



College of Excellence, **nirf** 2023 - 4<sup>th</sup> Rank  
Autonomous and Affiliated to Bharathiar University  
Reaccredited with A<sup>++</sup> grade by NAAC, An ISO 9001:2015 Certified Institution  
Peelamedu, Coimbatore - 641004

**DEPARTMENT OF B COM (BUSINESS ANALYTICS)**

**CHOICE BASED CREDIT SYSTEM (CBCS) &  
LEARNING OUTCOMES BASED CURRICULAR  
FRAMEWORK (LOCF)**

**BACHELOR OF COMMERCE WITH BUSINESS ANALYTICS**

**2023 – 2026 BATCH**



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## **PROGRAMME LEARNING OUTCOMES (PLO's)**

After completion of the programme, the student will be able to

**PLO1:** Exhibit conceptual and procedural foundations of business analytical methods and techniques integrated with disciplines such as commerce, mathematics, statistics, management, economics and computer science.

**PLO2:** Understand data science and its role of descriptive, predictive and prescriptive analytics using data mining techniques in problem solving and decision making that is imperative for business organizations.

**PLO3:** Inculcate programming knowledge and ability to explore Big Data technologies, and algorithms for data visualization and data inference of different industries.

**PLO4:** Apply appropriate analytic tools and techniques to resolve complex business analytical problems in various industry sectors and domains with hands on experience in relevant software.

**PLO5:** Identify and resolve practically relevant business analytic tools to handle data based on diversified commerce conjecture to build and sustain a competitive advantage by expanding analytics capabilities for successful career.

## **PROGRAMME SPECIFIC OUTCOME (PSO's)**

The students at the time of graduation will

**PSO1:** To Provide Hands-on learning of leading analytical tools.

**PSO2:** To acquire theoretical knowledge of data science tools, but will also gain exposure to business perspectives.

**PSO3:** To provide perfect blend of analytical skills and business knowledge to excel as business analyst.

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CHOICE BASED CREDIT SYSTEM (CBCS) & LEARNING OUTCOMES BASED CURRICULAR  
FRAMEWORK (LOCF) BACHELOR OF COMMERCE WITH BUSINESS ANALYTICS – 2023-2026 BATCH**

Programme & Branch: B Com (Business Analytics)													
Scheme of Examination (Applicable to students admitted during the academic year 2023- 2024 onwards)													
Semester	Part	Subject Code	Title of the Paper	Instruction hrs/ week	Course Type	Instruction hrs	Tutorial hrs	Examination	Examination marks				
									CIA	ESE	Total	Credits	
I	I	TAM2301A/ HIN2301A/ FRE2301A	Tamil Paper I/ Hindi PaperI/ French Paper I	4	Language	58	2	3	25	75	100	3	
	II	ENG2301A	English Paper I	4	English	58	2	3	25	75	100	3	
	III			<b>Group A – Core</b>									
			CM23C01	Principles of Accounting	5	CC	73	2	3	25	75	100	4
			DA23C02	Fundamentals of Business Analytics	5	CC	73	2	3	25	75	100	3
			TH23A15	Allied - Statistics I	6	GE	88	2	3	25	75	100	4
			DA23CP1	Computer Application Practical I - Analysis with Excel	4	CC	57	3	3	50	50	50*	2
	IV			<b>Non Tamil Students</b>									
			NME23B1	Basic Tamil I	2	AECC	30	-	-	100	-	100	2
			NME23A1	Advanced Tamil I	2		30	-	-	100	-	100	
				<b>Students with Tamil as Language</b>									
			NME23ES	Introduction to Entrepreneurship	2		30	-	-	100	-	100	
	II	I	TAM2302A/ HIN2302A/ FRE2302A	Language – Tamil / Hindi / French Paper II	4	Language	58	2	3	25	75	100	3
II		ENG2302A	English Paper II	4	English	58	2	3	25	75	100	3	
III			DA23C03	Paper III - R Programming	5	CC	73	2	3	25	75	100	4
			CM23C04	Paper IV – Financial Accounting	5	CC	73	2	3	25	75	100	3
			TH23A16	Allied - Statistics II	6	GE	88	2	3	25	75	100	4
			DA23CP2	Computer Application Practical II-Analysis with Statistical Package & R	4	CC	57	3	3	25	75	50*	2

		Non-Tamil Students										
IV	NME23B2	Basic Tamil II- Outside regular class hours	-	AECC	28	2	-	100	-	100	Gr	
	NME23A2	Advanced Tamil II- Outside regular class hours	-		28	2	-	100	-	100		
		Open Course Self Study - Online course	-	-	-	-	-	-	-	-		
V	23PECM1	Professional English for Commerce and Management	2	AECC	40	5	5	100	-	100	2	
VI		Personality Development Programme	-	-	-	-	-	-	-	-	-	
III B	NM23GAW	General awareness	-	Self-Study	-	1	-	-	-	100	Gr	

CC – Core Courses

CA – Continuous Assessment

GE – Generic Elective

ESE - End Semester

Examination AECC – Ability Enhancing Compulsory Course SEC –Skill Enhancing Course

\*Credits applicable to candidates who take up Advanced level course examination

\* Outside regular class hours

\*100 marks converted to 50

## **Examination System**

One test for continuous assessment will be conducted on pre-determined dates i.e., commencing on the 50<sup>th</sup> day from the date of reopening. The Model exam will be conducted after completing 85<sup>th</sup> working days. Marks for ESE and CA with reference to the maximum for the courses will be as follows

### **2023-2024 Batch onwards**

#### **CA Question Paper Pattern and distribution of marks UGLanguage and English**

Section A	5 x 1 (No choice)	:	5 Marks
Section B	4 x 5 (4 out of 6)	:	20 Marks (250 words)
Section C	2 x 10 (2 out of 3)	:	20 Marks (500 words)
	<b>Total</b>	<b>:</b>	<b>45</b>

#### **Marks UG- Core and Allied - (First 3 Units)**

#### **CA Question from each unit comprising of**

One question with a weightage of 2 Marks:  $2 \times 3 = 6$

One question with a weightage of 5 Marks (Internal Choice at the same CLO level):  $5 \times 3 = 15$

One question with a weightage of 8 Marks (Internal Choice at the same CLO level):  $8 \times 3 = 24$

**Total: 45 Marks**

#### **End Semester Examination – Question Paper Pattern and Distribution of Marks**

#### **Language and English – UG**

Section A	10 x 1 (10 out of 12)	:	10 Marks
Section B	5 x 5 (5 out of 7)	:	25 Marks (250 words)
Section C	4 x 10 (4 out of 6)	:	40 Marks (600 - 700 words)
	<b>Total</b>	<b>:</b>	<b>75 Marks</b>

**UG - Core and Allied courses:**

**ESE Question Paper Pattern: 5 x 15 = 75 Marks**

**Question from each unit comprising of**

One question with a weightage of 2 Marks: 2 x 5=10

One question with a weightage of 5 Marks (Internal Choice at the same CLO level): 5 x 5 =25

One question with a weightage of 8 Marks (Internal Choice at the same CLO level): 8 x 5 =40

**ESE Question Paper Pattern :( for Accounts Paper) 5 x 15 = 75 Marks**

**Question from each unit comprising of**

One question with a weightage of 2 Marks : 2 x 5=10

One question with a weightage of 5 Marks : 5 x 5 =25

One question with a weightage of 8 Marks (Internal Choice at the same CLO level) : 8 x 5 =40

**Continuous Internal Assessment Pattern**

**Theory**

**I Year UG (23 Batch)**

CIA Test	:	5 marks (conducted for 45 marks after 50 days)
Model Exam	:	7 marks (Conducted for 75 marks after 85 days (Each Unit 15 Marks))
Seminar/Assignment/Quiz:		5 marksClass
Participation	:	5 marks
Attendance	:	3 marks
<b>Total</b>	:	<b>25 Marks</b>

**Part IV**

**Introduction to Entrepreneurship / Women Studies / Value education / Environmental Studies / Design Thinking**

Quiz	:	50 marks
Assignment	:	25marks
Project / Case study	:	25 marks
<b>Total</b>	:	<b>100 Marks</b>

**Professional English**

The course offered in alignment with TANSCH norms with 2 credits.

Quiz (5 x 20 Marks) : 100 Marks

**MAPPING OF PLOs WITH CLOs**

COURSE	PROGRAMME OUTCOMES				
	PLO1	PLO2	PLO3	PLO4	PLO5
<b>COURSE – CM23C01</b>					
CLO1	S	M	S	M	S
CLO2	S	M	S	M	M
CLO3	S	M	M	M	M
CLO4	S	M	S	M	S
<b>COURSE – DA23C02</b>					
CLO1	S	S	M	S	M
CLO2	S	S	L	S	S
CLO3	M	M	S	S	M
CLO4	S	L	M	S	S
<b>COURSE – DA23CP1</b>					
CLO1	S	M	L	L	M
CLO2	S	S	S	S	S
CLO3	S	S	M	M	S
CLO4	S	M	M	L	S
<b>COURSE – DA23C03</b>					
CLO1	S	S	M	S	S
CLO2	S	M	S	S	M
CLO3	M	S	S	M	M
CLO4	S	M	S	S	M
<b>COURSE – CM23C04</b>					
CLO1	S	S	M	M	S
CLO2	S	S	M	M	S
CLO3	S	S	S	S	M
CLO4	S	S	S	S	M
<b>COURSE – DA23CP2</b>					
CLO1	S	S	L	M	M
CLO2	S	M	M	S	M
CLO3	S	M	L	M	S
CLO4	S	L	L	S	M

CM23C01	PRINCIPLES OF ACCOUNTING	Category	L	T	P	Credit
		Theory	73	2	-	4

### Preamble

- To enable the students to apply the conceptual principles and to develop an expertise in handling accounts of business entities and the consolidation of accounts through appropriate accounting techniques and policies.

### Prerequisite

- Basic Knowledge in Financial Statements

### Course Learning Outcomes

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

CLOs	CLO Statement	Knowledge Level
CLO1	Define the concepts and conventions in accounting	K1
CLO2	Interpret accounting statement using basic concepts.	K2
CLO3	Apply the procedures of recording transactions and preparation of Reports.	K3
CLO4	Articulate the accounting concepts to interpret the performance of a Firm.	K4

### Mapping with Programme Outcomes

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5
CLO1	S	M	S	M	S
CLO2	S	M	S	M	M
CLO3	S	M	M	M	M
CLO4	S	M	S	M	S

S- Strong; M-Medium; L-Low

### Syllabus

#### Unit I (14 Hrs)

Basic Accounting Concepts (AS-1) - Rectification of errors - Final Accounts - Bank Reconciliation Statement.

#### Unit II (14 Hrs)

Average due date - Bills of exchange (trade bills only) - Joint Venture (AS-27).

#### Unit III (15 Hrs)

Departmental Accounts - Basis for allocation of expenses. Branch Accounts (Dependent Branches - Debtors and Stock & Debtors System - Independent Branches only)

#### Unit IV (15 Hrs)

Hire purchase Accounts: Default and Repossession - Hire purchase Trading Account - Installment purchase system.

#### Unit V (15 Hrs)

Depreciation (excluding change in method of depreciation) - Investment Account (AS-13).



### Text Book

S.No.	Authors	Title	Publishers	Year of Publication
1.	Reddy T S & A Murthy	Financial Accounting	Margham Publications	Reprint 2021

### Reference Books

S.No.	Authors	Title	Publishers	Year of Publication
1.	RL Gupta & Radhasamy	Advanced Accountancy (Vol I)	Sultan Chand & Sons.	2018, 13 <sup>th</sup> ed.
2.	Jain S.P & Narang K.L	Principles of Accountancy	Kalyani Publishers	2018
3.	MC Shukla, T.S. Grewal & S.C. Gupta	Advanced Accountancy	S. Chand & sons	2016

### Skill Components

- Identifying concepts and conventions adopted by a firm in their financial statement. Prepare a Bank Reconciliation Statement for the business concern.
- Study a firm's financial statement and present a report on the accounting policies followed
- To calculate the due date and amount on discounting of bills for a firm.
- Analyzing the financial statement of a hire purchase company and present a report on the collection system.
- Analyse the treatment of depreciation for different firms.

### Pedagogy

- Lecture, PPT, Quiz, Assignment, Group Discussion, Seminar

### Course Designers

1. Dr. S. Sujatha, Department of Commerce
2. Dr. G. Indrani, Department of Commerce

DA23C02	FUNDAMENTALS OF BUSINESS ANALYTICS	CATEGORY	L	T	P	CREDIT
		THEORY	73	2	-	4

### Preamble

- To achieve and establish vital understanding of big data application in business intelligence
- To institute the concept of systematic transformation of process-oriented data into information of the underlying business process
- To exhibit knowledge of data analysis techniques and to apply principles of data sciences integrating enterprise reporting

### Prerequisite

- Basic knowledge in computers

### Course Learning Outcomes

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

CLOs	CLO Statement	Knowledge Level
CLO1	To define and understand the importance of business analytics and data science in business process and industry	K1
CLO2	To outline data integration, projecting, maintenance, designing and modeling of various data techniques	K2
CLO3	To identify the concepts of data warehouse, data profiling, data dimension, mobility and various related systems and their applications in different industries	K3
CLO4	To analyse the business views using IT applications, its purpose and analysing various concepts relating to it and inculcate problem solving and decision-making skills	K4

### Mapping with Programme Outcomes

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5
CLO1	S	S	M	S	M
CLO2	S	S	L	S	S
CLO3	M	M	S	S	M
CLO4	S	L	M	S	S

S- Strong; M-Medium; L-Low

### Syllabus

#### Unit I (16 Hrs)

Introduction to the BA Role : Business Analysis -Business Analyst - The evolving role of the Business Analyst - The BA roadmap: different levels of business analysis - The basic rules of Business & Business Analysis - Classical Requirements and Tasks performed by Business Analysts. Project Definition and Scoping: Aspects - Projects phases - Project approaches (Waterfall, Agile, Iterative, Incremental) - The role of the BA across the project lifecycle.

#### Unit II (15 Hrs)

Business view of Information Technology Applications: Core business process – Baldrige Business Excellence framework - Key purpose of using IT in business - Internet-ready IT Applications - Technology Centric Applications - Enterprise Applications - Information users and their requirements. Data Definition: Types of Data – Attributes and Measurement –

Types of data sets – Data quality – Types of Digital Data – Characteristics – Storage and extraction process

### Unit III (16 Hrs)

Introduction to OLTP and OLAP – OLTP – Transaction – Segmentation - OLAP – Different OLAP Architectures – OLTP and OLAP – Data models for OLTP and OLAP – Role of OLAP Tools in BI Architecture. Business Intelligence – Business Intelligence defined – Evolution of BI and Role of DSS, EIS, MIS and Digital Dashboards – Need for BI – BI valuechain – Introduction to Business Analytics - Business Intelligence versus Business Analytics. BI Definitions and Concepts – BI Component Framework – Need for BI – BI Users – Business Intelligence applications – BI roles and responsibilities – BI tools.

### Unit IV (16 Hrs)

Data Integration – Data Warehouse – Goals – Data sources – Extract, Transform and Load – Stages in ETL – ETL tools - Data Integration - Challenges – Technologies – Approaches - Data Quality maintenance – Data profiling. Data Modeling – Basics – Types – Techniques – Fact table – Dimension Table – Typical Dimensional Models – Dimensional modeling life cycle – Designing the Dimensional Model. BI in Real world – BI and mobility – BI and cloud computing – BI for ERP systems – Social CRM and BI.

### Unit V (10 Hrs)

Introduction to Industry 4.0- Need – Reasons for Adopting Industry 4.0 - Definition – Goals and Design Principles - Technologies of Industry 4.0- Skills required for Industry 4.0 - Advancements in Industry 4.0 – Impact of Industry 4.0 on Society, Business, Government and People - Introduction to 5.0

### Text Books

S.No.	Author Name	Title of the Book	Publisher	Year and Edition
1.	R.N.Prasad and Seema Acharya	Fundamentals of Business Analytics	Wiley	2016, 2 <sup>nd</sup> Edition
2.	P.Kaliraj and Dr.T.Devi	Higher Education for Industry 4.0 and Transformation to Education 5.0	Bharathiar University	2020

### Reference Books

S. No.	Author Name	Title of the Book	Publisher	Year and Edition
1	Haydn Thomas –Demonoid	Business Analysis Fundamentals	Pearson Education	2015, Revised Edition
2	Pang-Ning Tan Michael Steinbach, Vipin Kumar	Introduction to Data Mining	Pearson Education	2021, 2 <sup>nd</sup> Edition

### Related Online Contents

- Fundamentals of Business Analytics-RN Prasad. Global edition: Second Edition
- Business Analytics-James R Evans. Second edition-Wiley

## Skill Components

- Determine the concepts of business analytics and business processes.
- Analyzing the techniques of integration and modeling.
- Analyze the concept of data warehouse, OLTP, OLAP.
- Understand KPI and measures to apply in a business.
- Forecast on business intelligence concepts for enterprise reporting.

## Pedagogy

Lecture, PPT, Quiz, Assignment, Group Discussion, Seminar

## Course Designers

1. Dr. M. Rajeswari
2. Dr. S. Krishnaveni

DA23CP1	COMPUTER APPLICATION PRACTICAL I - ANALYSIS WITH EXCEL	CATEGORY	L	T	P	CREDIT
		PRACTICAL	-	3	57	1

## Preamble

- To calculate the knowledge of MS Excel
- To understand the basic statistics tools & methods

## Prerequisite

- No prerequisite required

## Course Learning Outcomes

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

CLOs	CLO Statement	Knowledge Level
CLO1	To understand and find commands in Excel, Get an head start with templates and setup an Excel template,	K1
CLO2	Demonstrate the excel data model and connect to external data and Use advance techniques for report visualization.	K2
CLO3	Discuss on statistical operation and tools used in Excel and Documentation and review tools	K3
CLO4	Illustrate on basic analytical tools and Application of financial functions	K4

## Mapping with Program Outcomes

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5
CLO1	S	M	L	L	M
CLO2	S	S	S	S	S
CLO3	S	S	M	M	S
CLO4	S	M	M	L	S

S-Strong; M-Medium; L-Low

## Syllabus

1. Create an MS Excel worksheet to illustrate sorting function.

2. Suppose that at the beginning of May 2012 you purchased shares in Apple, Inc. (Nasdaq: AAPL). It is now five years later and you decide to evaluate your holdings to see if you have done well with this investment. The table below shows the market prices of AAPL.

DATE	PRICE
2018	59.77
2013	121.19
2014	188.75
2015	135.81
2016	256.88
2017	337.41

- Enter the data, as shown, into a work sheet and format the table as shown.
- Create a formula to calculate rate of return for each year. Format the results as percentages with two decimal places.
- Calculate the total return for the entire holding period. What is the compound average annual rate of return?
- Create a Line chart showing the stock price from May 2006 to May 2011. Make sure to title the chart and label the axes. Now, create an XY Scatter chart of the same data. What are the differences between these types of charts? Which type of chart is more appropriate for this data?
- Experiment with the formatting possibilities of the chart. For example, you might try changing it to a 3-D Line chart and fill the plot area with a marble background. Is there any reason to use this type of chart to display this data? Do the “enhancements” help you to understand the data?

3. In your position as research assistant to a portfolio manager, you need to analyze the profitability of the companies in the portfolio. Using the data for Chevron Corporation below:

FISCAL YEAR	2017	2016	2015	2014	2013
TOTAL REVENUE	1,98,198	1,71,636	2,64,958	2,20,904	2,04,892
NET INCOME	19,024	10,483	23,931	18,688	17,138

- Calculate the net profit margin for each year.
- Calculate the average annual growth rates for revenue and net income using the **GEOMEAN** function. Is net income growing more slowly or faster than total revenue? Is this a positive for your investment in the company?
- Calculate the average annual growth rate of total revenue using the **AVERAGE** function. Is this result more or less accurate than your result in the previous question? Why?
- Create a Column chart of total revenue and net income. Be sure to change the chart so that the x-axis labels contain the year numbers, and format the axis so that 2017 is on the far right side of the axis.

4.Repeat Problem 2 using the data below for Qualcomm Inc. However, this time you should create a copy of your worksheet to use as a template. Replace the data for Chevron with that of Qualcomm.

<b>FISCAL YEAR</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
<b>TOTAL REVENUE</b>	<b>10,991</b>	<b>10,416</b>	<b>11,142</b>	<b>8,871</b>	<b>7,526</b>
<b>NET INCOME</b>	<b>3,247</b>	<b>1,592</b>	<b>3,160</b>	<b>3,303</b>	<b>2,470</b>

e) Do you think that Qualcomm can maintain the current growth rates of sales and net income over the long run? Why or why not?

f) Which company was more profitable in 2010? Which was more profitable if you take a longer view? Would this affect your desire to invest in one company over the other?

5.Using the data for Paychex, Inc.(Nasdaq: PAYX), presented below:

<b>FISCAL YEAR</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
<b>SALES</b>	<b>\$2000.82</b>	<b>\$2082.76</b>	<b>\$2066.32</b>	<b>\$1886.96</b>	<b>\$1674.60</b>
<b>EBIT</b>	<b>729.31</b>	<b>812.08</b>	<b>854.82</b>	<b>743.27</b>	<b>674.77</b>
<b>TOTAL NET INCOME</b>	<b>477.00</b>	<b>533.54</b>	<b>576.14</b>	<b>515.45</b>	<b>464.91</b>
<b>DIVIDENDS PER SHARE</b>	<b>1.24</b>	<b>1.24</b>	<b>1.22</b>	<b>1.02</b>	<b>0.69</b>
<b>BASIC EPS FROM TOTAL OPERATIONS</b>	<b>1.32</b>	<b>1.48</b>	<b>1.56</b>	<b>1.35</b>	<b>1.23</b>
<b>TOTAL ASSETS</b>	<b>5,226.30</b>	<b>5,127.42</b>	<b>5,309.79</b>	<b>6,246.52</b>	<b>5,549.30</b>
<b>ACCOUNTS PAYABLE</b>	<b>37.3</b>	<b>37.33</b>	<b>40.25</b>	<b>46.96</b>	<b>46.67</b>
<b>TOTAL LIABILITIES</b>	<b>3,824.32</b>	<b>3,785.94</b>	<b>4,113.15</b>	<b>4,294.27</b>	<b>3,894.46</b>
<b>RETAINED EARNINGS</b>	<b>856.29</b>	<b>829.50</b>	<b>745.35</b>	<b>1,595.10</b>	<b>1,380.97</b>
<b>NET CASH FROM OPERATING ACTIVITIES</b>	<b>610.92</b>	<b>688.77</b>	<b>724.67</b>	<b>631.23</b>	<b>569.23</b>

g) Calculate the ratio of each years' data to the previous year for each of the above items for Pay chex, Inc. For example, for the year 2010, the ratio for sales is  $\$2,000.82/\$2,082.76 = 0.9607$ .

h) From your calculations in part a, calculate each year's rate of growth. Using the example in part a, the ratio is 0.9607, so the percentage growth in sales for 2010 is  $0.9607-1$  or  $-3.93\%$ .

i) Calculate the average growth rate (using the **AVERAGE** function) of each of the above items using the results you calculated in part b. These averages are arithmetic averages.

Use the **GEOMEAN** function to estimate the compound annual average growth rate (CAGR) for each of the above items using the results that you calculated in part a. Be sure to subtract 1 from the result of the **GEOMEAN** function to arrive at a percent change. These averages are geometric averages.

j) Compare the results from part c (arithmetic averages using the **AVERAGE** function) to those for part d (geometric averages using the **GEOMEAN** function) for each item. Is it true

that the arithmetic average growth rate is always greater than or equal to the geometric average (CAGR)?

k) Contrast the results for the geometric averages to those for the arithmetic average for the variables listed below. What do you observe about the differences in the two growth estimates for Sale and Accounts Payable? What do you observe about the differences in the two estimates for Total Assets and Retained Earnings? Hint: Look at the results from part b (the individual yearly growth rates) for each variable to draw some conclusions about the variation between the arithmetic and geometric averages.

1. Sales
  2. EBIT
  3. Total Assets
  4. Accounts Payable
  5. Retained Earnings
6. Cash budget using What If Analysis
7. Using Goal Seek to calculate Break Even Points
8. Demonstrate the statistical functions of Qualcomm Company by using Ms Excel.
9. Sensitivity analysis of Capital Budgeting–Scenario Analysis, NPV Profile Charts
10. Use Goal Seek to find out what grade is need on the final assignment to pass the class given that the grades on the first four assignments are **64, 55, 78, and 59**. Use formula or function that calculates the final grade.
11. Analyzing Data sets with Tables and Pivot Tables
12. Create an Excel Worksheet for the monthly sales of a product and also represent the data by using bar chart.
13. Use Goal Seek in Excel find the grade of the fourth exam that produces a final grade of 70.

<b>Exam</b>	<b>Marks</b>
Exam 1	50
Exam 2	80
Exam 3	60

14. Prepare a pay-bill using a worksheet. The work sheet should contain Employee Id, Name, Designation, Experience and Basic Salary and Job ID.  
If Job Id is 1 then DA is 45% of the basic salary. HRA is Rs. 5500.  
If Job Id is 2 then DA is 40% of the basic salary. HRA is Rs. 4500.  
For all the other Job ids DA is 35% of the basic salary and HRA is Rs. 3500.  
For all the above Job ids PF to be deducted is 4%.  
For the job ids 1&2 Rs. 100 to be deducted as Professional Tax.
15. Design a chart projecting the cash estimate of a concern.
16. Calculate the slope of a linear trend line equation using GROWTH.

### **Pedagogy**

- Lecture, PPT, Quiz, Assignment, Group Discussion, Seminar

### **Course Designers**

1. Dr. S. Krishnaveni
2. Mrs. R. Hemapriya

COURSE CODE	COURSE NAME	CATEGORY	L	T	P	CREDIT
DA23C03	R PROGRAMMING	CORE	73	2	-	4

#### Preamble

- To introduce R Programming concepts and to develop programming skills in R-Programming.
- To be easily extensible through functions and extensions, and its community is noted for its active package contribution.
- R is highly extensible through the use of packages for specific functions and specific areas of study.

#### Prerequisite

- No prerequisite required.

#### Course Learning Outcomes

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

CLOs	CLO Statement	Knowledge Level
CLO1	Relate R Programming concepts with Datasets and workflow through the conceptual factors.	K1
CLO2	Demonstrate data frames to perform data manipulations and stimulate the basic approaches.	K2
CLO3	Experiment with various analysis techniques and interpret the features of deployment.	K3
CLO4	Interpret and describe the flow to perform Visualization through several graphical features	K3

#### Mapping with Programme Outcomes

CLOs	PLO2	PLO2	PL03	PL04	PL05
CLO1	S	S	M	S	S
CLO2	S	M	S	S	M
CLO3	M	S	S	M	M
CLO4	S	M	S	S	M

S- Strong; M-Medium; L-Low

#### Syllabus

##### UNIT I (15 Hrs)

**An overview of R:** Introduction to R expressions, variables, and functions- -Operator Data Type- Vectors: Grouping values into vectors, then doing arithmetic and graphs with them- Matrices: Creating and graphing two-dimensional data sets- Calculating and plotting some basic statistics: mean, median, and standard deviation- Factors: Creating and plotting categorized data.

##### UNIT II (15 Hrs)

**Data Frames:** Organizing values into data frames, loading frames from files and merging them- Working with Real-World Data: Testing for correlation between data sets, linear



models and installing additional packages.

### UNIT III (14 Hrs)

**Data Manipulations:** Overview of how to connect databases from R-How to run SQL queries from R to fetch data- Data manipulation using SQL to prepare data for analysis.

### UNIT IV (15 Hrs)

Reading and writing of csv file- Importing and exporting of data set-Merging of file having same or different number of column-Reading a file involving date and converting this date into different format-Plotting two series on one graph-one with a left y axis and another with a right y axis- histogram-Multivariate Statistical Techniques like Discriminant Analysis, Factor Analysis.

### UNIT V (14 Hrs)

Formula notation and complex statistics: Analysis of Variance (ANOVA) - Manipulating Data and Extracting Components: Creating data for complex analysis – summarizing data Regression – Simple Linear Regression – Multiple Regression – Curvilinear Regression.

#### Text Book

S.No	Author Name	Title of the Book	Publisher	Year and Edition
1.	Dr.Mark Gardener	Beginning R: The Statistical Programming Language(Wrox)	John Wiley & Sons, Inc.,	2016 revised edition

#### Reference Books

S.No	Author Name	Title of the Book	Publisher	Year and Edition
1.	Norman Matloff	The Art Programming	No Starch Press	2011 edition
2.	Michael.J.Crawle	The R Book	Wiley	2008 edition
3.	M.John	Statistical Analysis with R.	Tata McGraw Hill Publishing Co. Ltd	October Edition 2010
4.	R Richard Cotton	Learning R	O'Reilly Media	September Edition 2013

#### Online References

1. The Book of R - A First Course in Programming and Statistics - Tillman M. Davies - Publisher: William Pollock-2016
2. R for Beginners - Emmanuel

#### Skill Components

- Acquire knowledge to relate R Programming concepts with Datasets
- Establish data frames to perform data manipulations
- Analyze data using Descriptive Statistics and measures
- Experiment with various quantitative analysis techniques
- Analysis with Correlation and Regression

#### Course Designers

1. Dr. S. Krishnaveni.

2. Mrs. N. Sathya.

CM23C04	FINANCIAL ACCOUNTING	Category	L	T	P	Credit
		Theory	73	2	-	3

### Preamble

- To enable the students to apply the conceptual principles in financial Accounting
- To develop an expertise in handling the accounts and thereby to increase their level of understanding about the financial statements relating to partnership firms, insurance claims & insolvency.
- To enhance knowledge in partnership, insurance and insolvency accounting

### Prerequisite

- Basic Knowledge in accountancy

### Course Learning Outcomes

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

CLOs	CLO Statement	Knowledge Level
CLO1	Define the concepts of Partnership Firms, Fire Insurance Claims and Insolvency Accounts	K1
CLO2	Describe the accounting treatment of Partnership Firms, Fire Insurance Claims and Insolvency Accounts	K2
CLO3	Apply the procedures related to partnership firms, calculation of insurance claims and Insolvency Accounts	K3
CLO4	Analyze and prepare financial accounts for partnership firms in different situations, Insurance claims and Insolvency Accounts	K4

### Mapping with Programme Outcomes

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5
CLO1	S	S	M	M	S
CLO2	S	S	M	M	S
CLO3	S	S	S	S	M
CLO4	S	S	S	S	M

S- Strong; M-Medium; L-Low

### Syllabus

#### Unit I (15Hrs)

**Partnership Accounts:** Division of Profits – Fixed & Fluctuating Capital – Past Adjustments – Guarantee of Profits – Admission of a partner - **Limited Liability Partnership:** Introduction- Definition – LLP Act 2008 - Features – Advantages and Disadvantages (Theory Only)

#### Unit II (14Hrs)

**Retirement of a Partner:** Retirement Cum Admission -Death of a partner- Joint Life Policy – Accounting Treatment

#### Unit III (15Hrs)

**Dissolution of a Firm:** Insolvency– Rule in Garner Vs Murray – Piece –Meal Distribution.(Maximum Loss Method only).Sale of Partnership to a Limited Company.

#### Unit IV (15Hrs)

**Fire Insurance Claims:** Computation of Claim for Loss of Stock and loss of profit (excluding normal & abnormal loss)

## Unit V (14Hrs)

**Insolvency Accounts:** Relevant Act- Statement of Affairs – Deficiency Accounts - The Insolvency & Bankruptcy code 2016

### Text Book

S. No	Authors	Title	Publishers	Year of Publication
1.	Reddy T S & A Murthy	Financial Accounting	Margham Publications	Reprint 2023

### Reference Books

S. No	Authors	Title	Publishers	Year of Publication
1.	RL Gupta & Radhasamy	Advanced Accountancy (Vol I)	Sultan Chand & Sons.	2018, 13 <sup>th</sup> ed.
2.	Jain S.P & Narang K.L	Principles of Accountancy	Kalyani Publishers	2018
3.	MC Shukla, T.S. Grewal & S.C. Gupta	Advanced Accountancy	S. Chand & sons	2019

### Skill Components

- Working on practical aspects of admission and retirement with partners' capital
- Preparation of partnership deed with important terms and conditions
- Preparation of deficiency statement for a real time partnership firm
- Calculation of Insurance claims for real time losses
- Case study analysis on Insolvency and Bankruptcy code

### Course Designers

1. Dr. S. Sujatha, Department of Commerce
2. Dr. L. Nithya, Department of Commerce

23PECM1	PROFESSIONAL ENGLISH FOR COMMERCE AND MANAGEMENT	Category	L	T	P	Credit
		AEC	2 5	5	-	2

### Objectives

1. To develop the language skills of students by offering adequate practice in Professional contexts.
2. To enhance the lexical, grammatical and socio-linguistic and communicative Competence of first year commerce and management students
3. To focus on developing students' knowledge of domain specific registers and the required language skills.
4. To develop strategic competence that will help in efficient communication
5. To sharpen students' critical thinking skills and make students culturally aware of the target situation.

### Course Learning Outcomes

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

CLOs	CLO Statement	Knowledge Level
CLO1	Recognize their own ability to improve their own competence in using the Language	K1

CLO2	Use language for speaking with confidence in an intelligible and acceptable manner	K2
CLO3	Read independently unfamiliar texts with comprehension and understand the importance of reading for life	K3
CLO4	Understand the importance of writing in academic life	K3
CLO5	Write simple sentences without committing error of spelling or grammar	K3

### Mapping with Programme Outcomes

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5
CLO1	L	M	S	S	S
CLO2	L	L	S	M	M
CLO3	M	L	M	L	M
CLO4	L	M	M	L	M
CLO5	L	M	M	M	M

S-Strong; M-Medium, L- Low

### Syllabus

#### UNIT 1: COMMUNICATION (5 hours)

**Listening:** Listening to audio text and answering question

Listening to Instructions

**Speaking:** Pair work and small group work.

**Reading:** Comprehension passages –Differentiate between facts and opinion

**Writing:** Developing a story with pictures.

**Vocabulary:** Register specific – Incorporated into the LSRW tasks

#### UNIT 2: DESCRIPTION (5 hours)

**Listening:** Listening to process description.-Drawing a flow chart.

**Speaking:** Role play (formal context)

**Reading:** Skimming/Scanning- Reading passages on products, equipment and gadgets.

**Writing:** Process Description –Compare and Contrast Paragraph-Sentence Definition and Extended definition- Free Writing.

**Vocabulary:** Register specific -Incorporated into the LSRW tasks.

#### UNIT 3: NEGOTIATION STRATEGIES (5 hours)

**Listening:** Listening to interviews of specialists / Inventors in fields (Subject specific)

**Speaking:** Brainstorming. (Mind mapping).  
Small group discussions (Subject- Specific)

**Reading:** Longer Reading text.

**Writing:** Essay writing (250 words)

**Vocabulary:** Register specific – Incorporated into the LSRW tasks

#### UNIT 4: PRESENTATION SKILLS (5 hours)

**Listening:** Listening to lectures.

**Speaking:** Short talks.

**Reading:** Reading Comprehension passages

**Writing:** Writing Recommendations  
Interpreting Visuals inputs

**Vocabulary:** Register specific – Incorporated into the LSRW tasks

### **UNIT 5: CRITICAL THINKING SKILLS (5 hours)**

**Listening:** Listening comprehension- Listening for information.

**Speaking:** Making presentations (with PPT- practice).

**Reading:** Comprehension passages –Note making.

**Comprehension:** Motivational article on Professional Competence, Professional Ethics and Life Skills

**Writing:** Problem and Solution essay– Creative writing –Summary writing

**Vocabulary:** Register specific – Incorporated into the LSRW tasks

#### **Text Book**

<b>S.No.</b>	<b>Authors</b>	<b>Title of the Book</b>	<b>Publishers</b>	<b>Year of Publication</b>
1	Tamil Nadu State Council for Higher Education (TANSICHE)	English for Commerce and Management Semester 1	--	--

#### **Reference Books**

<b>S. No.</b>	<b>Authors</b>	<b>Title of the Book</b>	<b>Publishers</b>	<b>Year of Publication</b>
1	Sreedhran, Josh	The Four Skills for Communication	Foundation books	2016
2	Pillai, G Radhakrishna, K Rajeevan, P Bhaskaran Nair	Spoken English for you	Emerald	1998
3	Pillai, G Radhakrishna, K Rajeevan, P Bhaskaran Nair	Written English for you	Emerald	1998