaces-Adding Comments-Command Line Arguments-Main with a Class - Using Mathematical Functions-Compile Time Errors-Program Structure-

Literals, Variables and Data Types: Introduction-Literals-Variables-Data Types-Value Types-Reference Types-Declaration of Variables-Initialization of Variables-Default Values-Constant Variables-Scope of Variables-Boxing and Un boxing.

Unit-II:

Operators and Expressions: Introduction-Arithmetic Operators-Relational Operators-Logical Operators-Assignment Operators-Increment and Decrement Operators-Conditional Operators-Bitwise Operators-Special Operators-Arithmetic Expressions-Evaluation of Expressions-Precedence of Arithmetic Operators-Type Conversions-Operator Precedence and Associativity.

Decision Making and Branching: Introduction-Decision Making with If Statement-Simple If Statement-The If...Else Statement-Nesting of If...Else Statement-Else. If Ladder-Switch Statement - ? : Operator.

Decision Making and Looping: Introduction-While Statement-Do statement-For Statement-For Each Statement-Jumps in Loops.

Unit-III:

Methods in C#: Introduction-Declaring Methods-Main Method-Invoking Method-Nesting of Methods-Method Parameters-Pass by Value-Pass by Reference-Output Parameter-Variable Arguments Lists-Method Overloading.

Handling Arrays: Introduction-One Dimensional Arrays-Creating an Array-Two-dimensional Arrays-Variable Size Arrays-System. Array Class-Array List Class.

Manipulating Strings: Introduction-Creating Strings-Inserting Strings-Comparing Strings-Finding Substrings-Mutable Strings-Arrays of Strings-Regular Expressions.

Unit-IV:

Classes and Objects: Introduction-Defining A Class-Adding A Variables-Adding Methods-Creating Objects-Constructors.

Inheritance and Polymorphism: Multilevel Inheritance-Hierarchical Inheritance-Overriding Methods-Abstract Classes-Polymorphism.

Unit-V:

Managing Console, I/O Operations: Introduction-Console Class-Console Input-Console Output-Formatted Output-Numeric Formatting-Standard Numeric Format-Custom Numeric Format.

Managing Errors and Exceptions: Types of Errors-Exceptions-Syntax of Exception-Handling Code-Multiple Catch Statements.

Multithreading in C#: Introduction-Creating and Starting A Thread.

Text Book

1. Programming in C#, Fourth Edition E Balagurusamy, McGraw Hill Education (India)Private Limited, NEW DELHI,2016.

Reference Book

1. Rober Powell, Richard Weeks, C# and .NET Framework, Tech Media Publication, New Delhi,2008.
2. E.Balagurusamy, Programming in C# and .NET, Tata McGraw Hill, New Delhi, 2010
3. Ed Freitas , Twilio with C# Succinctly, Sync fusion Inc., April 2017.

WEBSITE LINK

1. <https://www.tutorialspoint.com/csharp/>
2. <https://www.javatpoint.com/c-sharp-tutorial>
3. <https://www.w3schools.in/csharp-tutorial>



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Class : B.Com (CA)

Semester : V

Sub code : 18UCCE53

Part III : Elective

Hours : 05

Credits : 05

PROGRAMMING IN PYTHON

Course Outcomes:

CO1 : Understand the core Syntax and Semantics of Python Programming language and write simple logical problems

CO2: Learn and Apply the concept of function, Conditionals and Recursion in Python Programming

CO3: Analyze the various string operations and While operations.

CO4: Make use of Lists, Dictionaries, Tuples to build real time applications

CO5: Integrate and Solve complex problems using Object Oriented Programming concepts in Python

Unit I:

The way of the Program: Program Basics – Running Python – The first program – Arithmetic operators – values and types – Formal and Natural languages.

Variables, Expressions and Statements: Assignment statements – Variable names – Expressions and Statements – Script mode – Order of operations – String operations – Comments.

Unit II:

Functions : Function calls – Math functions – Composition – Adding new functions – Definitions and uses – Flow of Execution – Parameters and arguments – Local Variables and parameters – Stack diagrams – Fruitful functions and Void functions – Why functions .

Conditionals and Recursion: Floor division and modulus – Boolean expressions – Logical operators – Conditional execution – Alternative execution – Chained conditionals – Nested conditionals – Recursion.

Unit III:

Iteration: Reassignment – Updating variables – The while statement – Break – Square Roots.

Strings: String - Len – Traversal with a for loop – String Slices - Immutable Strings – Searching – Looping and counting – String methods – the in operator – String Comparison.

Unit IV:

Lists: List – Mutable list – Traversing a list – List operations – List Slices – List methods.

Dictionaries: Dictionary – Dictionary as a collection of counters – Looping and Dictionaries – reverse lookup – Dictionaries and Lists.

Tuples: Tuple – Tuple assignment – Tuples as return values – Variable length argument tuples – List and Tuples.

Unit V:

Classes and objects: Programmer defined types – Attributes – Instances as return values – Mutable objects – Copying.

Classes and functions: Time – Pure functions – Modifiers – Prototyping versus Planning.

Text Book:

1. Think Python, Allen B.Downey, Shroff Publishers & Distributors Pvt. Ltd.,Fifth Indian Reprint, August 2018.

Reference Book:

1. Python for Data Analysis, Wes McKinney, Shroff Publishers & Distributors Pvt. Ltd., Fourth Indian Reprint, October 2018.
2. Mark Lutz. Beijing, Learning Python, Cambridge, O'Reilly Media, Inc, Fourth Edition.
3. David Beazley, Brian K.Jones, Python Cookbook: Recipes for Mastering Python 3, O'Reilly' Media Inc, Third Edition.

Web References:

1. https://www.w3schools.com/python/python_intro.asp
2. <https://www.geeksforgeeks.org/python-language-introduction/>
2. <https://www.udemy.com/pythonforbeginnersintro/>



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Class : B.Com (CA)
Semester : V
Sub code : 18UCCEP1

Part III : Elective
Hours : 05
Credits : 05

OBJECT ORIENTED PROGRAMMING WITH C++ - LAB

Course Outcomes

- CO1:** Learn the basic concepts of object oriented programming.
- CO2:** Apply the concept of pointers, constructors, destructors, etc.
- CO3:** Examine the advanced features in C++ to solve real world problems.
- CO4:** Know the importance of inheritance and function overloading.
- CO5:** Design object oriented solution for small systems involving multiple objects.

1. Simple interest and compound interest.
2. Program for factorial using for loop.
3. Program for finding grade using switch case.
4. Program for finding leap year.
5. Program for prime number checking using while loop.
6. Program for string manipulation.
7. Program for Electricity Bill using nested if.
8. Program using inline function.
9. Program using friend function.
10. Program for Employee details using class.
11. Program for students mark list using structure.
12. Program using inheritance.
13. Program for finding area of circle, square and rectangle using function overloading.



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(For those who joined in 2018-2019 and after)

Class : B.Com (CA)

Semester : V

Sub code : 18UCCEP2

Part III : Elective

Hours : 05

Credits : 05

Programming in C# - Lab

Course Outcomes:

CO1: Summarize the fundamental principles of object oriented programming.

CO2: Use exception handling in C# programs.

CO3: Analyze real world problems using user defined functions.

CO4: Evaluate various forms of inheritance that provides code reusability.

CO5: Prepare a design for real world problems.

1. Write a c# program to print Fibonacci series without using recursion and using recursion.
2. Write a c# program to check prime number.
3. Write a c# program to check palindrome number.
4. Write a c# program to print factorial of a number.
5. Write a c# program to check Armstrong number.
6. Write a c# program to print sum of digits
7. Write a c# program to reverse given number.
8. Write a c# program to swap two numbers without using third variable.
9. Write a c# program to convert decimal number to binary.
10. Write a c# program to print number triangle.
11. Write a c# program to check odd or even.
12. Write a c# program to find the biggest among three numbers.
13. Write a c# program to find the area of rectangle using constructor.
14. Create Multilevel inheritance using C#.
15. Create an Exception Handling using C#.



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Class : B.Com (CA)
Semester : V
Sub code : 18UCCEP3

Part III : Elective
Hours : 05
Credits : 05

Programming in Python - Lab

Course Outcomes:

- CO1:** Understand conditionals, loops and functions in Python.
- CO2:** Make use of lists, dictionary and tuples in Python.
- CO3:** Compare various sorting techniques and Use it in various applications.
- CO4:** Know the importance of using command line arguments.
- CO5:** Create, analyze and debug Python programs for various applications.

LIST OF PROGRAMS:

1. Compute the GCD of two numbers.
2. Find the square root of a number (Newton's method)
3. Exponentiation (power of a number)
4. Compute distance between two points taking input from the user (Pythagorean Theorem)
5. Find the maximum of a list of numbers
6. Print the decimal equivalents of $1/2$, $1/3$, $1/4$, . . . , $1/10$
7. Write a program using a while loop that asks the user for a number, and prints a count down from that number to zero.
8. Linear search and Binary search
9. Selection sort, Insertion sort
10. Merge sort
11. First n prime numbers
12. Multiply matrices
13. Programs that take command line arguments (word count)
14. Write a program to count the numbers of characters in the string and store them in a dictionary data structure
15. Write a program combine lists that combines these lists into a dictionary



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Class : B.Com (CA)
Semester : V
Sub code : 18UCCSP4

Part IV : Skill Based
Hours : 02
Credits : 02

PHP Programming - Lab

Course Outcomes:

- CO1:** Understand the basic concepts of PHP programming.
- CO2:** Apply and analyse PHP programs to design real life problems.
- CO3:** Examine the use of PHP programming that uses SQL tables.
- CO4:** Assess regular expressions and hashing functions in PHP language.
- CO5:** Design PHP programs using parsing functions.

LIST OF PROGRAMS:

1. Write a PHP program to reverse given number.
2. Write a PHP program to print table of a number.
3. Write a PHP program to print Fibonacci series without using recursion and using recursion.
4. Write a PHP program to swap two numbers with and without using third variable.
5. Write a PHP program to print alphabet triangle.
6. Develop a PHP program using controls and functions
7. Develop a PHP program and check message passing mechanism between pages.
8. Develop a PHP program using String function and Arrays.
9. Develop a PHP program to display student information using MYSQL table.
10. Develop a PHP program to design a college application form using MYSQL table.
11. Develop a PHP program using parsing functions (use Tokenizing)
12. Develop a PHP program and check Regular Expression, HTML functions, Hashing functions.
13. Develop a PHP program and check File System functions, Network functions, and Date and time functions.
14. Develop a PHP program using session
15. Develop a PHP program using cookie and session.



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Class	: B.Com (CA)	Part III	: Core
Semester	: VI	Hours	: 06
Sub Code	: 18UCCC61	Credits	: 04

ADVANCED CORPORATE ACCOUNTING

Course Outcomes:

On successful completion of this course, the students will be able:

CO1 : Remember the concepts of special type of account such as banking, insurance and holding companies.

CO2 : Understand about amalgamation, absorption and external reconstruction

CO3 : Apply the provisions in preparation of special type of accounts.

CO4 : Analyze the provisions related to Amalgamation, Absorption and External Reconstruction of Companies

CO5 : Evaluate the capital profit and revenue profit and develop the knowledge of holding companies accounts

Unit- I AMALGAMATION, ABSORPTION AND EXTERNAL RECONSTRUCTION OF COMPANIES

Amalgamation – Absorption and External Reconstruction of a Company – Purchase Consideration – Methods of Accounting – Accounts for closing the books of the Vendor Company – journal entries in the books of the purchasing company

Unit- II ACCOUNTS OF BANKING COMPANIES

Final Accounts of Banking Company – Preparation of Schedules (Forms B and A in Third Schedule) as per the revised guidelines - Preparation of Profit and Loss Account – Balance Sheet

Unit - III ACCOUNTS OF INSURANCE COMPANIES

Final Accounts of Insurance Company – Preparation of Final Accounts of Life Insurance and General Insurance – Revenue Account – Profit and Loss Account and Balance sheet

Unit- IV HOLDING COMPANY ACCOUNTS

Holding Company- Subsidiary Company – capital Profit – Revenue Profits –Minority Interest – Cost of Control – Mutual Owings – Preparation of Balance sheet – consolidated

Unit- VDOUBLE ACCOUNT SYSTEM

Double Account System including Accounts of Electricity Companies: Meaning – Special features – Difference between single account system and Double account system – Preparation of Revenue account, Net Revenue account, Capital account and General Balance Sheet.

Text Book:

1. T.S.Reddy and A.Murthy, **Corporate Accounting**, Margham Publications, Chennai 2018.

Reference Books:

1. S.P.Jain and K.L.Narang, **Advanced Accountancy-II**, Kalyani Publishers, New Delhi 2014.
2. R.L.Gupta and M.Radaswamy, **Corporate Accounting**, Sultan Publisher, Kolkatta 2013.



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Class	: B.Com (CA)	Part III	: Core
Semester	: VI	Hours	: 06
Sub Code	: 18UCCC62	Credits	: 04

INCOME TAX LAW AND PRACTICE-II

Course Outcomes:

On successful completion of this course, the students will be able:

- CO1:** Remember the basic provisions underlying the Income Tax Act
- CO2:** Understand the provisions of income tax act for assessment of individuals and business
- CO3:** Apply the provisions of clubbing of income, Set-off and carry forward of losses
- CO4:** Analyze the assessment procedure and representation before appropriate authorities under the law
- CO5:** Evaluate various types of assessment and can decide correct assessment type for individuals and business

Unit-I

Clubbing of income – Set-off and carry forward of losses – Deductions from gross total income.

Unit-II

Assessment of individual and Hindu undivided family.

Unit-III

Assessment of Partnership firms and joint stock companies.

Unit-IV

Return of income – Submission of return of income – Return of loss – Belated Return – Procedure for assessment – Self Assessment – Reassessment – Best judgment assessment Ex-party assessment – Rectification of mistakes – Reopening of assessment.

Unit-V

Deduction and Collection of tax at source – Advance payment – Tax refunds – Consequences of failure to deduct or pay tax – Tax credit certificate – Tax clearance certificate.

E- Filing of Income-tax procedures

80% of marks must be allotted to problem solving questions.

20% of marks must be allotted to Theory questions.

Text Book:

1. Gaur V.P., and Narang D.B., **Income Tax Law and Practice**, Kalyani Publishers, New Delhi, 2001.

Reference Books:

1. Dr. Vinod K. Singhania, **Direct Taxes – Law and Practice**, Taxman Publication, New Delhi, 2000.
2. B.B.Lal, **Direct Taxes**, Konark publisher ltd, New Delhi, 2018.



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Class : B.Com (CA)
Semester : VI
Sub Code : 18UCCPR1

Part III : Core
Hours : 06
Credits : 04

PROJECT WORK & VIVA VOCE

COURSE OUTCOMES

After completing this course the students will be able

- CO1: Identify key reference documents to help guide the structure and style of the report
 CO2: Describe the connection between proposals and reports
 CO3: Possess practical exposure of collections of data and analysis for its results
 CO4: Apply key elements of structure and style in drafting longer documents
 CO5: Compare strategies for conveying information with text and visually

The final year students must undergo 4 weeks Data Collection work for their Project Report in their fifth semester vacation i.e. before starting their sixth semester after completing their fifth semester examinations. The report preparation, presentation and viva-voce will be conducted during the sixth semester and the marks will be entered in their sixth semester. The following guidelines to be strictly followed:

1. The Project Report should be only on the basis of Field Survey only.
2. The data collection period should be during weekend and Holidays.
3. There will be one Faculty Guide to prepare the Project Report.
4. The students should submit the Project Report (Minimum 50 Pages).
5. The Marks for Project Report will be awarded only on the basis of the Project Report.

Course Description

The Project is conducted by the following Course Pattern.

Internal

Presentation	}	40
Submission		

External

Project Report	}	60
Viva Voce		

Total - 100

6. The Project Report should contain
 - (a) Introduction about the Study
 - (b) Objectives of the Study
 - (c) Scope of the Study
 - (d) Limitations of the Study
 - (e) Analysis and Interpretation
 - (f) Findings, Suggestions and Recommendations
 - (h) Conclusion
 - (I) Bibliography

7. The evaluation of the Project Report will be internal only.



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Semester	: VI	Hours	: 05
Sub Code	: 18UCCE61	Credits	: 05

INDUSTRIAL LAW

Course Outcomes:

On successful completion of this course, the students will be able

CO1: Remember the concepts of employee related Law

CO2 Understand development and the judicial setup of Labour Laws.

CO3 Apply aspects of employment law to real workplace situations.

CO4 Analyze the dynamic legal context in which employment relationships are enacted

CO5 Evaluate emerging trends in employment law

Unit-I

Factories Act 1948 – Definition of factory, manufacturing process, worker, adult, young persons, child and occupier. Health, safety and welfare of workers. Working hours of adults. Employment of young person and children. Annual leave with wages. Employment of women in factory

Unit-II

Industrial Disputes Act 1947 – Definition authorities under the act, Powers, Reference of disputes to authorities, Strikes, Lock outs, lay off, Retrenchment, closure, Unfair labour practices, Trade Union Act, 1926 – Definition, Registration of Trade unions, Cancellation, Appeal , Rights and privileges of registered trade unions, Amalgamation and Dissolution.

Unit-III

Minimum wages Act, 1948 – Procedure for fixation and revision of minimum wages, procedure for hearing and deciding claims, advisory boards.

Unit-IV

Workmen’s compensation act 1923 – Definition of dependant, workman, partial disablement and total disablement, employer’s liability for compensation, scope of arising out of and in the course of employment, when employer is not liable, amount of compensation, distribution of compensation, commissioner. Employees state Insurance Act, 1948 – Objectives and Scope, Definitions, Standing Committee and Medical benefit council, contribution, kinds of benefits and eligibility, conditions, adjudication of disputes and claims.

Unit-V

Payment of Gratuities Act 1972 – Payment of gratuity, Forfeiture of gratuity, Nomination, Determination and recovery of gratuity. Employees provident fund scheme 1952 – Employees pension scheme, Administration of the scheme. Payment of Bonus Act 1965 – Eligibility and Disqualification for bonus, Determination and recovery of bonus.

Text Book:

1. N.D.Kapoor, **Elements of Mercantile Law**, Sultan Chand and Sons, New Delhi, 2014.

Reference Books:

1. K.R.Bulchandani, **Business Law**, Himalaya Publishing House, Mumbai, 2014.
2. K.C.Mandot, **Industrial and Labour Laws**, Premier Book Co, New Delhi, 2005.



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Semester	: VI	Hours	: 05
Sub Code	: 18UCCE62	Credits	: 05

GOODS AND SERVICES TAX

Course Outcomes:

On successful completion of this course, the students will be able to:

CO1: Understand the claim Input Tax Credit under GST

CO2: Compute the assessable value of transactions related to goods and services for levy and determination of duty liability

CO3: Identify and analyze the procedural aspects under different applicable statutes related to indirect taxation

CO4: Fill and file the various returns for dealers under GST

CO5: Make the payment of GST, claim refund of GST and maintain accounts under GST.

UNIT I: BASICS OF GST

Introduction of Goods & Services Tax (GST)-Indirect taxes subsumed by GST-Meaning of GST - Advantages of GST - One Nation One Tax-Dual GST Model - Goods and Services Tax Network [GSTN] - GST Council - Important Definitions under CGST Law

UNIT II: LEVY AND COLLECTION OF TAX

Supply- Scope of supply- Composite and Mixed Supplies -Levy and Collection - Composition Levy- Exemptions - Person Liable to pay GST- Time of supply –Place of supply- value of supply

UNIT III: REGISTRATION UNDER GST

Introduction - Persons not liable for Registration - Compulsory Registration in Certain Cases - Procedure for Registration - Concept of Distinct Person under GST - Deemed Registration - Cancellation of registration - Revocation of Registration

UNIT IV INPUT TAX CREDIT

Cascading Effect of Taxation- Benefits of Input Tax Credit- Manner of claiming input tax - credit in different situations - Computation - Input service distribution - Recovery of Credit - Utilization of Input tax credit - Cases in which input tax credit is not available

UNIT V: FILING OF RETURNS:

Meaning – Procedure for filing of returns – Assessment - Payment of Tax – Refunds – Eligibility and conditions for getting refund.

Text book:

1. All About GST- V S Datey- Taxmann Publications

Reference books:

1. Indirect taxation study notes Published by The Institute of Cost Accountants of India
Revised Edition: February, 2019
2. Illustrated Guide to Goods and Service Tax- C A Rajat Mohan- Bharat Publications



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Class	: B.Com (CA)	Part III	: Elective
Semester	: VI	Hours	: 05
Sub Code	: 18UCCE63	Credits	: 05

INVESTMENT MANAGEMENT

Course Outcome:

On successful completion of this course, the students will be able

CO 1: Provide an idea about investments and its various alternatives

CO 2: Enable the students to understand Shares and Debentures

CO 3: Create an awareness regarding investment Risk and return

CO 4: Make them understand about securities analysis and management

CO5: Provide knowledge about portfolio investment and various theories in portfolio Management

UNIT I INTRODUCTION

Concepts & investments- importance- alternative forms of investment- LIC schemes bank deposits- government securities- mutual fund schemes- post office schemes- provident fund- company deposits- real estate- gold & silver.

UNIT II INVESTMENT IN SHARE AND DEBENTURES

Investment in shares and debentures- comparison with other forms of investment primary market: role of NIM mechanics & floating new issues- secondary markets: functions mechanics of security market- OTCEI- NSE- features and options.

UNIT III RISK & RETURNS

Risk- kinds- measures of risk- returns- valuation of securities- valuation of bonds valuation of preference & equity shares.

UNIT IV SECURITIES ANALYSIS

Security analysis- fundamental analysis- economic, industry and company analysis, technical analysis- Dow theory- types of charts- importance chart pattern.

UNIT V MARKET THEORY

Efficient market theory- random walk theory- weak- semi strong- strong- portfolio analysis-Markovitz theory- optimum portfolio.

Text books

1. Dr. Radha , “Investment Management” Prasanna Publication, 2015.
2. Dr.O.PAgarwal. “Security Analysis And Investment Management”, Himalaya Publication, 2007.

Reference Book

1. Dr. V.A Avadhani, “Investment Management”- Himalaya Publication, 2004.
2. Dr. Prithisingh, “Investment Management” Himalaya Publication, 2015.



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Class	: B.Com (CA)	Part IV	: Elective
Semester	: VI	Hours	: 05
Subject Code	: 18UCCE64	Credits	: 05

INTERNET AND WEB TECHNOLOGIES

Course Outcomes

On successful completion of this course, the students will be able to

CO1: Describe the basic concepts of internet, internet standards and protocols.

CO2: Develop a webpage using various html tags.

CO3: Understand the importance of CSS to design the web pages.

CO4: Discover the basic and advanced concepts of VBScript.

CO5: Design a dynamic webpage using DHTML.

Unit – I

Introduction: Internet – History of Internet – Internet services and Accessibility – Uses of Internet – Protocols – Web concepts – Internet Standards

Internet Protocols: Introduction – Internet Protocols – Host Names – Internet Applications and Application Protocols

Unit – II

HTML: Introduction - SGML – Outline of a HTML document – Head Section - Body Section - HTML Forms

Unit – III

VBScript: Introduction – Embedding VBscript code in an HTML document – Comments – Variables – Operators – Procedures – Conditional Statements – Looping Constructs – Objects and VBScript - Cookies

Unit - IV

Cascading Style Sheets (CSS): Coding CSS – Properties of Tags – Property values – Other style properties – Inline style sheets – Embedded Style Sheets – External Style Sheets – Grouping – Inheritance – Class as Selector – ID as Selector – Contextual Selectors – Pseudo Classes and Pseudo-elements – Positioning – Backgrounds – Element Dimensions

Unit – V

DHTML: DHTML Document Object Model and Collections – Event Handling – Filters and Transitions – Data Binding

Text Books:

1. N.P.Gopalan, J.Akilandeswari, Web Technology, PHI Learning Private Limited, New Delhi, Second Edition, July 2014.

Reference Books:

1. L.MathuKrithigaVenkatesh, WebTechnology, Margham Publications, Chennai, 2004.
2. Chris Bates, Web Programming, Wiley India Pvt Ltd, New Delhi, Third Edition, 2002.
3. Raj Kamal, Internet and Web Technologies, Mc Graw Hill Publication, 2017

Web References

1. <https://www.javajee.com/introduction-to-important-concepts-in-internet-and-web-technologies>
2. <https://www.dcs.bbk.ac.uk/study/modules/internet-and-web-technologies/>
3. https://en.wikibooks.org/wiki/Introduction_to_Information_Technology/Web_Technologies



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Class : B.Com (CA)

Semester : VI

Sub code : 18UCCE65

Part IV : Elective

Hours : 05

Credits : 05

MANAGEMENT INFORMATION SYSTEMS

Course Outcomes

CO1: Describe the nature and scope of MIS and its role in global business.

CO2: Determine the concept of strategic information systems and its role in competitive advantage.

CO3: Illustrate the basics of doing business over the internet.

CO4: Evaluate the business intelligence of enterprise systems.

CO5: Compile various kinds of security measures to protect Information System resources.

Unit I: Management Information Systems: An Overview

Introduction – Need for Management Information Systems - Management Information Systems: A Concept – MIS: A Definition - Management Information System and Information Technology – Nature and Scope of MIS – MIS Characteristics – Structure of MIS – Types of MIS – Role of MIS in Global Business – Challenges of Management Information Systems

Unit II: Information Systems and Competitive Advantage

Introduction – Changing Role of Information Systems – Competitive Advantage – Strategies for Dealing with Competitive Forces – Porter's Value Chain Model – Strategic Information Systems

Unit III: E-Commerce, E-Business and E-Governance

Introduction – E-Commerce – E-Commerce Sales Life Cycle – E-Commerce Infrastructure – E-Commerce Applications – E-Commerce Payment Systems – Management Challenges and Opportunities - E-Business – E-Governance

Unit IV: Enterprise Systems

Introduction – Enterprise Systems – Enterprise Resource Planning System – Customer Relationship Management System – Supply Chain Management Sys

Unit V: Security, Ethical and Social Issues

Introduction – Information System Security Threats – Protecting Information System – Ethical Issues – Social Issues.

Text Book:

1. D.P.Goyal, Management Information Systems Managerial Perspectives, Vikas Publishing House Private Limited, 4th Edition, 2014.

Reference Books:

1. Waman S.Jawadekar, *Management Information Systems*, Tata McGraw Hill, New Delhi. 4th Edition.
2. Davis, G. B., & Olson, M. H. ,*Management Information Systems*, Tata McGraw Hill, New Delhi, 2nd Edition
3. Rajaraman.V, *Analysis and Design of Information Systems*, Prentice Hall, New Delhi, Third Edition.

Reference websites:

1. https://www.tutorialspoint.com/management_information_system/
<https://www.docsity.com> > ... > Study notes Management Information Systems
<https://bizfluent.com> > Management



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Class : B.Com (CA)
Semester : VI
Sub code : 18UCCE66

Part IV : Elective
Hours : 05
Credits : 05

MOBILE COMPUTING

Course Outcomes

On successful completion of this course, the students will be able to

CO1: Learn and understand the basic concepts of Mobile Computing.

CO2: Identify stakeholder needs

CO3: Test and compare various mobility management, connection management at the air interface.

CO4: Select the efficient mobile computing algorithms.

CO5: Design mobile applications for real world problems.

Unit I: Introduction to Mobile Computing

Mobility of Bits and Bytes – Wireless, The Beginning – Mobile Computing – Dialogue Control – Networks – Middlewares and Gateways – Application and Services – Security in Mobile Computing

Unit II: Mobile Computing Architecture

History of Computers – History of Internet – Architecture for Mobile Computing – Three Tier Architecture – Mobile Computing through Internet – Making Existing Applications Mobile Enabled

Unit III: Emerging Technologies

Introduction – Bluetooth – Radio Frequency Identification – Wireless Broadband – Mobile IP – Internet Protocol Version 6 – Java Card

Unit IV: Short Message Service (SMS)

Mobile Computing Over SMS - Short Message Service (SMS) – Value Added Service through SMS – Accessing the SMS Bearer

Unit V: Wireless Application Protocol (WAP)

Introduction - Wireless Application Protocol (WAP) – Multimedia Message Service (MMS) – GPRS Applications.

Text Book:

1. Asoke K.Talukder, Hasan Ahmed, Roopa R.Yavagal, Mobile Computing-Technology, Applications and Service Creation, McGraw Hill Education, Second Edition, 2016.

Reference Books:

1. Jochen Schiller, “Mobile Communications”, PHI/Pearson Education, Second Edition, 2003.
2. Hazysztof Wesolowshi, “Mobile Communication Systems”, John Wiley and Sons Ltd, 2002.
3. Jeyasri Arokia Mary.V, Mobile Computing, Technical Publications, Pune, First Edition, 2008.

Reference websites:

<https://www.minigranth.com> > mobile-computing

<https://www.javatpoint.com> > mobile-communication-tutorial

<https://www.tutorialride.com> > mobile-computing



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DEPARTMENT OF COMMERCE WITH COMPUTER APPLICATIONS
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Class	: B.Com (CA)	Part III	: Skill
Semester	: VI	Hours	: 02
Sub Code	: 18UCCSP5	Credits	: 02

VISUAL PROGRAMMING – LAB

Course Outcomes:

On successful completion of this course, the students will be able to

CO1: Identify the basic skills of visual programming.

CO2: Determine the concepts of event driven programming and its importance.

CO3: Analyze standard and custom controls of visual studio environment.

CO4: Evaluate the importance of database programming using ActiveX controls.

CO5: Design Visual Basic programs using intrinsic controls and dialog boxes.

1. Program for arithmetic operations
2. Program for String manipulation
3. Design a calculator using control arrays and frames
4. Program for picture animation
5. Program for rocket launching
6. Program for menu editor
7. Create a color animation using simple objects
8. Do the following:
 - a. Add item to the list box
 - b. Delete an item from the list box
 - c. Count the number of elements
 - d. Clear the contents of the list box
9. Program for opening a picture and file from appropriate controls in tool box
10. Payroll creation with DAO controls
11. Hotel management using DAO controls
12. Student table manipulation DAO controls