

DEPARTMENT OF B COM (BUSINESS ANALYTICS)

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

BACHELOR OF COMMERCE WITH BUSINESS ANALYTICS

2024 – 2027 BATCH

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 – 2024-2027 BATCH
AND ONWARDS**

	Programme & Branch: B Com (Business Analytics)											
	Scheme of Examination (Applicable to students admitted during the academic year 2024- 2025 onwards)											
Semester	Part	Course Code	Title of the Course	Course Type	Instruction hrs/ week	Instruction hrs/sem	Tutorial hrs	Duration of Examination	Examination Marks			
									CA	ESE	Total	Credits
I	I	TAM2301A/ HIN2301A/ FRE2301A	Tamil / Hindi / French paper I	L	4	58	2	3	25	75	100	3
	II	ENG2301A	English Paper I	E	4	58	2	3	25	75	100	3
	III	CM23C01	Principles of Accounting	CC	5	73	2	3	25	75	100	3
		DA24C02	Fundamentals of Business Analytics	CC	6	88	2	3	25	75	100	4
		TH24A05	Statistics I	GE	5	73	2	3	25	75	100	4
		DA24CP1	Analysis with Excel Practical	CC	4	60	-	3	15	35	50*	2
	IV	Non-Tamil Students										
		NME23B1/ NME23A1	Basic Tamil I / Advanced Tamil I	AEC	2	28	2	-	100	-	100	2
		Students with Tamil as Language										
		NME23ES	Introduction to Entrepreneurship	AEC	2	30	-	-	100	-	100	
II	I	TAM2302A/ HIN2302A/ FRE2302A	Tamil Pape II/ Hindi Paper II / French Paper II	L	4	58	2	3	25	75	100	3
	II	ENG2302A	English Paper II	E	4	58	2	3	25	75	100	3
	III	DA24C03	R Programming	CC	6	88	2	3	25	75	100	4
		CM23C04	Financial Accounting	CC	5	73	2	3	25	75	100	3
		TH24A14	Statistics – II	GE	5	73	2	3	25	75	100	4
		DA24CP2	Analysis with Statistical Package & R Practical	CC	4	60	-	3	15	35**	50	2

	IV	*NME23A2/ NME23B2	Advanced Tamil II/ Basic Tamil II	AEC	-	-	-	-	100	-	100	Gr
	IV	NM24UHR	Universal Human Values and Human Rights	AECC	2	30	-	-	100	-	100	2
III	I	TAM2303A/ HIN2303A/ FRE2303A	Tamil Paper III/ Hindi Paper III/ French Paper III	L	4	58	2	3	25	75	100	3
	II	ENG2403A	English Paper III	E	4	58	2	3	25	75	100	3
	III	BP24C05	Fundamentals of Corporate Accounting	CC	5	73	2	3	25	75	100	4
		DA24C06	Database Programming	CC	4	58	2	3	25	75	100	3
		AF24A01/ DA24A02/ BP23A01	Business Economics Corporate Governance Business Management and Ethics	GE	5	73	2	3	25	75	100	4
		DA24CP3	Database Programming Practical	CC	3	45	-	3	15	35	50*	2
		DA24SBP1	Web Designing Practical	SEC	3	41	4	-	100	-	100	3
	IV	NM23DTG	Design Thinking	AEC	2	30	-	-	100	-	100	2
	VI	COM15SER	Community Services 30 hrs	GC	-	-	-	-	-	-	-	-
IV	I	TAM2304A/ HIN2304A/ FRE2304A	Tamil Paper IV/ Hindi Paper IV/ French Paper IV	L	4	58	2	3	25	75	100	3
	II	ENG2404A	English Paper IV	E	4	58	2	3	25	75	100	3
		DA24C07	Business Analytics with Python	CC	4	58	2	3	25	75	100	3
	III	BP24C08/ CM23C10	Business Finance	CC	5	73	2	3	25	75	100	4
		BP23A03/ DA24A03	Business Law/ Business Data Mining	GE	5	73	2	3	25	75	100	4
		DA23CP4	Business Analytics with Python Practical	CC	3	45	-	3	15	35	50*	2
		DA22SCE1	Data Science and Statistics	SEC	3	45	-	-	100	-	100	3
	IV	NM23EII	Entrepreneurship and Innovation (Ignite X)	AECC	2	30	-	-	100	-	100	2

	IV	NM24EVS	Environmental Studies	AECC	SS	-	-	-	100	-	100	Gr.
	V	COCOACT	Co-curricular Activities	GC	-	-	-	-	100	-	100	1
I-V	VI	24BONL1 24BONL2 24BONL3	Online Course I Online Course II Online Course III	ACC	-	-	-	-	-	-	-	-

L- Language

CC : Core Courses

AEC : Ability Enhancement Courses

CA- Continuous Assessment

E- English

GE : Generic Elective

ACC – Additional Credit Course

ESE- End Semester Examination

*CA conducted for 25 and converted into 15, ESE conducted for 75 and converted into 35

Examination System

One test for continuous assessment will be conducted on predetermined dates i.e., commencing on the 50th day from the date of reopening. The Model exam will be conducted after completing 85th 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 UG Language 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)
Total		:	45 Marks

Marks UG- Core and Allied - (First 3 Units) CA Question from each unit comprising of

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

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

WEIGHTAGE ASSIGNED TO VARIOUS COMPONENTS OF CONTINUOUS INTERNAL ASSESSMENT

Practical	Model Exam	Lab Performance (Practical+Interaction)	Regularity in Record Submission	Attendance	Maximum Marks
Core/ Allied	7	12(6+6)	3	3	25

Program 1	: 25 Marks (Aim -10 , Coding -15)
Program 2	: 25
Marks Viva	: 15 Marks
Record	: 10 Marks
Total	: 75 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 -700words)
Total		:75 Marks

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 (2023 Batch)

CA 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 marks Class Participation : 5 marks
Attendance	: 3 marks
Total	: 25 Marks

Part IV

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

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

MAPPING OF PLOs WITH CLOs

COURSE	PROGRAMME LEARNING OUTCOMES				
	PLO1	PLO2	PLO3	PLO4	PLO5
COURSE – CM23C01					
CLO1	S	M	S	M	S
CLO2	S	M	S	M	M
CLO3	S	M	M	M	M
CLO4	S	M	S	M	S
COURSE – DA24C02					
CLO1	S	S	M	S	M
CLO2	S	S	M	S	S
CLO3	M	M	S	S	M
CLO4	S	M	M	S	S
COURSE – DA24CP1					
CLO1	S	M	L	L	M
CLO2	S	S	S	S	S
CLO3	S	S	M	M	S
CLO4	S	M	M	L	S
COURSE	PROGRAMME OUTCOMES				
	PLO1	PLO2	PLO3	PLO4	PLO5
COURSE – DA24C03					
CLO1	S	S	M	S	S
CLO2	S	M	S	S	M
CLO3	M	S	S	M	M
CLO4	S	M	S	S	M
COURSE – CM25C04					
CLO1	S	S	M	M	S
CLO2	S	S	M	M	S
CLO3	S	S	S	S	M
CLO4	S	S	S	S	M
COURSE – DA25CP2					
CLO1	S	S	M	M	M
CLO2	S	M	M	S	M

CLO3	S	M	M	M	S
CLO4	S	S	M	S	M

COURSE	PROGRAMME OUTCOMES				
	PLO1	PLO2	PLO3	PLO4	PLO5
COURSE – DA24C07					
CLO1	S	S	M	S	S
CLO2	S	M	S	S	M
CLO3	M	S	S	M	M
CLO4	M	S	S	M	M
COURSE – BP24C08/CM23C10					
CLO1	S	S	S	S	S
CLO2	S	S	S	S	M
CLO3	S	S	S	S	S
CLO4	S	S	S	M	M
COURSE – BP23A03					
CLO1	S	M	S	S	M
CLO2	S	S	S	L	S
CLO3	S	M	S	L	M
CLO4	S	S	S	M	S
COURSE – DA24A03					
CLO1	S	S	M	M	L
CLO2	S	M	S	S	S
CLO3	S	M	M	M	S
CLO4	S	M	M	M	S
COURSE - DA23A05					
CLO1	S	S	L	M	M
CLO2	M	S	M	L	L
CLO3	M	M	S	S	L
CLO4	S	M	M	S	L
COURSE - DA23CP4					
CLO1	S	S	M	M	M
CLO2	S	M	M	S	M
CLO3	S	M	M	M	M
CLO4	S	M	M	M	M

S-Strong; M-Medium; L-Low

COURSE NUMBER	COURSE NAME	Category	L	T	P	Credit
CM23C01	PRINCIPLES OF ACCOUNTING	Theory	73	2	-	3

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 Learning 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

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 - Instalment 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 & Edition
1.	Reddy T S & A Murthy	Financial Accounting	Margham Publications	Reprint 2021

Reference Books

S.No.	Authors	Title	Publishers	Year & Edition
1.	RL Gupta & Radhasamy	Advanced Accountancy (Vol I)	Sultan Chand & Sons.	2018, 13 th 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

COURSE NUMBER	COURSE NAME	CATEGORY	L	T	P	CREDIT
DA24C02	FUNDAMENTALS OF BUSINESS ANALYTICS	THEORY	88	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 Learning Outcomes

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

S- Strong; M-Medium

Syllabus

Unit I

(18 Hrs)

Introduction to the BA Role: ***Business Analysis -Business Analyst - The evolving role of the Business Analyst - Competing in a data-driven world***. 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. How companies are using big data and analytics - Why Everyone Needs Analytical Skills.

Unit II

(18 Hrs)

Business view of Information Technology Applications: Business Enterprise Functions - 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*** - Difference between semi structured and structured data.

Unit III

(17 Hrs)

Introduction to OLTP and OLAP – OLTP – Transaction – Segmentation – Advantages -Challenges - OLAP – ***Different OLAP Architectures – OLTP and OLAP – Data models for OLTP and OLAP*** – Role of OLAP Tools in BI Architecture. OLAP Operations in Multidimensional data - Business Intelligence – Business Intelligence defined – Evolution of BI and Role of DSS, EIS, MIS and Digital Dashboards – Need for BI – BI value chain – 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

(18 Hrs)

Data Integration – Data Warehouse – Ralph Kimball’s Approach vs. W.H. Inmon’s Approach- Goals – Data sources – ***Extract, Transform and Load – Stages in ETL – ETL tools*** - Data Integration - Challenges – Technologies – Approaches - Data Quality maintenance – Data profiling. Data Integration in Healthcare Domain - 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

(17 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 – ***KPI : Measures and Performance – Measurement System Terminology – Navigating a Business Enterprise*** – Role of Metrics and Metrics Supply Chain – Fact-based Decision Making and KPIS – KPI Usage in Companies.

Highlighted Contents offered in Blended Mode

Text Book

S.No.	Author Name	Title of the Book	Publisher	Year & Edition
1.	R.N.Prasad and Seema Acharya	Fundamentals of Business Analytics	Wiley	2016, 2 nd 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 & 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 nd 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. Mrs. N. Sathya
2. Mrs.D.Divya

COURSE NUMBER	COURSE NAME	CATEGORY	L	T	P	CREDIT
DA24CP1	ANALYSIS WITH EXCEL PRACTICAL	PRACTICAL	-	-	60	2

Prerequisite

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

Preamble

- 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

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

	256.88
2016	
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 analyse 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 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.

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

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

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

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

- a. Calculate the ratio of each years' data to the previous year for each of the above items for Paychex, Inc. For example, for the year 2010, the ratio for sales is $\$2,000.82 / \$2,082.76 = 0.9607$.
- b. 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% .
- c. 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.
- d. 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.

- e. 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)?
- f. 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.
- i. Sales
 - ii. EBIT
 - iii. Total Assets
 - iv. Accounts Payable
 - v. Retained Earnings
- vi. Cash budget using What If Analysis
- vii. Using Goal Seek to calculate Break Even Points
- viii. Demonstrate the statistical functions of Qualcomm Company by using MS Excel.
- ix. Sensitivity analysis of Capital Budgeting–Scenario Analysis, NPV Profile Charts
- x. 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.
- xi. Analyzing Data sets with Tables and Pivot Tables
- xii. Create an Excel Worksheet for the monthly sales of a product and also represent the data by using bar chart.
- xiii. Use Goal Seek in Excel find the grade of the fourth exam that produces a final grade of 70.
- | Exam | Marks |
|--------|-------|
| Exam 1 | 50 |
| Exam 2 | 80 |
| Exam 3 | 60 |
- xiv. Prepare a pay-bill using a worksheet. The worksheet 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.
- xv. Design a chart projecting the cash estimate of a concern.
- xvi. Calculate the slope of a linear trend line equation using GROWTH.

Pedagogy

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

Course Designers

1. Mrs. R. Hemapriya
2. Ms.M.Pooja

COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	CREDIT
DA24C03	R PROGRAMMING	THEORY	88	2	-	4

Preamble

- To understand R Programming concepts and to develop programming skills in R-Programming.
- To enable the students to access with the large and supportive community of users and developers
- To impart knowledge by integrating with R Markdown and other tools for creating reproducible research

Prerequisite

No prerequisite required.

Course Learning Outcomes

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

CLO NUMBER	CLO Statement	Knowledge Level
CLO1	Relate R Programming concepts with Data sets and work flow 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	K2 and K3

Mapping with Programme Learning Outcomes

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5
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

UNIT I (18Hrs)

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 datasets* **Calculating and plotting some basic statistics: mean, median, and standard deviation*** Factors: Creating and plotting categorized data.

UNIT II (17Hrs)

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 (17Hrs)

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

UNIT IV (18Hrs)

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 (18Hrs)

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. ***Introduction to Vedic Math***– Usage of R for Vedic Math- ***Key Areas in Vedic Math for R Implementation***-Vedic Math techniques using R-Urdhva Tiryagbhyam (Vertically and Cross wise Multiplication) - Ekadhikena Purvena (One More Than the Previous) - Sutra for Digit Sums and Checks- Nikhilam Sutra (All from 9 and Last from 10)

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)	JohnWiley & Sons, Inc.,	2016 revised edition

Books for Reference:

S.No	Author Name	Title of the Book	Publisher	Year and Edition
1.	Norman Matloff	The Art of R Programming	No Starch Press	2011

2.	Michael J.Crawle	The R Book	Wiley	2008
3.	M.John	Statistical with R	Tata McGraw Hill Publishing Co.Ltd	October 2010
4.	Richard Cotton	Learning R	O'Reilly Media	September 2013

Related Online Contents:

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

Pedagogy

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

1. Mr.B. Ziyaudeen.
2. Dr.N.V. Brindha

COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	CREDIT
CM23C04	FINANCIAL ACCOUNTING	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

CLO NUMBER	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 Learning 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 & Edition
1.	Reddy T S & A Murthy	Financial Accounting	Margham Publications	Reprint 2023

Books for Reference:

S. No	Authors	Title	Publishers	Year of Publication & Edition
1.	RL Gupta & Radhasamy	Advanced Accountancy (Vol I)	Sultan Chand & Sons.	2018, & 13 th Edition
2.	Jain S.P & Narang K.L	Principles of Accountancy	Kalyani Publishers	2018 & 12 th Edition
3.	MC Shukla, T.S. Grewal & S.C. Gupta	Advanced Accountancy	S. Chand & sons	2019 & 13 th Edition

Skill Component

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

Pedagogy

Lecture, PPT, Assignment, Seminar, Group Discussion, Activity based Learning

Course Designers:

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

COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	CREDIT
DA24CP2	ANALYSIS WITH STATISTICAL PACKAGE & R PRACTICAL	PRACTICAL	-	-	60	2

Preamble

To explore and acquire skills through statistical package and R

Prerequisite

Programming Basic knowledge of Computers

Course Learning Outcomes

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

CLO Number	CLO Statement	Knowledge Level
CLO1	Define R Programming concepts with Datasets and work flow Through the conceptual factors	K1
CLO2	Demonstrate wide range of fields in machine learning	K2
CLO3	Develop various analysis techniques and interpret the Features of deployment	K3
CLO4	Analyze R's performance capabilities and efficient memory management to work with big data	K4

Mapping with Programme Learning Outcomes

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

S-Strong; M-Medium

Syllabus

1. Find Factorial of a number using recursion using R
2. Write program to calculate Multiplication Table using R

3. Check if a Number is Positive, Negative or Zero using R
4. Creating vector and matrices using R-program.
5. Import and Visualize data using scatterplots using R
6. Logical statements, cbind/rbind command in R and Create dataset using data frames and factors and plot a graph.
7. 3D plots in R and change the colors.
8. Create a Dataset and determine the number of 18–22-year-old population in 2000, 2004 and 2005

Particulars	2000	2004	2005
University student	47498	66309	70153
Number of teachers	17302	19103	18098
Number of institutions	77	91	90
Number of students in the % of the 18–22-year-old population	10.4	13.9	15

9. Computation of spearman's rank correlation.
10. Write statistical analysis of a dataset to calculate the mean, median and standard deviation of a variable and generate a histogram for a data visualization.
11. Analysis of variance (one way and Multiple classification using ANOVA).
12. Calculation of Mann Whitney U-test.
13. Compute Two-Sample Independent T-Test
14. Creating a Histogram for Data Visualization.
15. Creating a Boxplot Using the GUI (Graphical User Interface)

Course Designers

1. Mr.B. Ziyaudeen.
2. Dr.N.V. Brindha

COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	CREDIT
BP24C05	FUNDAMENTALS OF CORPORATE ACCOUNTING	THEORY	73	2	-	4

Preamble

- ❖ To explore a comprehensive understanding of corporate accounting principles, focusing on key areas such as share issuance, forfeiture, redemption, financial statements, business reconstruction, and company liquidation.
- ❖ It emphasizes legal and regulatory compliance in line with the Companies Act.

Prerequisite

- Basic Knowledge in Company Accounts

Course Learning Outcomes

On the successful completion of the course, students will be able to understand the accounting procedures and the key role in business operations.

CLO Number	CLO Statement	Knowledge Level
CLO1	Recall fundamental concepts and legal provisions related to issue, forfeiture, reissue, redemption, and liquidation of shares and debentures as per the Companies Act.	K1
CLO2	Explain the principles and regulatory framework of corporate financial transactions including right issue, bonus issue, underwriting, amalgamation, and internal reconstruction.	K2
CLO3	Apply accounting procedures to prepare final accounts of companies and compute financial statements in compliance with Schedule III of the Companies Act, 2013	K3
CLO4	Analyze various methods of amalgamation and internal reconstruction to evaluate their impact on company structure and shareholder interests	K4

Mapping with Programme Learning Outcomes

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

S- Strong; M-Medium

Unit I (14 Hrs)

Issue, Forfeiture and Reissue of shares: – Pro-rata Allotment – Right Issue – Bonus Issue – Underwriting of Shares and Debentures – Underwriting Commission - Types of Underwriting.

Unit II (14 Hrs)

Issue and Redemption of Preference Shares and Debenture: – Provisions of Companies Act– Capital - Redemption Reserve – Minimum Fresh Issue – Redemption at Premium. Debentures: Issue and Redemption (Basic problems only).

Unit III (15 Hrs)

Final Accounts of Companies: - Introduction – Form and Contents of Financial Statements as Per Schedule III of Companies Act 2013 – Part I Form of Balance Sheet – Part II Form of Statement of Profit and Loss – Ascertaining Profit for Managerial Remuneration.

Unit IV (15 Hrs)

Amalgamation and Internal Reconstruction: - Amalgamation – Meaning - Purchase Consideration - Lump Sum Method, Net Assets Method, Net Payment Method, Intrinsic Value Method - Types of Methods of Accounting for Amalgamation -The Pooling of Interest Method - The Purchase Method (Excluding Inter-Company Holdings) Internal Reconstruction – Conversion of Stock – Increase and Decrease of Capital – Reserve Liability

Unit V (15 Hrs)

Liquidation of Companies: Types of Liquidation - Preparation of Liquidators Final Statement of Accounts – Order of Payment – Liquidator's Remuneration – Calculation of Preferential Creditors (Excluding Statement of Affairs). Indian Accounting Standards (AS 1-6, 10-15, 20-23) - Elementary Introduction to International Financial Reporting Standard.(Theoretical Aspects only)

Distribution of Marks: Theory 20% Problem 80%

Textbook

S.No	Authors	Title	Publishers	Year and Edition
1.	Reddy.T S and Murthy.A	Corporate Accounting	Margham Publications	2023,7 th Edn, Reprint

Books for Reference

S.No	Author Name	Title	Publishers	Year and Edition
1	S.P.Jain & K.L.Narang	Corporate Accounting	Kalyani Publishers	2018, 19 th Edn
2	Gupta.RL and. Radhasamy.M	Corporate Accounting Vol-II	Sultan Chand & Sons	2021, 14 th Edn
3	Pillai.RSN, Bhagavathy and Uma.S	Advanced Accountancy Vol-II	S Chand Publisher	2016, 2 nd Edn

Pedagogy

- PowerPoint Presentations, Group Discussion, Seminar, Quiz Assignment, Experience Discussion, Brainstorming, Activity, Case Study

Course Designers

- Dr.M.Deepalakshmi
- Dr.R. Eswari

COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	CREDIT
DA24C06	DATABASE PROGRAMMING	THEORY	58	2	-	3

Preamble

- To provide comprehensive knowledge about relational and NoSQL database management system

Prerequisite

- Introduction to databases and their purpose in business.

Course Learning Outcomes

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

CLOs	CLO Statement	Knowledge Level
CLO1	Interpret relational database management concepts	K1
CLO2	Develop the tables using normalization	K2
CLO3	Illustrate SQL statements and keys	K3
CLO4	Understand the concepts of NOSQL, MONGODB	K4

Mapping with Programme Learning Outcomes					
CLOs	PLO1	PLO2	PLO3	PLO4	PLO5
CLO1	S	S	S	S	M
CLO2	S	S	S	S	S
CLO3	M	S	S	S	M
CLO4	M	M	S	S	M

S-Strong; M-Medium

Syllabus

Unit I

(12Hrs)

Introduction to Database Management System - Data, Information, and Knowledge - File System vs. Database System - Types of Databases: Centralized, Distributed, Cloud - DBMS Components- Database System Architecture: 1-Tier, 2-Tier, 3-Tier - Data Models: Hierarchical, Network, Relational - Entity- Relationship (E-R) Model – Relational model - Relations, Tuples, Attributes, Domains - Structured Query Language : Data Definition Language, Data Manipulation Language, Data Control Language, Transaction Control Language.

Unit II

(12Hrs)

Keys - Primary, Foreign, Candidate and Super - Creating foreign keys and primary keys - Integrity Constraints: Domain, Entity and Referential Integrity- Functional Dependencies - Normalization process: 1NF, 2NF, 3NF, BCNF - Joins: Inner, Outer and Cross - Implementation of the projection, Selection and join Operators

Unit III

(12Hrs)

Built in Functions – Numeric - Character Conversion Functions - Introduction to group functions - sum, avg, max, min, count - combining single value and group functions - Displaying Specific Groups- Introduction to processing date and Time - Arithmetic with Dates - Date Functions - Formatting dates and .time – Subqueries - Correlated Queries - Using subqueries to create, update, insert and delete rows from a Table.

Unit IV

(12Hrs)

Overview and History of NoSQL Databases - Definition of the Four Types of NoSQL Database- The Value of Relational Databases - Getting at Persistent Data – Concurrency – Impedance Mismatch- Application and Integration Databases - Attack of the Clusters - The Emergence of NoSQL - Aggregates - Key-Value and Document Data Models – Column-Family Stores - Summarizing

Aggregate-Oriented Databases - More Details on Data Models - Distribution Models – Consistency - Introduction to MongoDB – Overview – Advantages over RDBMS Getting Started –Features and Architecture

Unit V

(10Hrs)

Installing MongoDB and Setting Up Environment – Creating, Updating, and Deleting Documents - MongoDB Compass & Shell - Querying and Data Processing: Data Types, Schema Design best practices, filtering, sorting - Designing Your Application: Indexing - Special Index and Collection Types. Introduction to IKS & Its Relevance to Databases - Philosophical Foundations & Logical Structures in Databases - NoSQL, Graph Databases & Knowledge Representation.

Text Books

S.No.	Author Name	Book Name	Publisher	Year and Edition
1	Abraham Silbers chatz, Henry F. Korth, S. Sudarshan	Database System Concepts	Tata McGraw-Hill Publishing company limited, New Delhi.	2021(Indian Edn), 7 th Edn
2	Pramod J.Sadalage& Martin Fowler	NoSQL Distilled	Pearson Education, Inc. O'Reilly Media, Inc.,	2013
3	Kristina Chodorow	Mongo DB: The definitive guide	Pearson Education, Inc. O'Reilly Media, Inc.,	2014, 3rd Edn

Reference Books

S.No.	Author Name	Book Name	Publisher	Year and Edition
1.	Rama Krishnan & Gehrke	Database Management Systems	Tata Mc Graw Hill	2009, 8th Edn
2.	Nilesh Shah	Database Systems using Oracle	PHI learning pvt Ltd	2014, 2 nd Edn
3.	Alexis Leon & Mathews Leon	Fundamentals of database management systems	Tata Mc Graw Hill	2014, 2nd Edn

Skill Components

- Understand the concepts of tables, queries and SQL.
- Demonstrate SQL queries, operators, aggregate function, subquery and join operators.
- Identify the concepts of normalization.
- Interpret SQL and NOSQL-MONGODB.

Pedagogy

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

Course Designers

1. Dr.N.V Brindha
2. Mr. B. Ziyaudeen

COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	CREDIT
AF24A01	BUSINESS ECONOMICS	THEORY	73	2	-	4

Preamble

- To introduce micro economic and macro economic concepts
- To familiarize various economic theories
- To interpret and examine the monetary and fiscal policy

Prerequisite

- Basic knowledge in economics

Course Learning Outcomes

On the successful completion of the course, Students will demonstrate their knowledge of the fundamental and technical concepts of economics and also students will be able to make decisions wisely using cost- benefit analysis.

CLO Number	CLO Statement	Knowledge Level
CLO1	Define and understand the various laws of economics	K1
CLO2	Interpret Economic theories and policies	K2
CLO3	Identify the various methods of Forecasting, Demand and Supply Functions, National Income & budgeting.	K3
CLO4	Examine the different market structure and pricing policy	K4

Mapping Programmes with CLOs and PLOs

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

S-Strong; M-Medium

Syllabus

UNIT I

(14 Hrs)

Introduction to Economics – Wealth, Welfare and Scarcity Views on Economics – ***Positive and Normative Economics***. Definition – ***Scope and Importance of Business Economics***. Concepts: Production Possibility frontiers – Opportunity Cost – ***Accounting Profit and Economic Profit*** – Incremental and Marginal Concepts – Time and Discounting Principles. Concept of Efficiency – Business Cycle: Inflation, Depression, Recession, Recovery, Reflation and Deflation.

UNIT II

(15 Hrs)

Demand and Supply Functions: Meaning of Demand – Determinants and Distinctions of demand – Law of Demand and its exceptions – ***Elasticity of Demand***: definition, types, measurement and significance – ***Demand Forecasting*** – factors governing demand forecasting – methods of demand forecasting. Law of supply and determinants – Consumer's Equilibrium – Price, Income and Substitution Effects ***Consumer Behaviour: Law of Diminishing Marginal utility** – Equi-marginal Utility* – Indifference Curve – Meaning, Definition, Assumptions, Significance, Properties and equilibrium

UNIT III

(15 Hrs)

Production: Concept of Production – Production Functions: Linear and Non – Linear Homogeneous Production Functions – ***Law of Variable Proportion*** – Laws of Returns to Scale – Difference between Laws of variable proportion and returns to scale. Economies of Scale – Internal and External Economies – Internal and External Diseconomies – Producer's equilibrium. ***Product Pricing: Price and Output Determination under Perfect Competition***, Monopoly – Discriminating monopoly – Monopolistic Competition – Oligopoly – Pricing objectives and Methods

UNIT IV

(15 Hrs)

National Income – ***Gross National Product - Net National Product*** – Measurement of National Income – Consumptions, savings and investments*. Theory of Employment – Type of unemployment – Labour and Population theories – Definition of capital and growth of capital – Steps in capital formation. Money – Definition and functions of money – ***Quantity theory of money***. Public Finance – Principles of taxation – ***Direct and indirect taxes***

UNIT V

(14 Hrs)

Monetary and Fiscal Policies – measures of money stock – policy and money supply – ***instruments of monetary policy*** – fiscal policy – the union budget – state budgets – Inflation – Deflation – Meaning – Causes & Effects – ***Measures to control inflation and deflation*** – ***Importance of the budget***. ***Highlighted Content offered in Blended Mode (Link Provided)**

Text Books

S.No.	Author Name	Title of the book	Publisher	Year of Publication & Edition
1.	Francis Cherunilam	Business Environment(UnitV)	Himalaya Publishing House,Mumbai –04	2017, 25 th Edn
2.	Shankaran S	Business Economics (Unit IV)	Margham Publications	2014 8 th Edn
3.	Sundharam KPM Sundharam E N	Business Economics (Unit I-IV)	Sultan Chand & Sons -New Delhi – 02.	2016 6 th Edn

Reference Books

S.No	Author Name	Title of the book	Publisher	Year of Publication & Edition
1.	Chaudhary C.M	Business Economics	RBSA Publishers– Jaipur - 03.	2019 8 th Edn
2.	MehtaP.L	Managerial Economics– Analysis, Problems & Cases	Sultan Chand & Sons- New Delhi – 02.	2018 6 th Edn

Skill Components

- Examine case studies in budgeting
- Demonstrate specialized knowledge of economic theories and methodologies in facing the diverse challenges of competitive business environment.
- Identify the contributions of the notable economic thinkers and the irrelevance to current methodological developments.

Pedagogy

- Lecture, PPT, Quiz, Assignment, Group Discussion, Seminar, Brain storming, Activity.

Course Designers

1. Dr.S.Udhaya
2. Ms.M Pooja

COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	CREDIT
DA24A02	CORPORATE GOVERNANCE	THEORY	73	2	-	4

Preamble

- To analyse corporate governance mechanisms and principles
- To understand the code and guidelines of corporate governance

Prerequisite

- Basic Knowledge of Corporate Governance

Course Learning Outcomes

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

CLO Number	CLO Statement	Knowledge Level
CLO1	Find and Summarize mechanism, principles, and issues related to corporate governance.	K1
CLO2	Illustrate the corporate governance code and guidelines	K2
CLO3	Develop and examine the role of corporate governance in national and international companies	K3
CLO4	Analyse mechanisms, principles, issues related to corporate governance	K4

Mapping with Programme Learning Outcomes

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

S-Strong; M-Medium

Syllabus

UNIT I

(14 Hrs)

Corporate Governance – Introduction – Conceptual Framework of Corporate Governance: Theories & Models, Broad Committees - Corporate Governance Reforms. People Orientation of Public Governance-***Different Systems in Public Governance***- Structure of Public Governance and Corporate Governance- Comparison between Corporate Governance and Public Governance-***History of Corporate Governance – Concept of Corporate Governance & Stakeholder***- Corporate Governance Policy. Major Corporate Scandals in India and Abroad: Common Governance Problems Noticed in various Corporate Failures.

UNIT II

(15 Hrs)

Corporate Governance Mechanism and Overview– 4 P's of Corporate Governance- Wealth Creation, Management and Distribution– ***Disclosure in Offer Documents- Clause 49***. Principles of Corporate Governance – Introduction – OECD Principles of Corporate Governance – ***Annotations to the OECD Principles of Corporate Governance*** – Issues Related to Corporate Governance- Introduction – ***Need for Good Corporate Governance***- Role and Responsibilities of Investors- Competency and Training

UNIT III

(15 Hrs)

Decision System- Role of the Directors and Management - Relationships with Stockholders and other Constituencies- Corporate capital and its property rights - Mechanism and control -***Systemic Problem of Corporate Governance***- ***Code of Business Conduct***- Code of Business Ethics. ***Corporate Social Responsibility***- Introduction – implementation Generate Business Benefits- Corporate Philanthropy, Strategic Relationship of CSR with Corporate Sustainability - CSR and Business Ethics, CSR and Corporate Governance - CSR Provisions under the Companies Act, 2013 (Section 135 schedule – VII). – CSR Policy Rules

UNIT IV

(15 Hrs)

Codes and Guidelines- Guidelines for Person in charge – Duties and Responsibilities of Person in charge- ***General Code of Corporate Governance***- Guidelines- Rules and Regulations – Enforcement of Regulations- Introduction to Environmental, Social, and Governance (ESG) - Code of Conduct – Directors and Auditors ***e-Governance***.

UNIT V

(14 Hrs)

International Corporate Governance –Germany ***– France- United Kingdom- USA ***Corporate Governance in leading Indian Companies. (SIMPLE CASE STUDIES) ***Highlighted Content offered in Blended Mode (Link Provided)**

Text Book

S.No	Author Name	Title of the Book	Publisher	Year and Edition
1.	Swami Parthasarathy	Corporate Governance	New Delhi Biztantra	Reprint 2008, Fifth Edn.

Reference Books

S.No	Author Name	Title of the Book	Publisher	Year and Edition
1.	Kesho, Prasad	Corporate Governance	New Delhi :Prentice Hall	2006,Fourth Edn
2.	Singh.S	Corporate Governance	New Delhi : Excel Books	2006, Third Edn

Skill Components

- Analyse the Corporate Governance mechanism and principles.
- To enable the students to do a study related to the implementation of Corporate Governance in leading Indian companies.

- Roleplay on the duties and responsibilities of the person in-charge of the implementation of Corporate Governance in companies.
- Discuss the implementation of Corporate Governance code in different countries

Pedagogy

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

Course Designers

1. Dr.G.Rekha
2. Dr. S. Udhaya

COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	CREDIT
BP23A01	BUSINESS MANAGEMENT AND ETHICS	THEORY	73	2	-	4

Preamble

- To provide the students with an understanding of the basic principles of management in the functional areas of business to pursue careers in management with ethics

Prerequisite

- Basic Knowledge on Business Management

Course Learning Outcomes

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

CLOs	CLO Statement	Knowledge Level
CLO1	Recognize the fundamental concepts and principles of management, Planning, Organisation, leadership and control including the function and its nature.	K1
CLO2	Identify the management process and decision making in management functions	K2
CLO3	Apply the theories and identify various case studies for practical applications of management concepts	K3
CLO4	Analyse the process of management functions and evaluate the social responsibility and ethical issues in business situations	K4

Mapping with Programme Outcomes

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

S- Strong; M-Medium

UNIT I (15 Hrs)

Management –Definition - Nature and Scope – ***Functions– Managerial Skills– Levels of Management*** – Roles and Skills of a Manager- Contributions by Henry Fayol, FW Taylor, Peter F Drucker, McGregor, Elton Mayo-***Management as a Science, Art, Profession- Management and Administration***– Principles of Management

UNIT II (15 Hrs)

Planning: Meaning – Nature- ***Importance- Purpose of Planning***- Planning Process - Advantages and Limitations- Types of Plans – ***Objectives – Policies – Strategies – Procedures – Programmes – Obstacles to Effective Planning*** - Decision Making: Steps in Decision Making – Role of MIS for Decision Making. ***MBO – MBE - Policy and Strategy***.

UNIT III (15 Hrs)

Organization –Meaning - Nature and Importance – ***Process of organization– Organization structure– Organization chart–Organization manuals***–Types of Organization - Departmentation - Span of Management - ***Authority – Responsibility - Accountability*** - Power – Delegation – Centralization - Decentralization-Staffing- Case study

UNIT IV (14 Hrs)

Leadership –Meaning and Importance –***Functions of Leadership–Leadership styles–Qualities of good leader*** –Theories & Approaches of Leadership-Directing-Functions-***Coordination – Meaning – Definition – Principles- Advantages & Disadvantages***-Case study

UNIT V (14 Hrs)

Control –Meaning - and Importance –***Process & Techniques of control***-Ethics-Meaning– Importance Nature & ***Relevance-Structure of ethics management-Ethics in business***-Factors affecting ethical practice in business-Social Responsibility of Business.

*** Highlighted Content offered in Blended Mode (Link Provided)**

Text Books:

S. No	Authors	Title	Publishers	Year & Edition
1.	R K Sharma & Shasi K Gupta	Principles of Management	Kalyani Publishers	2017 reprint – 1 st Edn
2.	Dinkar Pagare	Principles of Management	Sultan Chand & sons	2018 reprint – 1 st Edn

Reference Books

S. No	Authors	Title	Publishers	Year & Edition
1.	Dr.C.N Sontakkai	Principles of Management	Kalyani Publishers,	2016 reprint – 1 st Edn
2.	PC Tripathi & PN Reddy	Principles of Management	Tata Mcgraw Hill Publishing Co Ltd	2017 ed. – 1 st Edn
3.	Robbins, De Cenzo, & Coulter.	Fundamentals of management	arson Education Ltd	2017, 10th Edn

Skill Components

- Preparation of different types of organisation charts
- Construct a standing plan for a new business venture
- Demonstrate different leadership styles through role play
- Study the ethical practices followed in the organization
- Select any one company and prepare SWOT analysis
- Prepare a report of CSR activities followed in an organisation

Pedagogy

- PPT presentation ,Quiz, Group Discussion, Seminar, Quiz, Assignment, Experience Discussion, Brain storming, Activity, Case Study

Course Designers

1. Dr.A.Meenakshi- Department of B Com(CA)
2. Dr.Nithya Ramadass- Department of B Com(CA)

3. Create an Employee table with following field.

Eno	number(5)	primary key
Ename	varchar2(20)	not null
Deptno	number(2)	not null
Desig	char(10)	not null

Sal	number(9,2)	not null
Comm.	Number(7,2)	null

Queries:

- Insert values and display the records
- Display sum, maximum amount of basic pay
- List the name of the clerks working in the department 20
- Display name that begins with,,G"
- List the names having,, I"as the second character
- List the names of employees whose designation are,, Analyst "and,, Salesman"
- List the different designation available in the Employee table without duplication (distinct)

4. Create a student able with the following fields

Stuno	number(5)	primary key
Stunm	varchar2(20)	
Age	number(2)	
Mark1	number(3)	
Mark2	number(3)	
Mark3	number(3)	

Queries:

- Insert values and display the records
- List the names and age of the student whose age is more than 12
- Display total and average of marks
- Display the names of the maximum total & minimum total student
- List the names of the student that ends with,,A"
- List the names of student whose names have exactly 5 characters

5. Create the table PAYROLL with the following fields and insert the

values: Emplno	number(8)
Emplname	varchar2(8)
Dept	varchar2(10)
Baspay	number(8,2)
HRA	number(6,2)
DA	number(6,2)
Pf	number(6,2)
Netpay	number(8,2)

Queries:

- Update the records to calculate the netpay.
- Arrange the records of the employees in ascending order of the netpay.
- Display the details of the employees whose department is "Sales".

- d. Select the details of employees whose HRA \geq 1000 and DA \leq 900.
- e. Select the records in descending order.

6. Create a Table Publisher and Book with the following fields: Table:

publisher Pubcode	varchar2(5)
Pubname	varchar2(10)
Pubcity	varchar2(12)
PubState	varchar2(10)
Bookcode	varchar2(5)
Table: Book Booktitle	varchar2(15)
Bookcode	varchar2(5)
Bookprice	varchar2(5)

Queries:

- a. Insert the records into the table publisher and book.
- b. Describe the structure of the tables.
- c. Show the details of the book with the title “DBMS”.
- d. Show the details of the book with price $>$ 300.
- e. Show the details of the book with publisher name “Kalyani”.
- f. Select the book code, book title; publisher city is “Delhi”.
- g. Select the book code, book title and sort by book price.
- h. Count the number of books of publisher starts with “Sultanchand”.
- i. Find the name of the publisher starting with “S”.

MONGODB:

7. Create a Student Database in MongoDB using “use” Command.
8. Create program text search and indexes using MongoDB.
9. Execute the Commands of MongoDB and operations in MongoDB : Insert, Query, Update, Delete and Projection. (Note: use any collection)
10. Execute query selectors (comparison selectors, logical selectors) and list out the results on any collection.
11. Execute Aggregation operations (\$avg, \$min, \$max, \$push, \$addToSet etc.). students encourage to execute several queries to demonstrate various aggregation operators)
12. Create and demonstrate how projection operators (\$, \$elematch and \$slice) would be used in the MondoDB.

Pedagogy

- Demonstration through System, Demonstration through PPT

Course Designers

1. Dr.N.V Brindha
2. Mr. B. Ziyaudeen

COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	CREDIT
DA24SBP1	WEB DESIGNING PRACTICAL	PRACTICAL	41	4		3

Preamble

To explore and acquire foundational skills in designing static web pages using HTML and CSS.

Prerequisite

Basic knowledge of the internet and basic html.

Course Learning Outcomes

On the successful completion of the course, Students will be able to design and develop basic static web pages using HTML and CSS, apply web design principles to present structured information, and demonstrate the ability to build user-friendly interfaces for business-related content.

CLO Number	CLO Statement	Knowledge Level
CLO1	Understand the basic structure and syntax of HTML elements for web development.	K1
CLO2	Apply HTML tags to design static web pages for personal and business use.	K2
CLO3	Demonstrate usage of HTML lists, hyperlinks, tables, forms, and multimedia elements.	K3
CLO4	Develop structured, interactive static web pages using frames and forms and Integrate CSS to enhance design, layout, and user interface of web pages.	K4

Mapping with Programme Learning Outcomes

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

S-Strong; M-Medium; L-Low

Syllabus

1. Design a HTML document describing you. Assign a suitable background design and background and background color and text color.
2. Write a HTML program for the demonstration of Lists.
3. Write a HTML program for demonstrating Hyperlinks.
4. Write a HTML program to display your class time-table.
5. Develop a static web page using frames to describe about you and your skills.
6. Develop a static Registration Form using html tags.
7. Design a Web page to for your college using HTML.
8. Develop a static Web Page for displaying a product Catalog.
9. Write a HTML program to develop a static Web Page for Shopping Cart.
10. Write HTML to demonstrate the cascading style sheets.

Pedagogy

- Demonstration through System, Demonstration through PPT

Course Designers

1. Dr.N.V. Brindha
2. Mr.B.Ziyaudeen

COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	CREDIT
DA24C07	BUSINESS ANALYTICS WITH PYTHON	THEORY	58	2	-	3

Preamble

To introduce Python concepts and to develop programming skills in Python

Prerequisite

Basic knowledge of computer operations and logical problem-solving skills. Familiarity with fundamental concepts of programming and introductory statistics will be beneficial for effective learning.

Course Learning Outcomes

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

CLO Number	CLO Statement	Knowledge Level
CLO1	Recognize the implementation of python in various fields including web development, Data science, Machine learning and	K1
CLO2	Classify the support for testing with libraries	K2
CLO3	Develop algorithms and pandas and various quantitative analysis Techniques	K3
CLO4	Examine the versatility and strong ecosystem libraries for beginners and seasoned developers	K4

Mapping with Programme Learning Outcomes

CLOs	PLO1	PLO2	PL03	PL04	PL05
CLO1	S	S	M	S	S
CLO2	S	M	S	S	M
CLO3	M	S	S	M	M
CLO4	M	S	S	M	M

S-Strong; M-Medium

Syllabus

BUSINESS ANALYTICS WITH PYTHON - DA24C07 – 58 Hrs

UNIT – I (11 Hrs)

Setting up Python - Your First Python Program – Data Types: Values and Variables - Operators - Expressions – Types of Expressions- Arithmetic – Comparison – Logical - Conditional Expressions and Iterations - Functions: Using functions-Writing functions and More on Functions.

UNIT – II (12 Hrs)

Lists – Tuples–Sets–Dictionaries - Comprehension: Working with files and dictionaries - List Comprehensions - Dictionary Comprehensions – Set Comprehension.

UNIT - III (12 Hrs)

Strings: Various String Methods - Slicing a string – Strings versus bytes - Regular expression - closure and generators– classes and iterators– Advanced iterators.

UNIT – IV (12 Hrs)

NumPy Basics: Arrays and Vectorized Computation: NumPy ndarray - File Input and Output with Arrays- Getting started with Pandas: Introduction to Pandas- Creating Series and DataFrames - Data structures -Handling Missing Data - Hierarchical Indexing - Data Wrangling: Clean, Transform - Merge
-Reshape: Combining and Merging Datasets - Data Transformation – String Manipulation.

UNIT – V (11 Hrs)

Plotting and Visualization: A brief matplotlib API primer-Plotting functions in pandas-Line plot, Barplot, Histogram and Scatter plot- Time Series: Basics-time zone handling - Resampling and Frequency Conversion-Time Series plotting.

Text Books

S.No.	Authors	Title	Publisher	Year and Edition
1.	RichardL. Haltman	Learning to Program with Python	Southern Adventist University	2011 and Revised edn.
2.	Phuong Vo.T.H., Martin Czygan	Getting started with Python Data Analysis	Packt Publishing	2015 and 1 st edn.

Reference Book

S.No.	Authors	Title	Publisher	Year and Edition
1	Allen Downey	Think Python	Green Tea Press Needham, Massachusetts	2016 and 3 rd edn.

Skill Components

- To explore the object-oriented programming, Graphical programming aspects of python with help of built in modules.
- Remembering the concept to operators, data types, looping statements in Python programming.
- Understanding the concepts of Input /Output operations in file.
- Applying the concept of functions and exception handling.
- Analyzing the structures of list, tuples and maintaining dictionaries.
- Demonstrate significant experience with the python program development environment.

Pedagogy

Demonstration through System, Demonstration through PowerPoint Presentation, Quiz, Assignment, Seminar, Experimental Discussion.

Course Designers

1. Dr.N.V. Brindha
2. Mr.B. Ziyaudeen

COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	CREDIT
BP24C08/CM24C10	BUSINESS FINANCE	THEORY	73	2	-	4

Preamble

To enable the students to Understand the Concepts of Business Finance and their Applications for Managerial Decision Making, to analyze the short term and long-term decision-making techniques and to examine the various determinants of dividends

Course Learning Outcomes

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

CLO Number	CLO Statement	Knowledge Level
CLO1	State the concepts and approaches in finance	K1
CLO2	Demonstrate the possibilities for the optimum acquisition and application of the financial resources	K2
CLO3	Analyze the techniques required to select the feasible financial requirements of a Business Concern	K3
CLO4	Apply the concepts and tools of the financial decisions for adequate returns to the shareholders	K4

Mapping with Programme Learning Outcomes

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

S- Strong; M-Medium

Syllabus

BUSINESS FINANCE - BP24C08 /CM24C10 – 73 Hrs

UNIT - I

(14 Hours)

Business Finance : Meaning and Definition – Approaches to Finance Function – Scope – Financial Decisions - Profit Maximization Vs Wealth maximization. Sources of Finance. Financial Planning: Objectives –Characteristics – Steps in financial planning – Limitations of Financial Planning. Role of Financial Manager. Time Value of money – Practical Applications of Time Value Techniques – AI for TVM Calculation.

UNIT – II

(15 Hours)

Capital Budgeting: – Meaning – Need–Importance – Kinds and Process of Capital Budgeting– Cash Flow Estimation- Capital Budgeting Appraisal Methods: Traditional Methods - Payback Period – Accounting Rate of Return (ARR). Discounted Cash-flow Methods: Net Present Value (NPV) – Net Terminal Value - Internal Rate of Return – Profitability Index. Cost of Capital: Meaning – Significance – Classification of Cost– Computation of Cost of Capital: Cost of Debt, Preference, Equity, Retained Earnings and Weighted Average Cost of Capital – Integration of AI to estimate cost of capital.

UNIT - III

(15 Hours)

Capital Structure: Introduction – Importance – Factors Determining the Capital Structure. Theories of Capital Structure: Net Income Approach- Net Operating Income Approach-Traditional Approach and Modigliani and Miller Approach. Leverage: Meaning – Types of Leverage – Impacts of Financial Leverage – Integration of AI for Trading and Equity.

UNIT - IV

(15 Hours)

Capitalization: Concept – Need- Theories of Capitalization – Fair capitalization – Over Capitalization – Under Capitalization – Watered Stock – Over Trading and Under Trading. Working Capital Management: Meaning – Classification-Importance- Factors Determining the Working Capital Requirements– Management of Working Capital – Methods of Estimating Working Capital Requirements – Integration of AI for estimation of working capital.

UNIT - V**(14 Hours)**

Receivables Management: Forming of credit policy. Inventory Management – Tools and Techniques. Dividend Policy: Determinants of Dividend Policy – Types of Dividend Policy – Advantages and Disadvantages of Stable Dividend Policy – Theory of Relevance and Irrelevance - IKS principles in Dividend Policy - IKS inspired Dividend Policy Strategies- Global Perspectives on Dividend Policy. ***Distribution of Marks : Theory 40 % Problems 60 %**

Text Books

Sl.No.	Author name	Title of the book	Publisher	Year and Edition
1	Shashi. K. Gupta Sharma R. K	Financial Management	Kalyani Publishers	2018 and 10 th edn.

Reference Books :

Sl.No.	Author name	Title of the book	Publisher	Year and Edition
1	Ravi. M. Kishore	Financial Management- Problems and Solutions	Tax mann Publications Pvt Ltd	2023 and 9 th edn.
2	M .Y.Khan & P.K. Jain	Financial Management	Tata McGraw Hill	2018 and 8 th edn.
3	Maheshwari S. N	Financial Management	Sultan Chand & Sons	2024 and 14 th edn.

Skill Components

- Preparation of financial planning for the concern
- Application of time value techniques to the real situations
- Analyse the capital structure of different companies belongs to different industries
- Estimate the cost of capital for the funds raised by the company
- Application of capital budgeting techniques to select the project proposals.
- Analyse the financial statements and Estimate the working capital requirements of the company.

Pedagogy

- Lecture, Group Discussion, Case study, Role playing, Activity based learning

Course Designers:

1. Dr. B. Thulasi Priya
2. Dr.S.Sujatha

COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	CREDIT
BP23A03	BUSINESS LAW	THEORY	73	2	-	4

Preamble

To provide students with an understanding of general principles of law of contract and special contracts

- To provide an insight into the sale of Goods Act.
- To familiarize with various types of Insurance and claim.

Prerequisite

- Basic Knowledge on Indian Contract Act

Course Learning Outcomes

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

CLO Number	CLO Statement	Knowledge Level
CLO1	State the fundamental rules of commercial law applicable to all the business context	K1
CLO2	Understand the different elements of business and legal terminology of procedures in this current business scenario	K2
CLO3	Examine the rules regarding the administration of agreements relating to the business activities	K3
CLO4	Apply the various principles of contracts and interpret the legal issues	K4

Mapping with Programme Learning Outcomes

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

S- Strong; M-Medium; L - Low

Syllabus

BUSINESS LAW- BP23A03 - 73 HRS

UNIT - I

(15 Hrs)

Indian Contract Act 1872: – Meaning of Contract – Definition – Nature of Contract & Classification– Components of Valid Contract - Offer & Acceptance-Consideration –Capacity to Contract.

UNIT - II

(15 Hrs)

Free Consent: – Unlawful Agreements – Quasi Contracts - Different Modes of Discharge of Contract – Remedies of Breach.

UNIT - III

(14 Hrs)

Contract of Indemnity & Guarantee: Essential elements of Indemnity and Guarantee. Rights of Surety – Discharge of Surety. Bailment & Pledge – Rights & Duties of Bailor & Bailee.

UNIT - IV

(15 Hrs)

Sale of Goods Act 1930: – Sale & Agreements to Sell – Rules Regarding Passing of Property in Goods – Conditions & Warranties – Actual & Implied -Principle of “Caveat Emptor” and its Limitations. Law of Agency – Kinds of Agency – Rights & Liabilities of Principal and Agent.

UNIT - V

(14 Hrs)

Contract of Insurance - Nature and Fundamental Principles of Insurance – Life Insurance – Fire insurance – Marine Insurance - Policy claims

Text book:

S.No	Authors	Title	Publishers	Year and Edition
1.	Kapoor N.D	Business Law	Sultan Chand & sons	2022 and 23 rd Revised Edn.

Reference Books:

S.No	Authors	Title	Publishers	Year and Edition
1.	Pillai. R.S.N & Bagavathi. B	Business Law	S.Chand & Co	2015 and 3 rd Revised Edn.
2	P C Tulsian and Bharat Tulsian	Business Law	Tata McGraw- Hill	2017 and 3 rd Revised Edn.

Course Designers

1. Dr. R. Jayasathya.
2. Mrs. R. Sangeetha

COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	CREDIT
DA24A03	BUSINESS DATA MINING	THEORY	73	2	-	4

Preamble

- To understand data mining techniques and algorithms in business analytics
- To apply data preprocessing techniques and tools to solve business problems

Prerequisite

Basic knowledge of statistics, database management concepts, and programming logic. Familiarity with data handling tools and introductory business analytics will be an added advantage.

Course Learning Outcomes

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

CLO Number	CLO Statement	Knowledge Level
CLO1	Identify the data model and its operations	K1
CLO2	Classify the basic concepts and techniques of Data Mining	K2
CLO3	Apply data mining tools for solving practical business problems	K3
CLO4	Analyze the algorithms and concepts for real time execution	K4

Mapping with Programme Learning Outcomes

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

S-Strong; M -Medium; L– Low

Syllabus

BUSINESS DATA MINING - DA24A03 – 73 Hrs

UNIT – I

(14 Hrs)

Data Mining Introduction -Data Warehousing and Online Analytical Processing- Introduction to Knowledge Discovery from Databases– Data Preprocessing– Data Cleaning–Data Integration and Transformation – Data Reduction– Data Discretization and Concept Hierarchy Generation

UNIT – II

(15 Hrs)

Association Rule Mining: Market Basket Analysis- Frequent, Closed, Association Rules - Frequent Item set Mining Methods: Apriori Algorithm, Generating frequent itemset- Pattern growth approach-Correlation Analysis.

UNIT – III

(14 Hrs)

Classification: Decision tree induction - Bayes Classification – Rule Based Classification- Model Evaluation and Selection - Techniques to Improve Classification Accuracy - Neural Network Classification – Ensemble Methods.

UNIT – IV

(15 Hrs)

Clustering: Clustering Analysis - Partitioning Method- Hierarchical Method – Density based method - Grid based method - Evaluation Clustering.

UNIT – V

(15 Hrs)

Outlier Detection: Outlier and Analysis-Outlier Detection-Statistical Approaches- Proximity based approaches - Clustering and classification-based approaches- Outlier detection in high dimension.

Text Book

S.No.	Authors	Title	Publisher	Year and Edition
1	Jiawei Han, Micheline Kamber and Jian Pei	Data Mining: Concepts and Techniques	Morgan Kaufman	2022 and 4 th Edn.

Reference Books

S.No.	Authors	Title	Publishers	Year and Edition
1.	Ian H.Witten and Eibe Frank	Data Mining: Practical Machine Learning Tools and Techniques	Morgan Kaufman publications	2017 and 4 th edn.
2	M. H.Dunham	Data Mining: Introductory And Advanced Topics	Imprint Pearson Education	2011 and 4 th edn
3	Arun K.Pujari	Data Mining Techniques	Universities Press (India) Pvt. Ltd.	2013 and Kindle edn

Skill Components

- Identify the concept of using data in real time
- Analyze the fact of using algorithms incorporation in programming.
- Interpret various techniques to develop well determined pattern.
- Applying the concept of statistical basis in data

Pedagogy

Demonstration through System, PowerPoint Presentation, Quiz, Assignment, Experimental Discussion, Seminar and Activity based learning

Course Designers

1. Dr.N.V. Brindha
2. Mr.B. Ziyaudeen

COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	CREDIT
DA23CP4	BUSINESS ANALYTICS WITH PYTHON PRACTICAL	PRACTICAL	-	-	45	2

Preamble

To explore and acquire skills in Python Programming

Prerequisite

Basic knowledge of computer operations and fundamental concepts of programming.

Course Learning Outcomes

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

CLO Number	CLO Statement	KnowledgeLevel
CLO1	Relate the implementation of python for statistical calculations in various fields	K1
CLO2	Describe the algorithms and pandas and various quantitative analysis Techniques	K2
CLO3	Demonstrate the data structure	K3
CLO4	Apply plotting graphs	K4

Mapping with Programme Learning Outcomes

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

S-Strong; M –Medium

Syllabus

BUSINESS ANALYTICS WITH PYTHON PRACTICAL - DA23CP4 – 45 Hrs

1. Write a program that reads a file, breaks each line into words, strips whitespace and punctuation from the words, and convert them to lowercase.
2. Develop a program to read the book downloaded out-of-copyright ,skip the header information at the beginning of the file and process the text in the book to find and print the total number of words, frequency of each word and the total number of unique words. Compare the vocabulary sizes of books and identify which author uses the most extensive vocabulary.
3. Modify the program from the previous exercise to print the 20 most frequently-used words in the book.
4. Modify the previous program to read a word list and then print all the words in the book that are not in the word list. Analyze these words to determine how many typos, common words missing from the list, are or truly obscure terms.
5. Write a function named `choose_from_hist` that takes a histogram as defined in and returns a random value from the histogram, chosen with probability in proportion to frequency.
6. Write a Python program that reads a text file, builds a word histogram in the file, update the histogram by creating a new item or incrementing an existing one and count the total number of words in the file by add up the frequencies in the histogram.
7. Find the most common words by applying the DSU pattern; most common takes a histogram and returns a list of word-frequency tuples, sorted in reverse order by frequency and prints the ten most common words in a histogram.
8. Write a program that uses set subtraction to find words in the book that are not in the word list.
9. Use keys to get a list of the words in the book, build a list that contains the cumulative sum of the word frequencies. Chooses a random number from 1 to n. Find the index and also the corresponding word from the word list.
10. Write a program that uses this algorithm to choose a random word from the book.

Course Designers

1. Dr Brindha N V
2. Mr B Ziyaudeen

COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	CREDIT
DA22SCE1	DATA SCIENCE AND STATISTICS	Theory	45	-	-	3

S.No.	COURSE NAME	COURSE LINK	HOURS
1.	Statistics Foundations	https://www.coursera.org/learn/statistics-for-marketing	18
2.	Introduction to Artificial Intelligence (AI)	https://www.coursera.org/learn/introduction-to-ai?specialization=ibm-ai-foundations-for-business	10
3.	The Data Scientist's Toolbox	https://www.coursera.org/learn/data-scientists-tools	17

Custom created modular content + 500+ components of the most relevant curated content.