



Dr. N.G.P. ARTS AND SCIENCE COLLEGE

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)

Approved by Government of Tamil Nadu & Accredited by NAAC with A++ Grade (3rd Cycle-3.64 CGPA)

Dr.N.G.P.- Kalapatti Road, Coimbatore-641048, Tamil Nadu, India

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REGULATIONS 2026-27 for Under Graduate Programme

(Outcome Based Education model with Choice Based Credit system)

B.Com(CA) Degree

(For the students admitted during the academic year 2026-27 and onwards)

PROGRAMME: B.Com(CA)

Eligibility: A pass in Higher Secondary Examination with any academic stream or vocational streams one of the subjects and as per the norms set by the Government of Tamil Nadu or an examination accepted as equivalent thereto by the Academic Council, subject to such conditions as may be prescribed thereto are permitted to appear and qualify for the Bachelor of Commerce in Computer Applications degree examinations of this college after a course of study of three academic years.

PROGRAMME EDUCATIONAL OBJECTIVES

The Curriculum is designed with the following objectives:

- To provide conceptual knowledge and application skills in the domain of Commerce along with Computer Applications.
- To equip the students with problem solving skills in the real business environment through Industrial training, case studies and projects.
- To enable students to apply computer skills in a globalized environment through effective training with IT tools.
- To empower students to develop the skills and knowledge necessary to thrive in competitive job markets and secure fulfilling careers.
- To cultivate highly skilled manpower for diverse business fields including Banking, Accounting, Marketing, Taxation, and more.

PROGRAMME OUTCOMES

On the successful completion of the program, the following are the expected outcomes.

PO Number	PO Statement
PO1	Possess a strong foundational knowledge in commerce-oriented disciplines and enhanced designing, development and application skills on various business operations.
PO2	Develop intellectual, personal and societal skills that are highly esteemed in present day business organizations along with ethical values and environmental concern.
PO3	Emerge as proficient individuals capable of perceiving higher studies and other professional programmes.
PO4	Empowered with essential competencies, an innovative mind and effective decision-making skills.
PO5	Demonstrate analytical and creative approach to business issues and exhibit independent judgment and critical thinking.

Credit distribution for Part I to Part V for Four Semesters Language:

Part	Subjects	No. of Papers	Credit	Semester No.
I (12 Credits)	Tamil/Hindi/French/Malayalam	4	4 x 3 =12	I,II,III & IV
II (12 Credits)	English	4	4 x 3 = 12	I,II,III & IV
III (108 Credits)	Core (Credits 2,3,4)	19	70	I to VI
	Inter Departmental Course (IDC)	4	4 x 4 =16	I to IV
	Discipline Specific Elective (DSE)	3	3 x 4 =12	V & VI
	Skill Enhancement Course (SEC)	4	4 x 2 =8	III to VI
	Internship	1	1 x 2 =2	V
IV (8 Credits)	Environmental Studies (AECC)	1	1 x 2 =2	I
	Basic Tamil/ Advance Tamil/Human Rights and Women's Rights (AECC)	1	1 x 2 =2	II
	Generic Elective (GE)	1	1 x 2 =2	V
	Innovation and IPR/Innovation, IPR and Entrepreneurship (AECC)	1	1 x 2 =2	VI
V (2 Credits)	NSS/NCC/YRC/RRC/Yoga/Sports/Clubs	-	1 x 2 =2	I to II
Total Credits			142	

CURRICULUM
B.Com CA

Course Code	Course Category	Course Name	L	T	P	Duration		Exam (hours)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
First Semester												
Part-I												
26TLU1TA	Language-I	Tamil-I	4	1	-	5	60	3	25	75	100	3
26TLU1HA		Hindi-I										
26TLU1MA		Malayalam-I										
26TLU1FA		French-I										
Part-II												
26ELU1EA	Language-II	English - I	4	-	1	5	60	3	25	75	100	3
Part-III												
26COU1CA	Core-I	Financial Accounting	5	1	-	6	72	3	25	75	100	4
26CIU1CA	Core-II	Principles of Management	4	-	-	4	48	3	25	75	100	4
26CMU1CP	Core-III Practical	Spreadsheet Modeling for Business	-	-	4	4	48	3	40	60	100	2
26MTU1IA	IDC-I	Business Mathematics	4	-	-	4	48	3	25	75	100	4
Part-IV												
26CEU1AA	AECC-I	Environmental Studies	2	-	-	2	24	3	50	-	50	2
Part-V												
26CMU1XA	Extension Activity	NSS/NCC/YRC/RRC /Yoga/Sports/Clubs	-		-	-	-	-	50	-	50	1
Total			23	2	5	30	360	-	-	-	700	23

Course Code	Course Category	Course Name	L	T	P	Duration		Exam (hours)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Second Semester												
Part-I												
26TLU2TA	Language-I	Tamil-II	4	1	-	5	60	3	25	75	100	3
26TLU2HA		Hindi-II										
26TLU2MA		Malayalam-II										
26TLU2FA		French-II										
Part-II												
26ELU2EA	Language-II	English - II	4	-	1	5	60	3	25	75	100	3
Part-III												
26BPU2CA	Core-IV	Advanced Financial Accounting	5	1	-	6	72	3	25	75	100	4
26CRU2CA	Core-V	Business Law	4	-	-	4	48	3	25	75	100	4
26CMU2CP	Core-VI Practical	Computerised Accounting	-	-	4	4	48	3	40	60	100	2
26MTU2IA	IDC-II	Business Statistics	4	-	-	4	48	3	25	75	100	4
Part-IV												
26TLU2AA	AECC-II	Basic Tamil	2	-	-	2	24	3	50	-	50	2
26TLU2AB		Advanced Tamil										
26CMU2AA		Human Rights and Women's Rights										
Part-V												
26CMU2XA	Extension Activity	NSS/NCC/YRC/RR C/Yoga/Sports/Clubs/ Health and Wellness	-	-	-	-	-	-	50	-	50	1
Total			23	2	5	30	360	-	-	-	700	23

Course Code	Course Category	Course Name	L	T	P	Duration		Exam (hours)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Third Semester												
Part-I												
26TLU3TA	Language- I	Tamil-III	3	1	-	4	48	3	25	75	100	3
26TLU3HA		Hindi-III										
26TLU3MA		Malayalam-III										
26TLU3FA		French-III										
Part-II												
26ELU3EA	Language-II	English - III	3	1	-	4	48	3	25	75	100	3
Part-III												
26CMU3CA	Core-VII	Cost Accounting	5	-	-	5	60	3	25	75	100	4
26CMU3CB	Core-VIII	Python Programming	5	-	-	5	60	3	25	75	100	4
26BIU3CB	Core-IX	Company Law	4	-	-	4	48	3	25	75	100	4
26COU3IA	IDC-III	Business Economics	4	-	-	4	48	3	25	75	100	4
26CMU3SP	SEC Practical-I	Python Programming	-	-	4	4	48	3	40	60	100	2
Total			24	2	4	30	360	-	-	-	700	24

Course Code	Course Category	Course Name	L	T	P	Duration		Exam (hours)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Fourth Semester												
Part-I												
26TLU4TA	Language- I	Tamil-IV	3	1	-	4	48	3	25	75	100	3
26TLU4HA		Hindi-IV										
26TLU4MA		Malayalam-IV										
26TLU4FA		French-IV										
Part-II												
26ELU4EA	Language-II	English - IV	3	1	-	4	48	3	25	75	100	3
Part-III												
26CRU4CA	Core-X	Corporate Accounting	5	1	-	6	72	3	25	75	100	4
26CMU4CA	Core-XI	Relational Database Management System	5	-	-	5	60	3	25	75	100	4
26CMU4CB	Core-XII	Business Models for Startup	3	-	-	3	36	3	25	75	100	3
26CSU4IC	IDC-IV	Digital Banking	4	-	-	4	48	3	25	75	100	4
26CMU4SP	SEC Practical-II	Relational Database Management System	-	-	4	4	48	3	40	60	100	2
Total			23	3	4	30	360	-	-	-	700	23

Course Code	Course Category	Course Name	L	T	P	Duration		Exam (hours)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Fifth Semester												
Part-III												
26CMU5CA	Core-XIII	Financial Management	4	-	-	4	48	3	25	75	100	4
26ATU5CC	Core-XIV	Income Tax Law and Practice	5	1	-	6	72	3	25	75	100	4
26COU5CB	Core-XV	Research Methodology	4	-	-	4	48	3	25	75	100	4
26CMU5EP	Core-XVI Practical	Data Visualisation	2	-	4	6	72	3	40	60	100	4
26CMU5DA	DSE-I	Financial Markets and Services	4	-	-	4	48	3	25	75	100	4
26CIU5DA		E-Business Technology										
26CRU5DA		Human Resource Management										
26BAU5DA		Service Marketing										
26CMU5TA	IT	Industrial Training	-	-	-	-	-	3	40	60	100	2
26CMU5SP	SEC Practical-III	Data Analysis for Research	-	-	4	4	48	3	40	60	100	2
Part-IV												
	GE		-	-	2	2	24	3	50	-	50	2
Total			19	1	10	30	360	-	-	-	750	26

Course Code	Course Category	Course Name	L	T	P	Duration		Exam (hours)	Max Marks			Credits	
						Week	Total		CIA	ESE	Total		
Sixth Semester													
Part-III													
26BAU6CA	Core-XVII	Management Accounting	5	-	-	5	60	3	25	75	100	4	
26CMU6CA	Core-XVIII	PHP and MySQL	3	-	-	3	36	3	25	75	100	3	
26CMU6CV	Core-XIX	Project and Viva-Voce	-	-	8	8	96	3	40	60	100	4	
26CMU6DA	DSE-II	Security Analysis and Portfolio Management	4	-	-	4	48	3	25	75	100	4	
26CIU6DA		Enterprise Resource Planning											
26CRU6DA		Organizational Behavior											
26BAU6DA		Retail Marketing											
26CMU6DB	DSE-III	Digital Trading	4	-	-	4	48	3	25	75	100	4	
26CIU6DB		Information Security											
26CRU6DB		Labour Laws and Practices											
26BAU6DB		Social Media Marketing											
26CMU6SP	SEC Practical-III	Programming in PHP and MySQL	-	-	4	4	48	3	40	60	100	2	
Part-IV													
26CIU6AA	AECC-III	Innovation and IPR	2	-	-	2	24	3	50	-	50	2	
Total			18	-	12	30	360	-	-	-	650	23	
Grand Total											4200	142	

DISCIPLINE SPECIFIC ELECTIVE

Students shall select the desired course of their choice in the listed elective course during Semesters V & VI

Semester V (Elective I)

List of Elective Courses

S.No.	Course Code	Name of the Course
1	26CMU5DA	Financial Markets and Services
2	26CIU5DA	E-Business Technology
3	26CRU5DA	Human Resource Management
4	26BAU5DA	Service Marketing

Semester VI (Elective II)

List of Elective Courses

S.No.	Course Code	Name of the Course
1	26CMU6DA	Security Analysis and Portfolio Management
2	26CIU6DA	Enterprise Resource Planning
3	26CRU6DA	Organizational Behavior
4	26BAU6DA	Retail Marketing

Semester VI (Elective III)

List of Elective Courses

S.No.	Course Code	Name of the Course
1	26CMU6DB	Digital Trading
2	26CIU6DB	Information Security
3	26CRU6DB	Labour Laws and Practices
4	26BAU6DB	Social Media Marketing

GENERIC ELECTIVE COURSES (GE)

The following are the courses offered under Generic Elective Course Semester V (GE-I)

S.No.	Course Code	Name of the Course
1	26CMU5GP	Digital Tools for E-Commerce

EXTRA CREDIT COURSES

The following are the courses offered under self-study to earn extra credits: Semester III

S.No.	Course Code	Name of the Course
1	26CMUSSA	Business Ethics
2	26CMUSSB	Cyber Securities and Cyber Law

CERTIFICATE PROGRAMMES

The following are the programme offered to earn extra credits:

S.No.	Course Code	Name of the Course
1	26CMSO1A	MS OFFICE
2	26CMSO1P	MS OFFICE - LAB

MOOC (NPTEL / SWAYAM / SPOKEN TUTORIAL)

The following are the online courses offered: Please refer the following link to select the courses

- www.swayam.org
- www.nptel.org
- www.spoken-tutorial.org


 BoS Chairman/HoD
 Department of Commerce (CA)
 Dr. N. G. P. Arts and Science College
 Coimbatore – 641 048

		Dr. N. G. P. Arts and Science College	
		APPROVED	
BoS -	AC -		

Semester - I CORE : FINANCIAL ACCOUNTING							
Semester	Course Code	Course Name	Category	L	T	P	Credits
I	26COU1CA	FINANCIAL ACCOUNTING	CORE	60	12	-	4

Preamble	This course has been designed for students to learn and understand - the basic concepts of accounting, prepare the final accounts and methods of providing depreciation accounting. - the recording transactions relating to bills of Exchange, methods of preparation of account for nonprofit organization. - the knowledge about rectification of errors and Bank reconciliation statement.
Prerequisite	Knowledge on Fundamental of Accounting.

Course Outcomes (Cos)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Understand basic accounting concepts and prepare journal, ledger, and trial balance	K2
CO2	Prepare final accounts with adjustments	K3
CO3	Prepare Bank Reconciliation Statement and rectify accounting errors.	K4
CO4	Apply methods of depreciation and amortization.	K5
CO5	Understand accounting of NPOs and bills of exchange.	K3

Mapping with Program Outcomes:					
Cos/POs	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	S	M
CO2	S	S	M	S	S
CO3	S	M	S	M	S
CO4	S	S	S	S	M
CO5	S	S	S	S	M

26COU1CA

FINANCIAL ACCOUNTING

Syllabus

Unit	Content	Hrs	Resources
I	Introduction to Accounting Accounting: Definition - Objectives - Functions - Advantages - Limitations - Types of Accounts - Basis of Accounting - Accounting Principles: Accounting Concepts and Conventions - Journal - Ledger - Subsidiary books - Trial balance. Case Study on Accounting Concepts.	16	Text Book
II	Final Accounts Final Accounts: Introduction - Trading Account, Profit and Loss Account, Balance sheet with adjustments.	12	Text Book
III	Bank Reconciliation Statement and Rectification of errors Bank Reconciliation Statement - Need - Causes-Preparation of Bank Reconciliation Statement. Rectification of errors - classification - Suspense Account. Case Study on Rectification of errors.	15	Text Book
IV	Depreciation and Amortization Depreciation - Characteristics - Causes - Need - Methods -- Straight Line, Written Down, Annuity, Sinking Fund, Insurance Policy and Machine Hour Rate Methods- Amortization of intangible asset.	14	Text Book
V	Non- Profit Organization and Bills of Exchange Non- Profit Organization - Receipts and payment Account- Income and Expenditure Account and balance Sheet. Bills of Exchange - Definition - Features - Advantages - Types -Promissory Notes - Definition - Features - Distinction between Bills of Exchange and Promissory Notes - Recording transactions relating to bills - Retiring of bill under rebate - Dishonour of a Bill - Renewal of bills. Case Study on Bills of Exchange	15	Text Book
Total		72	

Note: Distribution of Marks: 80% problems and 20% theory.

Case studies related to the above topics to be discussed (Examined Internal only)

Text book	1.	Jain, S. P., and Narang, K.L 2025, Advanced Accountancy - Principles of Accounting Including GST Volume I, Twentieth Revised Edition, Kalyani Publishers, New Delhi.
	2.	Reddy, T. S., and Murthy, A. 2023, Financial Accounting, Second Revised Edition, Margham Publications, Chennai.

Reference Books	1.	Shukla M.C Grewal T. S Gupta S.C. 2022, Advanced Accounts Volume I, Nineteenth Edition, S. Chand & Company Pvt Ltd, New Delhi.
	2.	Hanif., and Mukherjee, 2018, Modern Accountancy, Volume I, Second Edition. Tata Mc Graw Hill Publishing Co. Ltd., Chennai.
	3.	S.N. Maheswari, Suneel K Maheswhwari and Sharad K Maheswari, 2022, Advanced Accountancy, Volume I, 11th Edition, S Chand & Company Limited.
	4.	Pillai. R.S.N and Bagavathi, Uma. S. 2012. Fundamentals of Advanced Accounting, Volume I, Third Revised Edition, Sultan Chand & Company Ltd, New Delhi.

Journal and Magazines	https://indianaccounting.org
E-Resources and Website	Best Financial Accounting Courses & Certificates Online [2024] Coursera , Infosys Springboard: Digital Learning and Reskilling Programs

Learning Method	Chalk and Talk/ Assignment/Seminar/ Group Discussion
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Focus of the Course	Skill Development/ Employability/ Entrepreneurial Development/ Innovations.
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Semester - I CORE: PRINCIPLES OF MANAGEMENT							
Semester	Course Code	Course Name	Category	L	T	P	Credits
I	26CIU1CA	PRINCIPLES OF MANAGEMENT	CORE	48	-	-	4

Preamble	This course has been designed for students to learn and understand - the basic principles and elements of effective management - the managerial actions of planning, organizing and motivation - the leadership qualities and effective controlling.
Prerequisite	Knowledge on Business Management

Course Outcomes (Cos)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Translate the management principles into management practices.	K2
CO2	Interpret the planning and decision-making process in the organization.	K2
CO3	Relate the organizational practices through proper delegation of authority and responsibility	K3
CO4	Infer the recruitment process, motivational theory and leadership styles in the practice of management.	K4
CO5	Assess the techniques of controlling and reporting.	K5

Mapping with Program Outcomes:					
Cos / POs	PO1	PO2	PO3	PO4	PO5
CO1	S	M	S	S	S
CO2	S	M	S	M	S
CO3	S	S	M	S	S
CO4	M	S	S	S	S
CO5	S	S	M	S	S

26CIU1CA	PRINCIPLES OF MANAGEMENT
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Syllabus

Unit	Content	Hrs	Resources
I	Introduction to Management Definition - Nature and Scope - Importance - Functions of Management - Management as an Art, Science and Profession - Scientific Management - Fayol's Principles of Management - Kautilya's principles of management from Arthashastra - Management By Objectives (MBO) - Management By Exception (MBE) - Organization culture and Environment - Current trends and issues in Management.	10	Text Book & Reference Book
II	Planning Definition - Nature - Objectives - Advantages and Disadvantages - Process - Types - Decision Making - Traditional and Modern Techniques - Steps involved in Decision Making - Rational Decision Making - Rational decision-making with Chanakya's strategies. Case Study on Decision Making	10	Text Book & Reference Book
III	Organizing Definition - Principles - Importance - Elements of Organization - Process - Line & Staff - Overcoming Line-staff conflict, Committees, Organization Structure - Types, Advantages & Disadvantages. Directing - Meaning & Definition - Principles - Techniques - Importance - Delegation - Process of Delegations - Barriers to Delegation, Span of Control - Centralization & Decentralization - Departmentation Case Study on organization conflict	10	Text Book
IV	Staffing Meaning and Definition - Functions - Recruitment - Sources of Recruitment - Training - Performance Appraisal - 360 Degree Appraisal Method - Assessment Center Method - Motivation - Importance of Motivation - Maslow's Theory of Motivation - X, Y and Z Theories (McGregor Theory & William Ouchi Theory) - Goal Setting theory - Leadership - Types - Qualities of a Good Leader - Qualities of a Leader according to Tirukkural - Leadership styles in Management - Leadership styles from Mahabharatha - Group decision making. Case Study on Performance Appraisal	9	Text Book & Reference Book
V	Controlling and Reporting Meaning and Definition - Pre-requisites and Features of control - Process of Controlling - Effective Control system - Techniques of control - Traditional and Modern techniques - Co-ordination - Need - Techniques - Reporting - Meaning & Definition - Principles - Techniques - Importance	9	Text Book
Total		48	

	Note: Case studies related to the above topics to be discussed (Examined Internal only)
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Text book	1.	Prasad L.M., 2025, "Principles and Practice of Management", First Edition, Sultan Chand & Sons, New Delhi.
	2.	Dr. V.S.P. Rao, 2024, "Principles of Management", First Edition, Himalaya Publishing Home Pvt Ltd, Mumbai
Reference Books	1.	Dinkar Pagare, 2018, "Principles of Management", Sixth Edition, Sultan Chand & Sons, New Delhi.
	2.	Tripathi P C & Reddy P N, 2017, "Principles of Management", Sixteenth Edition, McGraw Hill Education and New Delhi
	3.	Govindarajan. M., 2019. "Principles of Management", Ninth Edition, PHI Publications, New Delhi.
	4.	Debidutta Acharya & Debashisa Mohanty, 2025, "Management Lessons From Ancient India: Ancient Insights: Unveiling Management Principles from India's Past", New Edition, S Chand Publishing. New Delhi

Journal and Magazines	<u>Principles Of Management Academy of Management Journal (aom.org)</u>
E-Resources and Website	<u>Infosys Springboard: Digital Learning and Reskilling Programs</u> <u>Principles of Management Coursera</u>

Learning Method	Chalk and Talk/ Assignment/Seminar/ Group Discussion/Case Study
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Focus of the Course	Skill Development/ Employability/ Entrepreneurial Development/ Innovations
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Semester - I CORE PRACTICAL: SPREADSHEET MODELING FOR BUSINESS							
Semester	Course Code	Course Name	Category	L	T	P	Credits
I	26CMU1CP	SPREADSHEET MODELING FOR BUSINESS	CORE PRACTICAL	--	--	48	2

Preamble	This course has been designed for students to learn and understand • charts and adding charts to data • the table by using filter and sort data • the basics of MS - Excel.
Prerequisite	Basic Computer Skill and familiarity in MS Excel

Course Outcomes (Cos)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Explain how to Enter and Edit data in MS Excel.	K2
CO2	Create personal and business spreadsheets.	K3
CO3	Modify a worksheet and workbook cell reference.	K3
CO4	Analyze business data using Lookup functions, Pivot tables, and Statistical formulas.	K4
CO5	Evaluate spreadsheet models for accuracy, efficiency, and decision-making.	K5

Mapping with Program Outcomes:					
Cos / POs	PO1	PO2	PO3	PO4	PO5
CO1	S	M	M	M	M
CO2	S	M	M	S	M
CO3	S	M	M	S	M
CO4	S	M	M	S	M
CO5	S	M	M	S	S

26CMU1CP	SPREADSHEET MODELING FOR BUSINESS
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S.No**List of Programs**

- 1 Create a spread sheet using CONCATENATE function.
- 2 Create a program by applying functions associated with Mathematical Operation (IF, AND, OR) and statistical operations (COUNT, COUNT BLANK, COUNTIF, MEDIAN, CORRELATION, SMALL, MIN, MAX).
- 3 Program for creating Sales Performance Report and including the following operations: Data entry, Total Sales, Average Sale of a Salesmen, Target Attainment and Ranking by using arithmetic and logical function and sorting.
- 4 Create a Statement of a bank customer's account showing Simple and Compound Interest calculation for 10 different customers using mathematical & logical functions.
- 5 Apply functions associated with financial operations (Present Value, Future Value, Number of Periods, Rate, PMT including IPMT, PPMT).
- 6 Calculation of Depreciation via a Straight-Line Method using SLN function & Written - down Value Method.
- 7 Use V look up and H look up functions for the database.
- 8 Program to implement 3D formulas.
- 9 Program for creating Final accounts (Trading, Profit & Loss account and Balance Sheet) by using formula. Practice shortcut key in Excel.
- 10 Create Different types of charts (line, pie, and bar) to illustrate year wise performance of sales, purchase, profit and product life cycle of a company by using chart wizard.
- 11 Create Pivot table, modify and filter the data.
- 12 Create excel dash board by adding tables and Charts.

Text Books	1.	James Holler, 2026, "Microsoft Excel ", First Edition, Independently Published, New York.
	2.	Ritu Arora, 2023, "Mastering Advanced Excel", First Edition, BPB Publications, New Delhi.

Learning Method	Demonstration/ Hands on Experiments/ Group Trials
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Focus of the Course	Skill Development/Employability/Entrepreneurial Development/Innovations
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Semester - I IDC: BUSINESS MATHEMATICS							
Semester	Course Code	Course Name	Category	L	T	P	Credits
I	26MTU1IA	BUSINESS MATHEMATICS	IDC	48	-	-	4

Preamble	This course has been designed for students to learn and understand - the characteristics of different types of matrices - the basic concept of sequence and series - the concept of interest and annuities
Prerequisite	Knowledge on Basic Mathematics

Course Outcomes (Cos)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Identify and define the types and uses of sets	K1
CO2	Explain matrix operations, properties and determinants	K2
CO3	Apply formulas of AP and GP to solve problems involving sums and means	K3
CO4	Evaluate investment and financial decisions using mathematical finance techniques	K5
CO5	Analyze relationships between variables in different types of variations	K4

Mapping with Program Outcomes:					
Cos/POs	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	S	M
CO2	S	S	M	S	S
CO3	S	M	S	M	S
CO4	S	S	S	S	M
CO5	S	S	S	S	M

26MTU1IA	IDC: BUSINESS MATHEMATICS
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Syllabus

Unit	Content	Hrs	Resources
I	Set Theory Definition – Notations – Methods of description of sets – Kinds or types of sets – Venn diagram – Set operations – Laws and properties of sets – Number of elements – Cartesian product.	9	Text Book-1
II	Matrices and Determinants Definition – Importance – Notation – order of a matrix – types of matrices – Matrix operations – properties – Determinants and its properties – inverse of a matrix – solving system of simultaneous linear equations by Cramer's rule and Matrix method – Rank of a matrix – consistency of a system of simultaneous linear equations.	12	Text Book-1
III	Sequence and Series Sequence and Series - Arithmetic Progression – sum of natural numbers – Arithmetic Mean - Geometric Progression – sum of the first n terms of a Geometric Progression – Geometric Mean - Harmonic Progression – Harmonic mean.	09	Text Book-1
IV	Mathematics of Finance Basic concepts – Simple Interest – Formulae and problems - Compound Interest – Formulae and problems – Effective rate and Nominal rate of interest – Depreciation – Annuities – present value and amount of an Annuity – Sinking Fund.	10	Text Book-1
V	Ratio, Proportion and variation Ratio – Proportion – Variation – Direct variation – inverse variation – Joint variation – Problems.	08	Text Book-2
Total		48	

Text book	1.	Navnitham PA, 2021, "Business Mathematics and Statistics", Jai Publishers, Trichy [Units - I to IV].
	2.	Rajagopalan S P and Sattanathan R, 2009, Business Mathematics", Second Edition, Tata Mc Graw - Hill Publishing Company Limited, New Delhi. [Unit - V].
Reference Books	1.	Asim Kumar Manna, 2018, "Business Mathematics and Statistics", First Edition, McGraw Hill Education Private Limited, New Delhi.
	2.	Sundaresan V, Jayaseelan S D, 2011, "An introduction to Business Mathematics", 4 th Edition, Sultan Chand & Company, New Delhi.
	3.	Das N.G & Das J.K, 2012, "Business Mathematics and Statistics", First Edition, McGraw Hill Education Private Limited, New Delhi.
	4.	Sancheti D.C & Kapoor V K, 2012, "Business Mathematics", Eleventh Edition, Sultan Chand & Company, New Delhi.

Journal and Magazines	https://www.worldscientific.com/worldscinet/bms
E-Resources and Website	<u>Matrices: Definition, Properties, Types, Formulas, and Examples</u> (geeksforgeeks.org) https://nptel.ac.in

Learning Method	Chalk and Talk/ Assignment/Seminar
Focus of the Course	Skill Development/ Employability



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