

RVS COLLEGE OF ARTS AND SCIENCE

Autonomous and Affiliated to Bharathiar University, Approved by AICTE

Reaccredited with 'A+' Grade by NAAC

Sulur, Coimbatore – 641 402, Tamilnadu, India.

Web: www.rvscas.ac.in

0422-2687421/603



Estd 1986

RVS CAS

Building Intellectual Capital

SCHOOL OF COMMERCE (PG) MASTER OF COMMERCE WITH COMPUTER APPLICATIONS SCHEME OF EXAMINATION AND SYLLABUS 2023-2025

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HOD

A handwritten signature in blue ink, likely belonging to the Principal.

PRINCIPAL

A handwritten signature in black ink, likely belonging to the Coordinator of Examinations.

COE

VISION

Quality Education for Digital Era.

MISSION

To impart a need – based quality education through comprehensive curriculum by adopting apt technologies and progressive teaching, learning and research processes.

ABOUT THE DEPARTMENT

The program M.Com (CA) was introduced during the year 2015 to empower the students to enable, to equip and to gain expertise themselves in the field of computer-assisted business analytics at various levels and get acquainted with applied knowledge in the functional areas of business supported by Data Visualization and Business Intelligence. Specialization allows learners to excel in Business Intelligence. BI uses existing data to uncover deep insights about business to manage day to day operations. It helps the students to learn about data source, Building data warehouse using ETL and Data Visualization. The Program enriches the knowledge, ability, skills and professional qualities of students to become Data Analyst and Business Intelligence Project Manager.

EXECUTIVE MEMBERS

CHAIRMAN

Dr. K.V. Kupusamy

MANAGING TRUSTEE

Dr. K. Senthil Ganesh

CORRESPONDENT

Mrs. S. Srividyalakshmi Senthil Ganesh

SECRETARY

Prof. Saramma Samuel

PRINCIPAL

Dr. T. Sivakumar

VICE PRINCIPAL

Dr. M.P. Ayyappadas

CONTROLLER OF EXAMINATIONS

Ms. G. Jeyalakshmi

HEAD OF THE DEPARTMENT

Dr. P. Rajini

Programme Outcomes (POs):-

PO1	Domain Knowledge
PO2	Communicative Competence
PO3	Digital Strategic Knowledge
PO4	Multi-Cultural Competence
PO5	Critical Thinking and Problem Solving
PO6	Research and Analytical Skills
PO7	Moral, Ethical and Professional Responsibilities
PO8	Leadership and Lifelong Learning

Programme Specific Outcomes (PSOs):-

Upon completion of **Master of Commerce with Computer Applications**, students are able to achieve the following outcomes.

PSO1	Apply the Business Intelligence Concepts in Job Roles such as Business Intelligence Analyst, Data Visualization Analyst, BI Developer, ETL Analyst and Data Warehouse Developer, Financial Analyst.
PSO2	Apply the skill sets of Data Analysis & Visualization in Excel, Business Statistics, RDBMS, SQL and Marketing.
PSO3	Use Data Warehouse and perform ETL using Pentaho and create data visualizations using Tableau and Power BI.
PSO4	Apply the knowledge of Financial Statements for analysis of financial health of Companies and to gain knowledge and develop excel skills for Corporate requirements.

RVS COLLEGE OF ARTS AND SCIENCE (Autonomous)
Sulur, Coimbatore – 641 402
SCHEME OF EXAMINATIONS
MASTER OF COMMERCE WITH COMPUTER APPLICATION
2023- 2024 BATCH

Semester	Course Opted	Course Name	D	L	T	P	CIA	SEE	Marks	Credits
SEMESTER I	M-I	Business Statistics	3	4	-	4	25	75	100	6
	M-II	Relational Database Management System	3	4	-	4	25	75	100	6
	M-III	Data Warehousing and Business Intelligence	3	4	-	4	25	75	100	6
	M-IV	Excel for Managers – I	3	4	-	4	25	75	100	6
	ES	Employability Skills	-	2	-	-	-	-	-	-
	Total			34					400	24

Semester	Course Opted	Course Name	D	L	T	P	CIA	SEE	Marks	Credits
SEMESTER II	M-V	SQL	3	-	-	4	25	75	100	2
	M-VI	Building Data Warehouse using Pentaho	3	4	-	2	25	75	100	5
	M-VII	Excel for Managers – II	3	4	-	4	25	75	100	6
	M-VIII	Data Visualization using Tableau - I	3	4	-	4	25	75	100	6
	M-IX	Principles of Accounting	3	4	-	4	25	75	100	6
	ES	Employability Skills	-	2	-	-	-	-	-	-
	Total			34					500	25

Semester	Course Opted	Course Name	D	L	T	P	CIA	SEE	Marks	Credits
SEMESTER III	M-X	Data Visualization using Tableau - II	3	4	-	4	25	75	100	6
	EL- I	Elective – I	3	4	-	4	25	75	100	6
	EL- II	Elective – II	3	4	-	2	25	75	100	5
	EL - III	Elective – III EDC	3	4	-	-	25	75	100	4
	ES	Employability Skills	3	2	-	-	GRADE			2*
	Total			28			400		21	

Semester	Course Opted	Course Name	D	L	T	P	CIA	SEE	Marks	Credits
SEMESTER IV	M-XI	Data Visualization using Tableau - III	3	4	-	4	25	75	100	6
	M-XII	Data Visualization using Power BI	3	4	-	4	25	75	100	6
	M-XIII	Financial Management	3	4	-	4	25	75	100	6
	PV	Internship Training and Viva Voce	-	-	-	4	25	75	100	2
	Total			28					400	20
GRAND TOTAL									1700	90+2*

M-Major Paper

MP-Major Practical

PV – Project Viva voce

EL – Elective: Elective: I - Applied financial statement analysis / Capital Markets

Elective: II - Marketing Management / Strategic Management

Elective: III – EDC – Goods and Service Tax

EDC – Extra Disciplinary Course – Annexure - I

*Extra Credits

Employability Skills (ES) Classes are held in the first three semesters.

Exams will be conducted at the end of the III Semesters.

Two extra credits will be given. This is mandatory to get a degree

Annexure - I

ELECTIVE III COURSES (EL III) : (III- SEMESTER)								
Elective III - EXTRA DISCIPLINARY COURSE : (EDC)								
Course	Course Name	L	T	P	CIA	ESE	Total	Credits
One Course – From the Group								
M.A English	English for Technical Writing	4	-	-	25	75	100	4
M.Sc Maths	Quantitative Aptitude	4	-	-	25	75	100	4
M.Sc Applied Electronics	Mobile Communication	4	-	-	25	75	100	4
M.Sc Foods and Nutrition	Food Preservation and Quality Control	4	-	-	25	75	100	4
M.Sc Biochemistry	Hospital Management	4	-	-	25	75	100	4
M.Sc Biotechnology	Forensic Science	4	-	-	25	75	100	4
M.Com	Human Resource Management	4	-	-	25	75	100	4
M.Com(CA)	Goods and Service Tax	4	-	-	25	75	100	4
M. Com IB (International Business)	Global Business	4	-	-	25	75	100	4
MSW	Introduction to NGO Management	4	-	-	25	75	100	4
M.Sc Microbiology	Diagnostic Microbiology	4	-	-	25	75	100	4
Total							100	4

ASSESSMENT PATTERN

Assessment Pattern: CIA (25%) and SEE (75%)		
For each Course, there will be weekly assessments which include the following;		
Knowledge Check	Graded	Quiz to be conducted based on the weekly topics
Activities	Non – Graded	List of practice activities
Assignment	Graded	Assignments problems based on the weekly content

CIA (25 MARKS)	Marks
Knowledge Check: (Weekly) - Best 5 ($5*1= 5$)	5
Assignment: (Weekly) - Best 5 ($5*3 = 15$)	15
Model: (At the End of Sem)	5
TOTAL	25

SEE (75 MARKS)	Marks
End of Sem Exam	75
TOTAL	75

SEMESTER – I

Course Title: BUSINESS STATISTICS (T+P)	Course Code: 13P
Semester I	Course Group: M-I
Teaching scheme in Hrs (L: T:P) : 4:0:4	Credits 6
Map Code: NIL	Total Contact Hours: 120
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No	Course Outcome	PSOs	Cl. Ses	CL
CO1	Illustrate the data using visualizations and summary statistics.	PSO2	12L + 12P	AP
CO2	Apply normal and t-distribution properties to estimate the Population mean from samples.	PSO2	12L + 12P	AP
CO3	Use hypotheses testing to examine the statistical significance.	PSO2	12L + 12P	AP
CO4	Implement Simple Linear Regression analysis using Excel and write the inference.	PSO2	12L + 12P	AP
CO5	Practice Multiple Regression analysis using Excel.	PSO2	12L + 12P	AP

UNIT - I (LECTURE HRS: 12, PRACTICAL HRS: 12)

Describing and Summarizing Data: Introduction (Analyzing Box office Revenues) - Visualizing Data (Recognizing Patterns, Histograms, Outliers) - Descriptive Statistics (Central values for Data, Conditional Means, Percentiles, Variability, and Descriptive statistics in Excel, Coefficient of Variation.) - Relationships between Two Variables (Scatter Plots, Correlation, Hidden Variables, Time Series).

UNIT - II (LECTURE HRS: 12, PRACTICAL HRS: 12)

Sampling and Estimation: Introduction (Sampling at Amazon) - Creating Representative and Unbiased Samples (Samples Vs Population, Sample size, Avoiding Bias) - The Normal Distribution (Rules of thumb, The Normal function NORM.DIST, The Normal function NORM.INV, The central limit theorem) - Confidence Intervals (Estimating the Population Mean, Large Samples, Small Samples, Choosing a sample size, Estimating the Population Proportion) - Amazon's Inventory Sampling (Amazon's Inventory Sampling).

UNIT –III

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Hypothesis Testing: Introduction (Amazon's use of Hypothesis Testing) - Designing and Performing Hypothesis Tests (Developing Hypothesis, Constructing a range of likely Sample Means, using p-values, Type I and Type II Errors, One sided testing, Comparing two populations) - Improving the Customer Experience (The Shopping Cart A/B test, The Arrow A/B test, The Magazine A/B test).

UNIT - IV

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Single Variable Linear Regression: Introduction (Regression at Disney Studios) - Regression Line (Visualizing the Relationship, The Best Fit Line, The Structure of the Regression Line) - Forecasting (Point Forecasts, Prediction intervals) - Interpreting the Regression Output (Quantifying Predictive Power, Testing for a Significant Relationship, R-square vs. p-value, Residual Analysis) - Performing Regression Analysis (Regression Analysis in Excel, Using Dummy Variables) - Forecasting Home Video Units (The Disney Studio Model, Just a starting point).

UNIT – V

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Multiple Regression: Introduction (Multiple Regression at Caesars) - Multiple Regression equation (Single Vs Multiple Regression, Interpreting the Multiple Regression Equation, Forecasting) - Adapting concepts from Single Regression (Adjusted R-square, Residual Analysis, Testing for Significance of Variables,) - Performing Multiple Regression Analysis (Multiple Regression Analysis in Excel) - New Concepts in Multiple Regression (MultiCollinearity, Dummy Variables, Lagged Variables) - The Caesars Staffing Problem (Developing the Model, Analyzing the Results, Improving the Model).

REFERENCE BOOKS:

R1 - Business Analytics | Edition: | Harvard Business School | Janice Hammond

R2 - Open Intro Statistics (Third Edition) by David M Diez, Christopher D Barr, Mine Cetinkaya - Rund | Edition:3 | Open Intro Statistics | Christopher D Barr AND David M Diez AND Mine Cetinkaya (2017).

R3 - An Introduction to Statistical Learning with Applications | Edition:1 | Springer | Daniela Witten AND Gareth James AND Robert Tibshirani AND Trevor Hastie(2013).

Course Title: RELATIONAL DATABASE MANAGEMENT SYSTEM (T+P)	Course Code: 13Q
Semester I	Course Group: M-II
Teaching scheme in Hrs (L: T:P) : 4:0:4	Credits 6
Map Code: NIL	Total Contact Hours: 120
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No	Course Outcome	PSOs	Cl. Ses	CL
CO1	Apply the concepts of Database Management System for a given use case	PSO2	12L +12P	AP
CO2	Adopt and Build tables using keys	PSO2	12L +12P	AP
CO3	Make tables using grouping functions, joining, and constraints	PSO2	12L +12P	AP
CO4	Apply the Normalization technique in a given use case	PSO2	12L +12P	AP
CO5	Draw a relationship diagram, mapping cardinality and ER Model for a University use case	PSO2	12L +12P	AP

UNIT - I

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Introduction to database concepts: Introduction (Basic building block- collection of facts, Qualitative Vs Quantitative, Example: What do we know about the Dog?) – Database (Definition and purpose) - Database Management System- Database Applications (Enterprise, banking and Finance, characteristics of a good DB) - File processing systems (Characteristics of a good database, Data Storage relationship, Isolated, Example) - Advantages over file systems (Reduces Data redundancy and data inconsistency, Data isolation, Data integrity, Atomicity of operations, Concurrency, Security) - Data Abstraction (View of Data, University Database Example).

Relational Data Model: Introduction (Attributes, Domain, Example) - Database Schema and Instance (Definition Relational Schema, Relational instance Example) - Physical Data Independence (Definition, Example) - Alternative Terminology (Definition, Example)

Keys: Introduction (Purpose of the key) - Super key (Definition, Example) - Candidate key (Definition, Example) - Primary key (Points to remember for a Primary key) - Secondary Key (Definition, Example) - Foreign key (Definition, Example) - Query Languages (Procedural language Nonprocedural language Definition, Example).

UNIT - II

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Basic Structure SQL: Introduction (Declarative language Example) - Several types of SQL (DDL, DML, Integrity, View, Transaction, Embedded SQL, Authorization) - Select clause (Syntax and Examples) – From clause (Syntax and Examples) - where clause (Syntax and Examples).

Creating and Renaming a relation: Create table (Syntax and example) - The Rename Operation (Syntax and example) - Tuple Variables (Syntax and example).

String operation: like (Percent (%), Underscore (_)).

Display of Tuples: order by clause (Ascending and descending order) - Set operations (Union Operation, Union all, Intersect Operation, Except Operation).

UNIT - III

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Aggregate and Grouping Functions: Basic Aggregation (Average, Sum, Count, Maximum, Minimum) - group by (Syntax and example) - Having (Syntax and example).

Modification of the Database - Insertion (Syntax and example) – Deletion (Syntax and example) - Updates (Syntax and example) - Data types (Standard and Other).

Join Expressions: Join types and Join conditions (Syntax and example) - Natural join (Syntax and example) - Outer join (Left right, full outer join) - View Definition (Syntax and example).

Constraints - Not null constraint (Syntax and Example) - Unique Constraint (Syntax and Example) - The check Clause (Syntax and Example)- Default Values(Syntax and Example) - Primary key constraints (Syntax and Example) - Referential Integrity (Syntax and Example) - alter table (Add, Modify, drop table).

UNIT - IV

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Relational Database Design: Features of Good Relational Designs (Scenarios and Examples)- Functional Dependency (FD): Introduction (FDs are domain knowledge - DB engine will not help, no optimization, Relation satisfying a dependency Vs Dependency holding on a schema) - Types of FD (Trivial, Non trivial, Completely non-trivial)- Minimal FDs (Definition, Example) - Dependency Preservation (Definition, Example) - Closure and covers of set of functional dependencies (Definition, Example)- Armstrong's axioms (Reflexive, Augmentation, Transitive, Decomposition, Union, Pseudotransitivity).

Basic Normal forms - First Normal Form (1NF) (1NF: based on attributes only) - Second Normal Form (2NF) (Prime attribute, full functional dependency and partial dependency) - Third Normal Form (3NF) (Transitive Dependency) - Higher Normal Forms: Boyce - Codd normal (BCNF) (Normal forms, Lossless decomposition, Anomalies with BCNF) - Fourth normal form (4NF) (Multi-valued dependency (MVD), MVD and lossless join) - Fifth normal form (5NF) or Project-Join normal form(PJNF)(Join dependency (JD)) – Domain-Key normal form (DKNF)(Syntax and Example).

UNIT - V

(LECTURE HRS: 12, PRACTICAL HRS: 12)

The ER Model Constraints: Entity Sets (Definition and example) - Relationship Sets (Definition and example) - Attributes (Definition and example) - Mapping Cardinalities (Definition and example) - Participation Constraints (Definition and example) - Keys (Definition and example) - What to remove (Definition and example).

Entity Relationship Diagram: Basic Structure (Example) - Mapping Cardinality (Example) - Complex Attributes (Example) - Roles (Example) - Non binary Relationship (Example) - Weak Entity Sets (Example) - E-R diagram for the University Enterprise (Example – diagram).

Reduction to Relational Schemas: Representation of Strong Entity Sets with Simple Attributes (Example) - Representation of Strong Entity Sets with Complex Attributes (Example) - Representation of Weak Entity Sets (Example) - Representation of Relationship Sets (Redundancy of Schemas, Combination of Schemas).

Extended E-R Features: Specialization (Example) - Generalization (Example) - Inheritance (Example).

TEXT BOOK:

T1 - Database System Concepts | Edition:6 | TMH Publications | Korth AND Silberschatz AND Sudarshan (2011).

REFERENCE BOOKS:

R1 - Beginning Database Solutions | Edition: | Wrox Publications | Rod Stephens (2009).

R2 - Database System Concepts | Edition:4 | TMH Publications | Korth AND Silberschatz AND Sudarshan (2001).

R3 - Fundamentals of Database Systems | Edition:6 | Pearson Education publication | RamezElmasri AND ShamkantBNavathe (2011).

Course Title: DATA WAREHOUSING AND BUSINESS INTELLIGENCE (T+P)	Course Code: 13S
Semester I	Course Group: M-III
Teaching scheme in Hrs (L: T:P) : 4:0:4	Credits 6
Map Code: NIL	Total Contact Hours: 120
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No	Course Outcome	PSOs	Cl. Ses	CL
CO1	Adopt various ETL Tools and BI Tools for Data warehouse construction	PSO1, PSO3	12L +12P	AP
CO2	Implement Dimensional model using Dimensional and Fact tables	PSO1, PSO3	12L +12P	AP
CO3	Implement various Transformations using Talend DI Open Studio 5.X	PSO1, PSO3	12L +12P	AP
CO4	Apply ETL Project with Talend DI open Studio 5.X.	PSO1, PSO3	12L +12P	AP
CO5	Apply Data Visualization BI Project with Tableau	PSO1, PSO3	12L +12P	AP

UNIT - I (LECTURE HRS: 12, PRACTICAL HRS: 12)

Introduction to Data Warehouse & Business Intelligence: What is Datawarehouse- Datawarehouse Properties (subject oriented, integrated, time variant, nonvolatile) – Changing Data - What is Data warehouse - Definition by Ralph Kimball - Inmon Vs Ralph Kimball - Data warehousing products - What is data warehouse categories type? - What is business intelligence- What are business intelligence tools? - What are business intelligence categories? - Business Intelligence Products.

Data warehouse architecture: Relational Data model – OLTP - Analytical Data model – OLAP- Relational (OLTP) vs analytical (OLAP)-Datawarehouse vs Datamart - Dependent data mart - Independent Data mart – Data warehouse architecture - OLAP cube – Analytical data model – OLAP categories- Analytical Data model – OLAP Operations.

UNIT - II (LECTURE HRS: 12, PRACTICAL HRS: 12)

Data warehouse: D & F – Dimension & Fact Tables: Dimension Table - Dimension Table – Characteristics – Dimension Table Type - Dimension Table – Categories – SCD- Fact table - Fact table types – Measure types.

Data Modelling: Data Normalization – Data De-Normalization - Dimensional Modeling - Star vs Snowflake Modeling.

UNIT - III

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Building Data ware house with ER Win: CA ER win Introduction – opening ERWin Data modeler – Creation of a Basic Data model – Conceptual ER Diagram – Logical ER Diagram – Physical ER Diagram – SQL Script Generation.

Introduction to open source ETL Tool Talend DI Open Studio 5.X : Difference between open source & commercial ETL Tools – Talend History – Talend Partners – Talend Customers- Talend Market Position – Talend Open DI Studio 5.X – overview – Talend Product offering – Talend DI Studio -Welcome page – Talend DI studio – working with Directories – Talend DI Studio – working with Projects – Talend DI Studio – How to create a Job – Talend DI Studio -Enter job properties – Talend DI Studio – tMap transformation – Talend DI Studio – tMap Editor- Talend DI Studio -tJoin Transformation- Talend DI Studio – tJoin Basic Setting – Talend DI Studio – tFilterRow Transformation - Talend DI Studio – tFilterColumnTransformation- Talend DI Studio – tSortRow Transformation - Talend DI Studio – tAggregateRow Transformation- Talend DI Studio – tReplicate Transformation- Talend DI Studio – tRowGenerator Transformation- Talend DI Studio – tNormalize Transformation.

UNIT - IV

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Building ETL Project with Talend DI Open Studio 5.X: Building ETL Project with Talend DI open Studio 5.X.

Introduction to Data Visualization BI tool Tableau 9.X: What is Data Visualization? - What is Data Visualization with Tableau – Tableau software, Inc.-Customers:4,000 strong companies – Tableau Products – How do people work with Tableau – 4 Reasons why Tableau matter now – 5 Reasons why Dashboards matters?- Dashboard suffer from poor visualization - Everyday BI - Table are Slow – 3 Requirements for Today's Dashboards - Tableau architecture-Files and Folders in Tableau - Tableau Public - start page-Data source page - workspace – connecting with Excel - Excel Data Source - creating work sheet – Renaming work sheet – Hide/unhide sheet – Changing Repository Location – Basic view – Data Filter – Sort Data – Format Pane-Create Group – Grand and Subtotal - Create Calculated Field - Table Calculation.

UNIT - V

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Building Data Visualization BI Project with Tableau 9.x: Tableau Project Problem statement.

An Integrated Data warehousing & BI Project: Integrated Project problem statement.

REFERENCE BOOKS:

R1 - “Business Intelligence Master’s Program”, “Online Certification”, <https://learning.edureka.co/mycourses>

R2 - “Mastering Tableau”, Packt Publishing, David Baldwin Nore (2016)

R3 - “Tableau Questions & Answers guide to Tableau Concepts & FAQs”, Chandraish Sinha, 2016

R4 - “Kimball Dimensional Modeling Techniques” ,Ralph Kimball, Margy Ross 2013, Kimball University

R5 - Decision support and Business Intelligence systems Edition: 1 Pearson .Efraim Turban, Ramesh Sharda and DursunDelen (2014)

R6 - “Tableau 10.0 Best Practices” ,Packt Publishing, Jenny Zhang (2016)

Course Title : EXCEL FOR MANAGERS – I (T+P)	Course Code: 13T
Semester I	Course Group: M-IV
Teaching scheme in Hrs (L: T:P) : 4:0:4	Credits 6
Map Code: - NIL	Total Contact Hours: 120
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No	Course Outcome	PSOs	Cl. Ses	CL
CO1	Apply the concepts of basic excel functions for data formatting, representations and analysis	PSO2 & PSO4	12L +12P	AP
CO2	Demonstrate the role of various types of charts in business applications using Excel	PSO2 & PSO4	12L +12P	AP
CO3	Use the applications of Excel in business management	PSO2 & PSO4	12L + 12P	AP
CO4	Apply the data effectively in financial building and planning	PSO2 & PSO4	12L + 12P	AP
CO5	Apply the concepts of databases for evaluation and reporting using Excel	PSO2& PSO4	12L + 12P	AP

UNIT – I (LECTURE HRS: 12, PRACTICAL HRS: 12)

Basics Revisiting & Functions: Functions (Linkages in Excel files, Basic usage of Microsoft Excel) - **Functions in Excel:** Data Formatting Functions (Formatting text, numbers, contents) – Data Representation Functions (Formulas) - Data Analysis Functions (Queries) - Financial Functions (Calculation of financial data).

UNIT – II (LECTURE HRS: 12, PRACTICAL HRS: 12)

Data Representation using Charts: Various types of charts (Line chart, Bar chart, Column charts, Pie Charts, Area Charts, Stock Charts, 2-D and 3-D charts, Usage of charts).

UNIT – III (LECTURE HRS: 12, PRACTICAL HRS: 12)

Applications of Excel in Management: Financial Statement Linkages (Company Model Building) - **Time Value of Money Applications** - Loan Schedule Creation (EMI Calculations) - EMI (Effect of change of parameters on EMI and Tenure) - Net Present Value (Calculations) - Internal Rate of Return (Calculation) – Project Finance Basics (Financial Modelling) - **Applications in Financial Planning** (Goal Based financial planning, Retirement Planning, Investment Returns Requirement Analysis) - Applications in Marketing Domain (Pivot Tables and use of Filters, Creating views for various segments of Marketing) - **Scenario Analysis** (Stress testing of models).

UNIT – IV

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Case Studies 1: Financial Statement Building & Linkages – Impact of changes in various segments of financial statements (Creating a balanced Balance Sheet and a completely dynamic financial model) - **Financial Planning** - Case study (Hypothetical client with financial requirements analysis and portfolio recommendation for achieving the required risk return profile).

UNIT – V

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Case Studies 2: Analysis of database - Analysis of a database using various tools and functions (Create and present the requisite view for the users) - **Charting for Performance Evaluation and Representation** - Creation of reports to be shown to management (Report regarding performance of entities using various charts).

TEXT BOOK:

T1 - Curtis.D. Frye, 2010, Step by Step – Microsoft Excel, Microsoft Press, Washington.

REFERENCE BOOKS:

R1 - Greg Harvey, 2010, Microsoft Excel, All-in-One for Dummies, John Wiley Publishing, Indiana.

R2 - John Walkenbach, 2013, Microsoft Excel Formulas, Misl-Wiley

Course Title: EMPLOYABILITY SKILLS (T)	Course Code: ES
Semester I	Course Group: PG
Teaching scheme in Hrs (L: T:P) : 2:0:0	Credits -
Map Code: NIL	Total Contact Hours: 30
CIA: No assessment in this semester	SEE: -
Programme: All I PG Courses	#-Semester End Exam

No	After completion of this course, the students will be able to	POs	Cl. Ses	CL
CO1	Frame sentences in the correct format	PO2	6	AP
CO2	Understand and relate their strengths, weaknesses, opportunities and threats	PO7	6	AN
CO3	Introduce themselves during personal interviews and perform decently and professionally	PO2	6	AP
CO4	Involving them in activities to increase the thought process	PO2	6	AP
CO5	Participate discussions and present a prepared speech	PO2	6	AP

UNIT- I

(LECTURE HRS: 6)

Tenses & Writing Skills: Present actions (Activity to learn where and how to use verbs in their present tense forms.) - Past actions (Activity to learn where and how to use verbs in their past tense forms.) - Future actions (Activity to learn where and how to use verbs in their future tense forms.) - Paragraph Writing (Learning and practicing how to write paragraphs).

UNIT- II

(LECTURE HRS: 6)

Self Identification: SWOT Analysis (Concept and Practice) – Presentation of SWOT analysis. **Self Introduction:** Presenting oneself professionally – speaking exercises.

UNIT- III

(LECTURE HRS: 6)

Just A Minute: Rules of JAM (How to prepare and perform in JAM?) - Practice (Prepared JAM sessions).

UNIT- IV

(LECTURE HRS: 6)

Idea Presentation: Concept & Preparation (How to prepare for an idea presentation?)- Practice (Presentation of the prepared idea)-**Personality Analysis** - Concept & Demo (Learning how to analyze a personality) - Practice- Team presentation of analysis of a personality and Email writing.

UNIT- V**(LECTURE HRS: 6)**

Group Discussion: Rules to be followed & Demo (How to participate in a group discussion? / Do's and Don'ts of a group discussion) - Practice (Correction, Evaluation & Feedback).

Text Book:

- Developing Writing Skills | Edition: 4 | Kavitha Offset Printers | RVS Training Academy (2018)

Reference Book:

- High School English Grammar and Composition Book. Wren & Martin. 2017.
- Simon Sweeney, English for Business Communication, Cambridge University Press, 2012.

SEMESTER – II

Course Title : SQL (P)	Course Code: 23P
Semester II	Course Group: M-V
Teaching scheme in Hrs (L: T:P) : 0:0:4	Credits 2
Map Code: - NIL	Total Contact Hours: 60
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No	Course Outcome	PSOs	CL Ses	CL
CO1	Demonstrate tables using select and where condition	PSO2	12P	AP
CO2	Apply Delete and update queries in tables.	PSO2	12P	AP
CO3	Practice tables using Group by function	PSO2	12P	AP
CO4	Use Sub queries for a given table	PSO2	12P	AP
CO5	Apply the join condition for Sales Analysis and Employee Bonus tables	PSO2	12P	AP

Problem	Concept 1	Concept 2	Concept 3	
SELECT FROM WHERE				
181. Employees Earning More Than Their Managers	Select from where		join	
584. Find Customer Referee	Select from where	or		
586. Customer Placing the Largest Number of Orders	Select from where	groupby	orderby	
595. Big Countries	Select from where	or	select from	union
1113. Reported Posts	Select from where	group by	orderby	
1141. User Activity for the Past 30 Days I	Select from where	group by	between	
1142. User Activity for the Past 30 Days II	Select from where	count	round()	
1148. Article Views I	Select from where	group by	order by	
1211. Queries Quality and Percentage	Select from where	group by	round,sum,count	
1565. Unique Orders and Customers Per Month	Select from where	group by		
1693. Daily Leads and Partners	Select from where	group by		
1729. Find Followers Count	Select from where	group by	order by	
1741. Find Total Time Spent by Each Employee	Select from where	group by	sum()	
DELETE and UPDATE				
196. Delete Duplicate Emails	delete	Where		
627. Swap Salary	update			
GROUP BY				

511. Game Play Analysis I	Group By	Set Operation		
619. Biggest Single Number	group By	having		
1050. Actors and Directors Who Cooperated At Least Three Times	group By	having		
1069. Product Sales Analysis II	group By	sum		
620. Not Boring Movies	order by	mod()		
SUBQUERY				
182. Duplicate Emails	Sub Query	Group By	group by	having
183. Customers Who Never Order	Sub Query	Not in		
512. Game Play Analysis II	Sub Query	Set Operation	in	
596. Classes More Than 5 Students	Sub Query	groupby		
607. Sales Person	Sub Query	leftjoin	not in	
1076. Project Employees II	Sub Query	group by	having	
1082. Sales Analysis I	Sub Query	group by	having	
1083. Sales Analysis II	Sub Query	group by	having	
1280. Students and Examinations	Sub Query	leftjoin	order by	
1294. Weather Type in Each Country	Sub Query	case when	join	
1327. List the Products Ordered in a Period	Sub Query	leftjoin	group by	
1350. Students With Invalid Departments	Sub Query	Not in		
1511. Customer Order Frequency	Sub Query	left join		
1581. Customer Who Visited but Did Not Make Any Transactions	Sub Query	group by		
1607. Sellers With No Sales	Sub Query	right join	group by	
JOINS				
1303. Find the Team Size	inner join	group by	count()	
197. Rising Temperature	join	datediff()		
603. Consecutive Available Seats	join	and	or	
1495. Friendly Movies Streamed Last Month	join			
1571. Warehouse Manager	join	select from where		
175. Combine Two Tables	Left join	Create Tables		
1068. Product Sales Analysis I	Left Join			
1075. Project Employees I	Left Join	group by	round,sum, count	
1084. Sales Analysis III	Left Join	group by	having	
1241. Number of Comments per Post	left join	group by		
1251. Average Selling Price	left join	group by	datediff()	
1378. Replace Employee ID With The Unique Identifier	left join			
577. Employee Bonus	Outer join	Where		

Course Title : BUILDING DATA WAREHOUSE USING PENTAHO (T+P)	Course Code: 23Q
Semester II	Course Group: M-VI
Teaching scheme in Hrs (L: T:P) : 4:0:2	Credits 5
Map Code: - NIL	Total Contact Hours: 90
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No	Course Outcome	PSOs	Cl. Ses	CL
CO1	Apply the basic concepts of Business Intelligence for a sample application	PSO1, PSO3	12L +12P	AP
CO2	Apply ETL for Data warehouse and Pentaho Data Integration	PSO1, PSO3	12L +12P	AP
CO3	Implement transformation using Pentaho Data Integration.	PSO1, PSO3	12L +12P	AP
CO4	Use Pentaho Report FOR Pentaho Data Integration	PSO1, PSO3	12L +12P	AP
CO5	Implement ETL project using PDI and PRD	PSO1, PSO3	12L +12P	AP

UNIT - I (LECTURE HRS: 12, PRACTICAL HRS: 12)

Introduction Business Intelligence: What is Business Intelligence (Business intelligence: Need of the time, Components, Concept, Existing solutions, Existing Challenges).

Pentaho: Pentaho (Why Pentaho? Mapping of Pentaho stack to BI stack, Pentaho in production)-Pentaho stack (Abstract component view, Architecture view, Data layer, server layer, Client layer) - Pentaho BA server (Server layer) - What is Reporting? (Pentaho Report Designer, ETL) - Pentaho Data Integration (Pentaho Data Integration) - Pentaho Metadata Editor (Pentaho Metadata Editor).

Sample Application: BI stages and Demonstration with sample application (Sample application).

UNIT - II (LECTURE HRS: 12, PRACTICAL HRS: 12)

Need of Data ware house: What is Data Warehouse? (Data warehouse) - Need of ETL (Extract, Transfer and Load) - Difference between OLTP and OLAP (OLTP, OLAP).

Pentaho Data Integration (PDI): PDI (PDI components, PDI Architecture, PDI Repository) - Spoon (Spoon layout, Spoon components, understanding Transformation) - Example (Create target Database, Create Database Connections, copy table, Running the transformation, Execution results, Data verification).

UNIT - III

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Pentaho Data Integration- Transformation: What is Transformation? (Transformation) - Transformation Example (Adding JNDI using wizard, Creating MySQL table, Adding Text file input step, setting up Text Input File step, Adding Table output step, Final Transformation) - Problem statement (Retrieving data from csv, Filter Records with Missing Zips, Load Data into RDBMS, Extracting Lookup Data, Resolve Missing ZIP with Lookup, Replace Missing ZIP with lookup, Execution of Intermediate Transformation, Correcting United states to USA, Tagging Deal size, Final Transformation, Running final Transformation).

UNIT - IV

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Pentaho Data Integration-Job and More: What is Job? (PDI job – Example) - PDI job - Example (Creating job and adding condition, linking our transformation, Running first job).

Pentaho Reporting: What is Reporting? (Pentaho Report Designer)- Pentaho Reporting: Components (Pentaho Report Designer, Pentaho reporting Engine, Reporting Software Development kit).

UNIT - V

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Pentaho Reporting: Pentaho Report Designer (Adding Chart Element, chart Configuration, Resize the chart, running chart, Chart in PDF) - How and When is PRPT created? (Understanding PRPT, Layout types, reporting elements, Mapping data, Alignment, Running the report, Conditional formatting, Running the Report with conditional Formatting).

Project: Problem Statement (Create an ETL job).

Case Study: Case Study - Lufthansa (The Global Activation Company wanted to build a solution to make their core process of Inter Airline Through Check In measurable, accessible, and available real time for operational monitoring through dashboard).

REFERENCES:

R1 - “Business Intelligence Master’s Program”, “Online certification”, <https://learning.edureka.co/mycourses>.

R2 - “Kimball Dimensional Modeling Techniques”, Ralph Kimball, Margy Ross 2013, Kimball University.

R3 - Decision support and Business Intelligence systems Edition: 1 Pearson. Efraim Turban, Ramesh Sharda and Dursun Delen (2014).

R4 - “Pentaho Data Integration Beginner’s Guide”, Packt Publishing, Maria Carina Roldan (2013).

R5 - “Pentaho Data Integration Quick Start Guide”, Packt Publishing, Maria Carina Roldan (2018).

Course Title: EXCEL FOR MANAGERS – II (T+P)	Course Code: 23S
Semester II	Course Group: M-VII
Teaching scheme in Hrs (L: T:P) : 4:0:4	Credits 6
Map Code: NIL	Total Contact Hours: 120
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No	Course Outcome	PSOs	Cl. Ses	CL
CO1	Apply the advanced Excel functions like Named Ranges, Circular Referencing, Lookup and Array Formula	PSO2 & PSO4	12L +12P	AP
CO2	Demonstrate Dynamic Charts using Advanced Charting techniques	PSO2 & PSO4	12L +12P	AP
CO3	Practice Dashboards for effective data representation	PSO2 & PSO4	12L + 12P	AP
CO4	Use the basic Macro functions in Excel and Writing & Recording Macros	PSO2 & PSO4	12L + 12P	AP
CO5	Apply the basic of Statistical Functions solving the problems using the excel functions and shortcuts	PSO2 & PSO4	12L + 12P	AP

UNIT- I (LECTURE HRS: 12, PRACTICAL HRS: 12)

Advanced Excel Functions: Recap of Excel for Managers (Basic usage of Microsoft Excel)

- Introduction to Advanced Excel Functions (Named Ranges, Circular Referencing, Lookup, and Array Formula) – Named Ranges (Care with names Creating range names quickly, Using range names quickly, Deleting, Relative referencing) - Circular Referencing (Remove and allow Circular Referencing) - Lookup (data lookup) - Array Formula Introduction (Creating an Array Formula).

UNIT- II (LECTURE HRS: 12, PRACTICAL HRS: 12)

Advanced Charting techniques: Advanced Charting techniques (Creating Column, Line, Dotted, Doughnut, Area etc.) – Dynamic Charts (Creating Static vs Dynamic charts).

UNIT- III (LECTURE HRS: 12, PRACTICAL HRS: 12)

Data representation using Dashboards: Creating Dashboards (Build the Dashboard, Customizing) - Effective data representation (Data representation in Dashboards).

UNIT- IV (LECTURE HRS: 12, PRACTICAL HRS: 12)

Macros: Macros (Enable macros in excel) - Form Control (Inserting and Using Form Control to handle data) - Recording Macros (Record and test excel macro) - Writing Basic Macros (Writing Basic Macros in excel).

UNIT- V**(LECTURE HRS: 12, PRACTICAL HRS: 12)**

Statistical Data Analysis: Statistical Functions and Analysis (Count Function, Counta, Countblank, Countifs Function, Average Function, Median Function, Mode Function, Standard Deviation Function) – Regression and other statistical techniques (Perform Simple and Multiple Regression analysis, ANOVA, Z Test, t Test Correlation Function) - Other Excel functions (Forecasting, Seasonality) - Shortcuts and Productivity Tools (Shortcuts keys for work book and formatting content).

TEXT BOOK:

T1 - Curtis.D. Frye, 2010, Step by Step – Microsoft Excel, Microsoft Press, Washington.

REFERENCE BOOKS:

R1 - Greg Harvey, 2010, Microsoft Excel, All-in-One for Dummies, John Wiley Publishing, Indiana.

R2 - John Walkenbach, 2013, Microsoft Excel Formulas, Misl-Wiley

Course Title: DATA VISUALIZATION USING TABLEAU – I (T+P)	Course Code: 23T
Semester II	Course Group: M-VIII
Teaching scheme in Hrs (L: T:P) : 4:0:4	Credits 6
Map Code: NIL	Total Contact Hours: 120
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No	Course Outcome	PSOs	Cl. Ses	CL
CO1	Illustrate the structure of the data from the data collection using Tableau	PSO1, PSO3	12L +12P	AP
CO2	Apply the statistical concepts in histograms and scatter plot using tableau	PSO1, PSO3	12L +12P	AP
CO3	Practice Storytelling using charts and dashboard	PSO1, PSO3	12L +12P	AP
CO4	Draw charts with effective visuals using tableau	PSO1, PSO3	12L +12P	AP
CO5	Make story using Cole's Design Concepts and Tufte's Fundamental Principles of Analytical Design	PSO1, PSO3	12L +12P	AP

UNIT - I (LECTURE HRS: 12, PRACTICAL HRS: 12)

Introductions - Introduction - What does Data Literacy mean? - Define data-Learning requires time - Community of practice.

Ask Questions - Ask the right questions - Aptitudes and attitudes of an analyst (what are the aptitudes and attitudes of effective analyses?) - Context and relevance-Compare and contrast (The data analytics question).

Data Collection and Structure - Data collection (Definition of data, how data are collected, Raw data, many types of data sources) - Characteristics of Ideal Data (Characteristics of ideal data, how do we organize data) - Tidy data (tidy data, Example) - Connecting to Data in Tableau (Connect to Data, Connect to Global superstore file, the data source window, editing field name and data type, live versus extract, worksheet canvas, connecting to multiple tables, joins, inner join, left and right joins, full outer join)-Preparing Data in Tableau (Poorly formatted data, data interpreter, data interpreter results key, Pivot, review ideal data, Split).

Field and Variable Types - Categorical /Quantitative Variables (Definition of data, types of variables, Dependent and independent variables, Confounding variables, what type of variable is it? naming variable type exercise) - Tableau Discrete/Continuous - Tableau Dimensions/Measures - Tableau Data Types - Dates in Tableau (working with dates) - Introduction to Maps (color and maps).

UNIT - II

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Aggregations and Granularity - Aggregation (Aggregation, Practice with aggregations) - Granularity (Granularity, scatterplot example, scatterplot example-Disaggregate).

Describing Distributions- Distributions (Distribution of discrete variable, distribution of continuous) - Measuring Center (Mean, Median, Mode) - Histograms (Histograms in tableau) - Box Plots.

Statistical Thinking - Measures of Variation - Normal Curve - Showing Uncertainty - Significance and p-values (p-values).

Correlation and Regression - Scatter Plots (Presenting two quantitative variables, scatter plot) -Correlation (Correlation, strength of the correlation, Correlation conditions, correlation never proves causation) - Linear Regression (Linear regression conditions, review scatter plots, Best fitting line or regression line, regression line equation, Coefficient of determination, regression in tableau).

UNIT - III

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Communicating with Charts - Visualization best practices (Five qualities of great visualizations, Best practices – text, best practices - graphs) - Introduction to Maps - Deceptive Charts.

Story and Wrap-up - Data Storytelling Process (Florence Nightingale, Storytelling process) - Dashboards (Dashboard definition, makeover example, redesign activity).

Introductions and Review-Course Introductions - What does Data Literacy mean? - Part One topics review (Data Literacy one Topic Table for review).

Visualization History and Visual Perception - Visualization History - Gestalt Principles (Gestalt Principles of perception, Practice with attributes and Gestalt principles) - Types of Memory (Iconic memory, short term memory, long term memory) - Pre-attentive attributes (How many times does the digit 7 appear? Where to look? form pre-attentive attributes, Hue, Intensity, where to look spatial Pre attentive attributes, Applying Pre attentive attributes).

UNIT - IV

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Right Data, Right Chart Part One: Choosing Effective Visuals - Text, Tables, or Graphs (Simple Text, Tables or Graphs? When to use Tables? When to use Graphs?) - Ways to encode quantitative values (Marks to Encode Quantitative Values) - Ways to encode categorical values (Encoding Categorical Items) - Visualizing Relationships (Nominal comparisons, Time Series, Ranking).

Right Data, Right Chart Part Two: Choosing Effective Visuals - Visualizing Relationships Continued (Part to whole, Deviation, Distributions, Correlation, Geospatial) - Visualizing Complex Relationships with many variables (Displaying Many Variables at Once).

Informative Tables and Exam One – Crosstabs – Totals - Highlighting Tables (heatmaps)

Creating Great and Truthful Charts - Mind and Models (Any Visualization is a model, We aim for “better” models, Is this graph a good model?, Which graph is the better model?, How to Create a more truthful model?, Confirmation and Bias: Geoffrey Cohen’s experiment) - Deceptive Graphs (Dark alleys of visual obfuscation, Bar chart scales must

include zero, Synchronize Axes, Make sure scale is in standard direction, Independent variable on x-axis, Avoid 3D) - Formatting for attention (Data-Ink Ratio, Tufte's Laws of Data-Ink, BBC Resource for style guide) - Demo/Let's practice: Visualization Makeover (Let's Practice Exercise) - **Design**-Cole's Design Concepts-Tufte's Fundamental Principles of Analytical Design (Any Visualization is a model, Charles Joseph Minard's famous map, Principle 1: Comparisons, Principle 2: Causality, Mechanism, Structure, Explanation, Principle 3: Multivariate Analysis, Principle 4: Integration of Evidence, Principle 5: Documentation, Principle 6: Content Counts Most of All).

UNIT - V

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Design - Cole's Design Concepts -Tufte's Fundamental Principles of Analytical Design (Any Visualization is a model, Charles Joseph Minard's famous map, Principle 1: Comparisons, Principle 2: Causality, Mechanism, Structure, Explanation, Principle 3: Multivariate Analysis, Principle 4: Integration of Evidence, Principle 5: Documentation, Principle 6: Content Counts Most of All).

Story Discovery - Analysis Cycle (The Analysis Cycle, Strength of Evidence vs. Quality of Question) - Explanatory vs Explanatory (Exploratory vs Explanatory, Process of Discovery) - Exploration for better questions (Exploration for better questions) - Interactivity (Actions in Tableau) - Dashboard introduction (One Definition of a Dashboard, Another Definition of a Dashboard, TC20 exploratory dashboard).

Presenting Story - Elements of story (The Story Arc, Narrative Structure, Narrative Flow, Spoken or written, Repetition) - Data story best practices (Seven Types of Data Stories, Change Over Time, Drill Down, Zoom Out, Contrast, Intersections, Factors, Outliers).

Data Culture - Tableau's description of Data Culture (What is Data Culture? TCish Video on Data Culture, Five Elements, Trust, Commitment, Talent, Sharing, Mindset, Mastering takes time, effort and practice, Optional Activity or Extra Credit Assignment).

REFERENCE BOOKS:

R1 - Essays on Data Analysis, Roger Peng, Leanpub (2019)

R2 - The Elements of Data Style, Jeff Leek, LeanPub (2015)

R3 - Online Statistics Education: A Multimedia Course of Study, <http://onlinestatbook.com/>, Project Leader: David Lane, Public Domain, Rice University (2007-2019)

R4 - Storytelling with Data, Cole Nussbaumer Knaflic, Wiley (2015)

R5 - The Truthful Art, Alberto Cairo (2016)

R6 - Now You See It, Stephen Few, (2009) (Chapter 2 only)

R7 - Show Me the Numbers, Stephen Few (2012)

Course Title: PRINCIPLES OF ACCOUNTING (T+P)	Course Code: 23 A
Semester II	Course Group: M-IX
Teaching scheme in Hrs (L: T:P) : 4:0:4	Credits 6
Map Code: NIL	Total Contact Hours: 120
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No	Course Outcome	PSOs	CL Ses	CL
CO1	Understand the fundamentals of accounting, accounting equation and apply the double entry book – keeping concept and practice books of prime entry	PSO4	12L + 12P	AP
CO2	Describe and apply the various tools used in verification of accounting records	PSO4	12L + 12P	AP
CO3	Explain and demonstrate the accounting procedures along with accounting principles and policies	PSO4	12L + 12P	AP
CO4	Practices to prepare financial statements for sole traders, partners	PSO4	12L + 12P	AP
CO5	Implement to prepare financial statements for limited companies and manufacturing accounts	PSO4	12L + 12P	AP

UNIT - I

(LECTURE HRS: 12, PRACTICAL HRS: 12)

THE FUNDAMENTALS OF ACCOUNTING: The Purpose of Accounting (The difference between book – keeping and accounting, The purpose of measuring business profit and loss, The role of accounting in providing information for monitoring progress and decision making) – The Accounting Equation (Assets, liabilities and owner's equity, the accounting equation).

ACCOUNTING PRINCIPLES AND POLICIES: Accounting Principles (Introduction, Prudence, Matching, Consistency, Going concern, Historic cost, Materiality, Business entity, Duality, Money measurement, Realization) – Accounting Policies (Accounting standards, IFRS, India and IFRS, IND - AS, Comparability, Relevance, Reliability, Understandability).

BASES OF ACCOUNTING: Cash basis of accounting (Meaning, Advantages and disadvantages) - Accrual basis of accounting (Meaning, Advantages and disadvantages).

SOURCES AND RECORDING OF DATA: The double entry system of book – keeping

(Double entry book – keeping, Journal entries with GST, Accounting of inventory, Accounting for expenses and income, Accounting for drawings, Making transfer to financial statements, Division of the ledger into the sales ledger, the purchase ledger and the nominal ledger) – Business Documents (Types of business document) – Books of Prime Entry (Introduction, The cash book, The petty cash book, Sales journal, Purchase journal, Sales returns journal, Purchase returns journal, The general journal).

UNIT - II

(LECTURE HRS: 12, PRACTICAL HRS: 12)

VERIFICATION OF ACCOUNTING RECORDS: The Trial Balance (Preparing a trial balance, Uses and limitation of the trial balance, Errors and the trial balance, Errors that do not affect the trial balance) – Correction of Errors (Introduction, Correcting errors that do not affect the trial balance, Correcting errors that do affect the trial balance, Adjusting profit and loss after the correction of errors, The effect of correction of errors on a statement of financial position) – Bank Reconciliation (The use and purpose of a bank statement, updating the cash book, Bank reconciliation statement) – Control Accounts (Introduction, Sales ledger control account, Purchases ledger control account, Contra entries, Credit and debit balances in the same, Control account, use of control accounts).

UNIT – III

(LECTURE HRS: 12, PRACTICAL HRS: 12)

ACCOUNTING PROCEDURES: Capital and Revenue Expenditure and Receipts (Capital expenditure and revenue expenditure, Capital receipts and revenue receipts, The effect of incorrect treatment of expenditure) – Accounting for Depreciation and Disposal of Non – Current Assets (What is depreciation? Methods of depreciation, Ledger accounts and journal entries for the provision of depreciation, Sales of non-current assets) – Other Payable and Other Receivables (The matching principle, Recording accrued and prepaid expenses, Recording, Recording accrued and prepaid incomes, Recording accrued and prepaid amounts for multiple periods) – Irrecoverable Debts and Provision for Doubtful Debts (Irrecoverable debts and recovery of debts written off, Provision for doubtful debts) – Valuation of Inventory (How inventory is valued, The effect of an incorrect valuation of inventory).

UNIT - IV

(LECTURE HRS: 12, PRACTICAL HRS: 12)

PREPARATION OF FINANCIAL STATEMENT: Sole Traders (Advantages and disadvantages of operating as a sole trader, Income statement, Statement of financial position) – Partnerships (Advantages and disadvantages of operating as a partnership, Partnership agreements, Features of partnership accounts, Capital and current accounts, Partnership loans, Statement of financial position).

UNIT - V

(LECTURE HRS: 12, PRACTICAL HRS: 12)

PREPARATION OF FINANCIAL STATEMENT: Limited Companies (Introduction, Types of limited company, Setting up a limited company, Advantages and disadvantages of

operating as a limited company, Capital structure of a limited company, Types of share, Debentures, Reserves, Income statement, Statement of change in equity, Statement of financial position) – Manufacturing Accounts (Introduction, Prime cost, Manufacturing accounts, Manufacturing account format).

TEXT BOOKS:

T1 - Basic Financial Accounting – First Edition 2019 - 2020 - Singhal Publication - Dr. Alok Kumar

T2 - Financial Accounting - Edition: 14 - S. Chand & Co - CA Bharat Tulsian and CA Dr. C. Tulsian (2014).

REFERENCE BOOKS:

R1 - Advanced Accountancy – Edition: 18 - Kalayani Publication - Narang and S.P. Jain (2014).

R2 - Accounting – David Horner and Leanna Oliver – Collings - I Edition – 2018

R3 - Financial Accounting – Edition 2016 - Margham Publication – T. S. Reddy & Dr. A. Murthy

Course Title: EMPLOYABILITY SKILLS (T)	Course Code: ES
Semester II	Course Group: PG
Teaching scheme in Hrs (L: T:P) : 2:0:0	Credits -
Map Code: - NIL	Total Contact Hours: 30
CIA: No assessment in this semester	SEE: -
Programme: All I PG Courses	#-Semester End Exam

No.	Course Outcomes (Cos): After completion of this course, the students will be able to	POs	Cl. Ses	CL
CO1	Enabling students to create an effective resume and develop the ability to write professional email.	PO3	6	AP
CO2	Augment language fluency and confidence in communication skill.	PO2	6	AP
CO3	Acquires satisfactory competency in verbal ability to clear initial interview process	PO2	6	AP
CO4	Produce appropriate vocabulary and correct word forms and use a variety of accurate sentence structures; produce accurate grammatical structures.	PO2	6	AP
CO5	Enhance the Verbal Skills in the application of grammar in Placement Tests and Competitive Exam.	PO2	6	AP

UNIT: I **(LECTURE HRS: 8)**

Profile Building - To build a holistic professional profile (Resume & LinkedIn).

UNIT: II **(LECTURE HRS: 8)**

Speak up - Advanced Just a Minute (Correction, evaluation and feedback) -Motivational Talk (Correction, evaluation and feedback). Writing Skills- Paragraph Writing (Sample and exercise) – Practice (Exercise)

UNIT: III **(LECTURE HRS: 8)**

Reading Skills - Reading Comprehension (Read the passage and answer the questions given) - Practice (Newspaper / novel reading in the classroom) and Multiple Group Discussion sessions.

UNIT: IV **(LECTURE HRS: 3)**

Verbal Ability I – Synonyms, Antonyms and Prepositions (Interview related).

UNIT: V **(LECTURE HRS: 3)**

Verbal Ability II - Interchanged Words (Structuring a sentence to a correct form). Logical Sequencing (Logical ordering of the sentence to form a meaningful paragraph).

TEXT BOOKS:

- Developing Reading Skills | Edition: 5 | Kavitha Offset Printers | Hyacinth Pink (2018)
- Developing Writing Skills | Edition: 5 | Kavitha Offset Printers | Hyacinth Pink (2018)
- Verbal Ability | Edition: 5 | Kavitha Offset Printers | Hyacinth Pink (2018)

SEMESTER – III

Course Title: DATA VISUALIZATION USING TABLEAU – II (T+P)	Course Code:
Semester III	Course Group: M-X
Teaching scheme in Hrs (L:T:P) : 4:0:4	Credits 6
Map Code: NIL	Total Contact Hours: 120
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No	Course Outcome	PSOs	Cl. Ses	CL
CO1	Apply the fundamental concepts for an effective data presentation	PSO1, PSO3	12L +12P	AP
CO2	Make interactive visualizations on a variety of forms for storytelling	PSO1, PSO3	12L +12P	AP
CO3	Draw and interpret a wide range of charts and graphs in Tableau.	PSO1, PSO3	12L +12P	AP
CO4	Make and customize visualizations as needed for publication.	PSO1, PSO3	12L +12P	AP
CO5	Apply stories based on insights from data and supported by visualizations	PSO1, PSO3	12L +12P	AP

UNIT - I

(LECTURE HRS: 12, PRACTICAL HRS:12)

Introduction - Brief Introduction (Introduction) -What is Data Visualization and why is it important? (What does Data Literacy mean?) - Visual Perception (Define data) - Brief History of Data Visualization (Learning requires time) - Design Principles – Preattentive Attributes and Thinking Systems (Community of practice).

Data and Data Prep - The Fundamental of Data Visualization - Reviewing the Halloween Exercise (Halloween data set, Halloween chart assignment samples) - Compare and Contrast (A Pie chart redesign, Pie Charts on a map) - Data Quality (The data quality challenge, the dangers of excel as a database).

Charts -Visualize 75 and 37(Visualizing two numbers) - Pie Charts - Chart Types (Bar chart, Box plot, bullet graph, choropleth Map, Diverging bar chart, Dot plot, Dot plot with jitter, Gantt chart, Heat map, Highlight table, Histogram, Line chart, Lollipop chart, Scatter plot, Slopegraph,Sparkline/Sparkbar, Stacked bar chart, Symbol map, Tree map, Waterfall chart, Bubble chart, Concentric circles, Donut chart, Pie chart, Word cloud).

Visual Perception and Design-The Use of Color in Data Visualization (sequential, diverging, categorical, highlight, alert, too much colors) - Color Vision Deficiency(the eye with normal color vision, color vision deficiency, How Color is Perceived by Someone with CVD, VisCheck,Protanope Simulation, VisCheck, Protanope Simulation, Traffic light color palette, alternate traffic light color palette, example in practice) - Exploratory vs. Explanatory

(Process of Discovery) - Dashboard Design (one definition of a dashboard, Dashboards as Directed Discovery, Dashboards - supporting attributes).

Visualization Design - Compare and Contrast Real - World Examples (Design issues, bar chart issues) - Typography and Data Visualization Design (what is typography?, why it is important, recent examples of typography).

Infographics - Infographics (What is an infographic?) - Interactive Visualizations - Design Examples.

UNIT - II

(LECTURE HRS: 12, PRACTICAL HRS:12)

Interactive Visualizations - Design Examples - Interactive Visualizations

Mapping Data - Mapping Data (Geospatial, Geocoding, Basic Geocoding for tableau, Adding mapbox for additional designs, Dual axis mapping).

Data Story - Owning Your Data Story (information glut, Storytelling, elements of storytelling) - **Final Data Visualization Project Presentations** - Presentation (ex. PowerPoint, Prezi, Tableau Storypoints) - Interactive Visualization (ex. Tableau) - (Interactive visualization).

Introduction to Data Visualization - Let's look at some data - Why Visualize - Passing Arguments To Functions By Value And By Reference (Pass By Value - Pass By Reference) - Basic Looping (Basic Looping And Looping On Array Exercise) - Color me impressed - Visualization Best Practices (Your brain on autopilot, Pie Chart - No, Best Practices, Type of data, Pre attentive visual attributes, How do humans like their data?, Mapping to insight, Dashboards. Dashboarding for the 5 second test, five questions to consider in a dashboard review, dashboard review example: Before, dashboard review example: after).

Connecting to Data - Poorly formatted data-Data Interpreter-Pivot-split-custom split.

Overview of the Tableau User Interface - Menus and tool bar-Data Window - Shelves and Cards – Legends - Add new Dashboards and stories.

Working with Discrete vs. Continuous Data - Paying Attention to Pill Color - Dimensions & Measures - Axis vs Label – Filtering - Color & Maps - Continuous vs. Discrete Dates.

UNIT - III

(LECTURE HRS: 12, PRACTICAL HRS:12)

Basic Charts - Bar Charts-Scatterplots - Line Graphs-Histograms - Heat Maps - Basic Charts, continued.

Creating Dashboards and Story Points - Creating a Basic Dashboard - Creating a Story.

Formatting - Dynamic Titles - Format Menu - Images, Blank Objects & Web Pages.

Calculated Fields - Simple Calculations in Tableau - Time between Dates - Introduction to Table Calculations - Data Validation - Nulls to Zeroes.

Using Maps to Visualize Spatial Data - Working with maps - Map options - Dual Axis maps - Using map services.

Advanced Chart - Adding a cumulative Distribution to a Histogram (Build a histogram with profit) - Control Charts - Market basket analysis - Pareto charts (Making the line portion of the pareto, Making the bar portion of the pareto, Visualizing the 80/20 rule) – Waterfall.

UNIT - IV

(LECTURE HRS: 12, PRACTICAL HRS:12)

Introduction to Tableau interface - Intro to interface, Importing, Dimensions and Measures, Chart types, Finding the story, Practice on your own.

Hands-on introduction to spreadsheets, connecting to data - Hands-on introduction to spreadsheets, connecting to data.

Review of importing data and data analysis - Review of connecting to data, Basic data analyses.

Aggregation and filtering data - Aggregation, Filters, Do we have enough to understand the story?

Introduction to dashboards - Introduction to dashboards.

Review of importing data – Importing.

Description of joins - Joining data.

More with calculations and filters - More with calculations and filters.

Intro to effective mapping - Intro to effective mapping.

Effective chart types - More on Effective Chart Types.

Introduction to effective mapping - Intro to effective mapping.

Designing dashboards - Designing dashboards.

Actions and formatting - Layout and design, Filter Actions, Formatting.

Publishing workbooks – Publishing.

Data types overview - Data type's overview.

Importing messy data - Importing messy data.

Connecting live to Google Sheets - Using live data from Google Sheets.

UNIT - V

(LECTURE HRS: 12, PRACTICAL HRS:12)

Importing data review - Importing data review.

Adjusting field types and aliases - Adjusting field types and aliases.

Overview of using aliases - Using aliases.

Advanced mapping - Exploring potentially unsafe bridges through advanced mapping.

Filters and highlighters - Filters, Introducing the highlighter.

Reshaping data in Tableau - Reshaping wide to tall.

Explore new chart types - Exploring new chart types, crosstabs, filed line charts, stacked bars, scatter plots.

Additional highlighter and formatting - More with highlighters.

Story Points - Building story points.

Mobile Device Designer - Mobile Device Designer.

REFERENCE BOOKS:

R1 - The Functional Art, Alberto Cairo, New Riders (2012).

R2 - The Truthful Art, Alberto Cairo, New Riders (2016).

R3 - How Charts Lie, Alberto Cairo, W.W. Norton & Company (2019).

R4 - The Wall Street Journal Guide to Information Graphics: The Dos and Don'ts of Presenting Data, Facts, and Figures, Dona M. Wong, W. W. Norton & Company (2010).

- R5 - Information Dashboard Design: Displaying Data for At-a-Glance Monitoring, Stephen Few, O'Reilly Media (2013).
- R6 - Show Me the Numbers: Designing Tables and Graphs to Enlighten, Stephen Few, Analytics Press (2004).
- R7 - Now You See It, Stephen Few, Analytics Press (2009).
- R8 - Storytelling with Data, Cole Nussbaumer, Wiley (2015).
- R9 - Visualize This: The Flowing Data Guide to Design, Visualization, and Statistics, Nathan Yau, Wiley (2011).
- R10 - The Visual Display of Quantitative Information, Edward Tufte, Graphics Press, 2nd Edition (2001).
- R11 - Tableau Your Data!: Fast and Easy Visual Analysis with Tableau Software, 2nd Edition (Dan Murray).
- R12 - Now You See It: Simple Visualization Techniques for Quantitative Analysis (Stephen Few).
- R13 - The Visual Display of Quantitative Information (Edward Tufte).
- R14 - Computer-Assisted Reporting, A Practical Guide, 4th Edition (Brant Houston).
- R15 - The Functional Art, (Alberto Cairo).
- R16 - Tableau Your Data!: Fast and Easy Visual Analysis with Tableau Software, 2nd Edition (Dan Murray).

Course Title: ELECTIVE-I- APPLIED FINANCIAL STATEMENT ANALYSIS (T+P)	Course Code:
Semester III	Course Group: EL-I
Teaching scheme in Hrs (L: T:P) : 4:0:4	Credits 6
Map Code: NIL	Total Contact Hours: 120
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No	Course Outcome	PSOs	Cl. Ses	CL
CO1	Assess the financial statements and their inter relationships	PSO4	12L+12P	E
CO2	Examine the financial data and key facts from the annual reports	PSO4	12L+12P	AN
CO3	Examine the financial ratio and their implications for a company's financial health	PSO4	12L+12P	AN
CO4	Analyse working capital requirements in various business scenarios	PSO4	12L+12P	AN
CO5	Assess the quality of financial reporting by examining the ethical consideration and regulatory requirements	PSO4	12L+12P	E

UNIT – I

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Financial Statements: The three financial statements (Balance Sheet, Income Statement, Cash Flow Statement) - Balance Sheet (Sources of Funds and Application of Funds, Kinds of Assets, Kinds of Liabilities) - Income Statement (The different views of profit, Income and Expense Booking) - Cash Flow (Cash Flow from Operating Activities, Cash Flow from Investing Activities, Cash Flow from Financing Activities) - Their need and linkages (Short exercise on Financial statement Linkages) - Individual elements of financial statements (Each line item of Income statement, Balance sheet and Cash flow statement).

UNIT – II

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Annual Report Analysis: Reading an annual report for a listed entity (Introduction to annual report, Glance through an annual report) - Parts of annual reports (Letter to Shareholders, Financial Highlights, Management Discussion and Analysis, Financial Statements – Standalone and Consolidated) - Financial Highlights (Operational highlights of at a glance) - Directors' Report (Board report about years' performance of the company) - Management Discussion and Analysis (The company and the industry segments it operates in, The outlook for the economy and industry, In some cases, companies give a SWOT Analysis for themselves, Performance of the company, and data surrounding that) - Standalone and Consolidated Financial Statements (Each line items of financial statements) -Notes to

Financial Statements (Analysis of each components in the financial statements) - Related Party Transactions (Understanding of Transfer of resources or obligation between a company and a related party).

UNIT – III

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Financial Ratios: Recap of Ratio Calculations (Concept and Usage of ratios)

Types of Ratios: Major types of ratios - Profitability Ratios (Operating and Net profit Margin) - Return Ratios (Return on Capital Employed, Return on Long Term Asset, and Return on Net worth) - Liquidity Ratios (Current ratio, Quick ratio) - Stability Ratios (Debt Equity Ratios) - Efficiency Ratios (Inventory Turnover, Receivables Turnover, Assets Turnover) - Other Ratios (Growth ratios). **Financial Ratios Interpretations:** Interpretation of trends in ratios (Analysis of a financial ratio by comparing it to the same ratio in previous years) - Analysis of Sectors using Ratios (Using Ratio Analysis to Compare Different Companies).

UNIT – IV

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Working Capital Analysis: Working Capital Calculation (Understanding of working capital)

- Impact of Working Capital on businesses (Impact of Working capital on Profitability, Assets level) - Negative vs Positive Working Capital (Advantages and Disadvantages)

Analyzing working Capital: Perspective of the banker and owner in analyzing working capital (Strategy: Low level of current asset, High level of current Asset) - Cash Conversion Cycle (Days Notation: Receivable days, payable days, inventory days). **Management of individual components:** Receivables (Receivable turnover ratio) - Inventory (Inventory Turnover ratio) - Cash and Payables (Payable Turnover ratio) - Cases in Working Capital Management (Problems).

UNIT – V

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Quality of Financial Reporting: Corporate Governance (Understanding corporate governance) - Importance of Good Financial Reporting (Accounting quality important) - Introduction to reporting standards (Accounting Standards and its important) - Inferior quality of financial reporting (Inaccurate, misleading, or incomplete information) - Impact on Stock Price (Impact of quality financial reporting in stock price). **Project:** Detailed Financial Statement Analysis of a company using the concepts discussed (Project).

TEXT BOOKS:

T1 - Charles H.Gibson (2009), Financial Reporting and Analysis, 11th Edition, South-Western Cengage Learning, USA.

T2 - John J. Wild and K. R. Subramanyam, Financial Statement Analysis, 10th Edition

REFERENCE BOOKS:

R1 - Michael A Broihahn, Wendy L Pirie, Elaine Henry, Thomas R Robinson, International Financial Statement Analysis.

R2 - Stephen H. Penman, Financial Statement Analysis and Security Valuation (English) 4th Edition

Course Title: ELECTIVE – I– CAPITAL MARKETS (T)	Course Code:
Semester III	Course Group: EL - I
Teaching scheme in Hrs (L: T:P) : 4:0:4	Credits 6
Map Code: NIL	Total Contact Hours: 120
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No	Course Outcome	PSOs	Cl. Ses	CL
CO1	Explain the types of financial markets and their regulators	PSO1	12L+12P	U
CO2	Analyse the role of investment banks, issuers and investors in the primary markets	PSO1	12L+12P	AN
CO3	Apply the mechanics of trading in stock market.	PSO1	12L+12P	AP
CO4	Analyse the roles and benefits of investing in money market.	PSO1	12L+12P	AN
CO5	Apply the knowledge of risk and return to select a suitable mutual fund based on an investor risk tolerance.	PSO1	12L+12P	AP

UNIT- I (LECTURE HRS: 12, PRACTICAL HRS: 12)

Financial Markets: Introduction (Financial system & economic development) - Role and function (Provision of liquidity, Mobilisation of savings, Size transformation function, Maturity transformation function, Risk transformation function) – Indian Financial system (Role of the financial system) – Structure of the system (Ministry of Finance, RBI, SEBI) - Financial Intermediaries (Capital market intermediaries, Money market intermediaries) – Financial Markets (Organised Market, Unorganised Market) - Financial Instruments (Primary securities, Secondary or indirect securities) – Features of Financial Instruments (Easily transferred, Ready market, Liquidity, Security Value, Tax Status, Risk, Facilitate future trading, Less handling costs, Return & Risk proportion, Maturity period)) – Financial Services (Classification of Financial Service Industry).

UNIT – II (LECTURE HRS: 12, PRACTICAL HRS: 12)

Primary market: Definitions and functions (Nature and definitions) – Intermediaries in primary market (Merchant bankers, BRLM, RTA, Underwriters to the issue, Bankers to the issue, Brokers to the issue, Depositories and Depository participants, Debenture Trustees, Portfolio Managers and Primary dealers) – Types of issues (Public issue, Private placement,

Preferential issue and Rights & Bonus issue) – Types of issuers (Governments, PSU, Private sector companies, Banks and non-banking institutions, Mutual funds and Investment trust) – Types of investors (Retail and Institutional investors) – Regulatory frame works for primary markets (Act and Regulators of primary markets) - Types of public issue (IPO and FPO) – Pricing a public issue of shares (Fixed price issue and Book built issue) – Prospectus (Red herring prospectus) – Applying to a public issue (Basis of allotment, green shoe option) – Listing of shares (Listing of shares) - Right issue of shares (Right issue of shares) - Regulatory requirements for a public issue of debt securities (Eligibility, Offer document, Shelf prospectus, Listing of securities, Credit ratings, Minimum subscription, Dematerialisation, Debenture trustees, Debenture redemption reserve, Creation of security and coupon rate) – Public issue process of debt securities (Important steps in the public issue of debt securities) – Private placements in equity and debt (Qualified institutions placement and electronic system for book building in debt securities).

UNIT – III (LECTURE HRS: 12, PRACTICAL HRS: 12)

Secondary market: Role and function of secondary markets (Liquidity, Price discovery, information signalling, Indicating economic activity and Market corporate control) - Types of secondary markets for different securities (Secondary markets for equities, debt securities and commodities) - Markets and structure participants (Stock exchange, Investors, Issuers, intermediaries, Clearing corporation, Depositories and depository participants, Custodians, regulator) - Brokers and client acquisition (Brokers and authorised persons, Client acquisition process, 3-in-1 account, Power attorney) - Trade execution (Trading system, Orders, Electronic trading and order execution, Block and bulk deals, Circuit breakers, Contract note, Cost of trading) - Clearing and settlement of trades (Delivery and squaring off, Determination of settlement obligation, Settlement cycle, Pay-in & pay-out, Margin and cross margin, Short delivery and payment, Corporate actions, Interoperability of clearing corporations) - Trading and settlement process from investor point of view (SLBM) - Market information and regulation (Market size and activity, Reading market price, Disclosures by listed companies).

UNIT – IV (LECTURE HRS: 12, PRACTICAL HRS: 12)

Money market: Meaning & definition (Market for short term loans) – Features (Short term needs, Maturity period, Easily converted, No formal place, No brokers, Not a single homogeneous market, Components of money market) – Characteristics (Highly organised banking systems, Presence of a central bank, Availability of proper credit instruments, Existence of sub markets, Ample resources, Existence of secondary market, Demand & supply of funds) – Importance of Money market (Development of trade and industry, Development of capital market, Smooth functioning of commercial banks, Effective central bank control, Formulation of suitable monetary policy, Non-inflationary source of finance to government) – Capital Market vs Money Market (Time, Need, Instruments, Amount, Institutions) - Call money market (Market for extremely short period, Transactions & Participants, Advantages & Drawbacks) – Commercial Bills market (Meaning & features, Types of Bills, Advantages & Drawbacks) – Treasury bill market (Meaning & features, Types of treasury bill) - Money Market Instruments (Various Instruments) – Commercial Papers (Meaning, Features, Advantages, RBI guidelines on Commercial paper issue) –

Certificate of Deposits (CD) (Meaning, Features, Advantages, RBI guidelines) – Inter Participation Certificate (Meaning, Advantage) – Repo Instruments (Meaning) - Structure of Indian Money Market (Organised & Unorganised Sector) – Regulators of Money Market (RBI).

UNIT – V (LECTURE HRS: 12, PRACTICAL HRS: 12)

Mutual funds: Meaning and descriptions (Basic features of mutual funds) - Terms and concepts related to mutual funds (Mutual fund, Mutual fund scheme, Pooling and proportionate representation, Units and unit capital, MTM, NAV, Pricing on transactions, Fund running expenses, Loads, Relative performance, Diversification, Pass through entity, Open ended closed ended & interval funds, Working of mutual funds) – Types of open-ended funds (Types of equity schemes, Types of debt schemes, Types of hybrid schemes, Solution oriented schemes, Other schemes) - Types of close ended funds (FMP, IDF, Real estate mutual funds) - Investment approaches - active and passive (Active investing, Passive investing) - Process for investing in mutual funds (Offline and online investment modes, PAN & KYC, FATC & CRS, Purchase transactions, Redemptions, Non - financial transactions, Proof of investment and transaction, Statement of accounts, Distributor commission, Transaction charges) - Systematic transactions - switches (SIP, SWP, STP) - Reading mutual fund information (Provide information periodically to investors) - Benefits and cost of investing in mutual funds (Diversification, Professional management, Liquidity, Flexibility, Tax efficiency, Accessibility, Cost and fees, Limited control, Indirect ownership) – Regulation of mutual funds (Features of mutual fund regulations).

TEXT BOOK:

T1 - Securities Market Foundation, Version: March 2022, National Institute of Securities Market.

T2 – Financial Markets and Services, E.Gordon & K.Natarajan, 11th Revised Edition, Himalaya Publishing House (2018)

REFERENCE BOOKS:

R1 – Financial Markets Institutions & Services, Vinod Kumar, Manmeet Kaur Bawa & Atul Gupta, 2nd Edition, TAXMANN Publications.

Course Title: ELECTIVE-II- MARKETING MANAGEMENT (T+P)	Course Code:
Semester III	Course Group: EL-II
Teaching scheme in Hrs (L: T:P) : 4:0:2	Credits 5
Map Code: NIL	Total Contact Hours: 90
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No	Course Outcome	PSOs	Cl. Ses	CL
CO1	Demonstrate the role of marketing with help of strategy and tactics.	PS02	10L + 5P	AP
CO2	Implement consumer insights in order to develop marketing goal	PS02	15L + 15P	AP
CO3	Categorize segmentation, Need based segmentation, Benefit based segmentation and segmentation dynamics.	PS02	10L + 5P	AN
CO4	Illustrate target customer, Picking a target in traditional prospective	PS02	10L + 5P	AP
CO5	Illustrate positioning your brand with the concept of frame reference and point of difference	PS02	10L + 5P	AP

UNIT – I

(LECTURE HRS: 10, PRACTICAL HRS: 5)

Understanding the Role of Marketing: What is Marketing? (Increasing the sales, strategy, tactics) - Brainstorming Marketing tactics (Methods to increase the sales of the company) - Why Starting with Tactics Always Fails? (Target customer, Key competitor, Market goals to achieve) - Brainstorming Marketing Messages (Message helps to communicate to the customers) - The Three Cs and STP, 4Ps (Who is your customer, competitor, company, what is segmentation, targeting and positioning? Market offering is made up of price, product, promotion and place) - Where Does Marketing Come In? (Definition of marketing, focus on tactics, deep understanding of the customer).

Customer Centricity: Considering Customer Centricity (Focusing customer) - Challenges to Customer Centricity (Start with the customer, competitor and company).

Quantitative Marketing Skill: Reading a Profit and Loss (P&L) Statement (What is marketing cost? What is other operating expenses?).

UNIT – II

(LECTURE HRS: 15, PRACTICAL HRS: 15)

Identifying Customer Insights: What Is an Insight? (Customer insight, empathy, mindset, insight skills) - Is Your Marketing Plan Based on Consumer Insight? (Define consumer insight, common understanding of consumer insight) - Consumer Empathy (Develop consumer empathy, customer satisfaction). **Quantitative Marketing Skill:** Consumer Index (“Why” and “who” is important, low indices and high indices) - Consumer Insight Mindset (Mindset and techniques, blind spots) - Ways to Build Your Insight Skills (Reverse engineer, friendly way) - Learning about Your Brand from Your Customers questions (Learn from feedback, improved communications, value relationship, gaining distribution).

Developing Marketing Goals: Elements of a Comprehensive Marketing Goal (Good marketers, Bad marketers, Characteristics of a marketer) - Understanding Strategic Goals (Mission driven goals) - Focus On Behavioral Goals (Steal share, grow volume, grow the whole market, grow the category) - Consumer Insights and Marketing Goals (Dangers associated with marketing goals). **Quantitative Marketing Skill:** Breakeven Analysis (Unit break even volume, Fixed cost, Variable cost, Revenue, Profit, Margin, Markup). **Goal Impediment Solution Approach:** Kellogg G-I-S (Goal-Impediment-Solution) Framework Overview (Clear goal setting with solutions).

UNIT – III

(LECTURE HRS: 10, PRACTICAL HRS: 5)

Segmenting Markets: Why Segment? (Grouping consumers, benefits to firm). **Quantitative Marketing Skill:** Correlation (Discovering different characteristics of consumer) - How Should Consumers Be Grouped? (Consumers live, are, gender, think, do) - Segment Identification (All about consumer needs) - It's All About Customer Needs (Understanding needs, map each segment profile) - Different Firms Can See The Market Differently (Do not create segments, uncover segments, schemes) - Compare Segmentation Across Different Product Categories (Different factors to segment) - Segments are Dynamic (Buy in the category or not, use the brand or not, grow and shrunk).

UNIT – IV

(LECTURE HRS: 10, PRACTICAL HRS: 5)

Selecting Target Customers: Why Target? (Way to select target customers) - Generalist Vs. Specialist market players (Mass player vs. specialty players). **Picking a Target:** Traditional Perspectives (Measurability, Action-ability, and Substant-ability). **Quantitative Marketing Skill:** Customer Lifetime Value (CLV, Customer Acquisition Cost, Customer Retention Rate) - Big Data Analytics (Volume, Variety, Velocity).

UNIT – V

(LECTURE HRS: 10, PRACTICAL HRS: 5)

Positioning Your Brand: Brand Positioning: Brand Positioning Statement (What is brand positioning? Concepts of frame of reference, point of difference) - Strong and Weak Positioning (Positioning strategy) - Choosing a Frame of Reference and Point of Difference (Competitive frame, The frame) - The Value Equation (The points of parity, Marketing mix decisions) - Evolving Positioning Over Time (Common challenges in brand positioning) - Success and Failure in Evolving a Positioning (Lesson learned, successful brands and not a successful brands).

TEXTBOOKS:

Framework for Marketing Management - by Philip Kotler

How Customers Think by Gerald Zaltman

Micro trends by Mark Penn & E Kinney Zalesne

Market Segmentation by Malcolm McDonald

Marketing ROI by James Lenskold

Marketing Metrics by Paul Farris

Positioning by Al Ries and Jack Trout

The Game-Changer by P&G Executive A. G. Lafley and business writer Ram Charan

Strategic Brand Management by Kevin Keller

The Strategy and Tactics of Pricing by Nagle, Hogan and Zale

Course Title: ELECTIVE – II – STRATEGIC MANAGEMENT	Course Code:
Semester III	Course Group: EL - II
Teaching scheme in Hrs (L: T:P) : 4:0:2	Credits 5
Map Code: NIL	Total Contact Hours: 90
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No	Course Outcome	PSOs	Cl. Ses	CL
CO1	Analyze the strategic management concept and classes of decisions and the strategic management process, benefits and its limitation.	PSO1	10L + 5P	AN
CO2	Analyze the mission and element of strategic management and social responsibility of business and corporate governance.	PSO1	15L + 15P	AN
CO3	Analyze the business environment and techniques for environmental analysis, the steps and approaches to strategy implementation.	PSO1	10L + 5P	AN
CO4	Apply the strategic evaluation and control.	PSO1	10L + 5P	AP
CO5	Analyze competitive analysis and strategies.	PSO1	10L + 5P	AN

UNIT I (LECTURE HRS: 10, PRACTICAL HRS: 5)

STRATEGIC MANAGEMENT: Meaning and Concept (Meaning and Concept) - Definition, Essence of strategy (Definition, Essence - Porter, Hamel, Prahalad Explanation) - Planning, enterprise strategy (Strategic Planning, Tactical Planning, Formal Planning and Informal Planning. Enterprise Strategy) - Policy, Classes of Decisions (Policy, Strategic Business Unit, Core Competence, Operating Decisions, Administrative, Strategic, Characteristics) - Levels of strategy (Corporate, SBU, Functional and Operating Characteristics) - Strategic management process (Strategy formulation - Mission, SWOT, Suitability, Feasibility, Acceptability. Implementation, Evaluation and Control) - Benefits, Limitations (Any Four Points in Benefits and limitations).

UNIT II (LECTURE HRS: 15, PRACTICAL HRS: 15)

MISSION: Meaning, Elements (Meaning, Definition, Elements: Articulated, Relevant, Current, Positive Tone, Unique, Enduring, Target Audience) - Mission and Strategy (Meaning, Comparison) – Objectives (Meaning and attributes) - Goals, Targets (Meaning and

attributes) - Importance of Objectives, Hierarchy of objectives (Importance, Guidelines and Factors Hierarchy) - Social responsibility of business (Meaning, Shareholders, Employees, Consumers and Community) - Corporate Governance (Meaning and Importance).

UNIT III (LECTURE HRS: 10, PRACTICAL HRS: 5)

BUSINESS ENVIRONMENT: Internal environment (Meaning, Value System, Mission and Objectives, Management Structure and Nature, Internal power relationship, Human Resources, Company Image) - External environment (Micro Environment and Macro Environment) - SWOT analysis (Meaning, Content) - Techniques for environmental analysis (Verbal and Written, Search and scanning, Spying, Forecasting) - TOWS Matrix (Meaning, Alternative Strategies) - Strategy implementation (Meaning and steps) - Steps (Formulation, Leadership implementation, Communicating the strategy, Annual objectives, Functional Strategy, Resource Allocation, Policies, Organisational Implementation, Evaluation and Control, Reward System) - Approaches (Commander, Organisational Change, Collaborative, Cultural and Crescive).

UNIT IV (LECTURE HOURS: 10, PRACTICAL HRS:5)

STRATEGY EVALUATION AND CONTROL: Strategic control (Meaning, Precise, Implementation, Strategic surveillance, Special alert control) - Operational control (Establishing Criteria, Measuring and comparing performance, Performance Gap analysis, Taking corrective measures) - Types (Budgeting, Scheduling, Key success Factors) - Essential features (Objective, Economic, Objectivity, Pervasiveness, Simplicity, Communication, Congruence, Operational) - Preventive control (Meaning and Content) - Contingency planning (Meaning, Steps) - BCG Matrix (Meaning, Attributes) - GE multi factor portfolio matrix (Meaning, Attributes).

UNIT V (LECTURE HOURS: 10, PRACTICAL HRS: 5)

COMPETITIVE ANALYSIS AND STRATEGIES: Structural analysis of industries (Threat of entry, Rivalry among existing competitor's threat of substitutes, Bargaining power of buyer and seller) - Competitor analysis (Future goals, Current strategy, Assumptions and Capabilities) - Corporate level generic strategies (Overall cost leadership, Focus, Differentiation) - Routes to strategic advantages (Strategy based on KFS, Strategy based on relative superiority, Aggressive initiative) - Business growth (Natural urge, Survival, Market share, Leadership).

TEXT BOOK:

1. Business Policy and Strategic Management (Text and Cases) Edition: 2010 Himalaya publishing House, Francis Cherunilam (2011).
2. Strategic Management: Theory & Cases: An Integrated Approach, 13E Cengage Learning India Pvt Ltd, Charles W.L.Hill, Mellisa A. Schilling, Gareth R.Jones (2023).

REFERENCE BOOK:

1. Business Policy and Strategic Management Edition: 2007 Himalaya publishing House. M. Jeyarathnam (2011).

Course Title: ELECTIVE – III - GOODS AND SERVICE TAX (T)	Course Code:
Semester III	Course Group: EL-III
Teaching scheme in Hrs (L: T:P) : 4:0:0	Credits: 4
Map Code: NIL	Total Contact Hours: 60
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No	Course Outcome	PSOs	Cl. Ses	CL
CO1	Analyse the concept of GST its features	PSO4	12 L	AN
CO2	Categorize the nature of supply under GST, Time and value of supply.	PSO4	14L	AN
CO3	Illustrate the charge of GST and types of rates under GST	PSO4	12L	AP
CO4	Examine the exempted goods and services under GST act.	PSO4	12L	AN
CO6	Illustrate the eligibility criteria for input tax credit under GST	PSO4	10L	AP

UNIT – I

(LECTURE HRS: 12)

GST in India - An Introduction: Background (Stimulate economy, Socio economic objectives) - Direct and Indirect Taxes (Meaning of direct tax and indirect tax) - Features of indirect taxes (Important source of revenue, Tax on commodity and services, Shifting of burden, No perception of direct pinch, inflationary. Wider tax base, Promote social welfare, Regressive in nature) - Genesis of GST in India (Amendments, CGST bill, IGST bill, UTGST bill) - Concept of GST (Value added tax, Continuous chain of tax credits, Burden borne by final consumer, No cascading of taxes) - Need for GST in India (Double taxation, CENVAT, VAT, CST) - Framework of GST as introduced in India (Dual GST, CSGT/SGST/UTGST/IGST, Legislative framework, Classification of goods and services, Composition scheme, Registration, Exemptions, Seamless flow of credit, GST common portal, GSPS/ASPS, Compensation Cess, GST a tax on goods and services) - Benefits of GST (Benefits to economy, Simplified tax structure, Easy tax compliance, Advantage for trade and industry) - Constitutional provisions (Three tier federal structure, List I, II, III).

UNIT – II

(LECTURE HRS: 14)

Supply Under GST: Introduction (Foundation stone, Indirect tax regime, GST laws) – Relevant Definitions (Goods, Principal, Competent Authority, Family, Business, Government, Local Authority, Consideration, Actionable Claim, Manufacture, Money,

Taxable Supply, Table Territory, Services, Supplier, Recipient, Person) – Concept of supply (Section 7, Section 8, Schedule 1,2,3) – Composite and Mixed supply (Section 8, Section 8(A), Section 8(B))

Time of Supply: Introduction (Point in time when the liability to pay tax arises) - Relevant Definitions (Associated Enterprises, Documents, Goods, Reverse charge, Voucher) – Time of Supply of goods (Section 12) – Time of Supply of Services (Section 13).

Value of Supply: Introduction (Determination of value of supply of CGST rules) - Relevant Definitions (Agent, Cess, Market Value) - Value of Supply (Section 15).

UNIT – III **(LECTURE HRS: 12)**

Charge of GST: Introduction (Inter-state supply, Intra-state supply) – Relevant Definitions (Central tax, Integrated tax, State tax, Exempt supply, Aggregate turnover) - Extent and Commencement of GST Law (CGST ACT/ SGST ACT/ UTGST ACT/IGST ACT and its types of rates) – Levy and Collection of tax under GST (Section 9 of the CGST Act and Section 5 of the IGST Act).

UNIT – IV **(LECTURE HRS: 12)**

Exemptions from GST - Introduction (Nil rate of tax, Non-taxable supply) – Power to grant exemption from Tax (Section 11) – Goods exempt from Tax (items exempted from GST) – List of services exempt from Tax (services related to charitable and religious activities, Conduct of any religious ceremony, Agriculture related services, Educational services, Services provided by government, Construction services (PMAY), Passenger transportation services, Banking & Financial services (PMJDY), Services provided by specific bodies (ESI, PF) etc..

UNIT – V **(LECTURE HRS: 10)**

Input Tax Credit: Eligibility and conditions for taking input tax credit (Eligibility and conditions) – Reverse charge under GST (Reverse charge of mechanism).

Registration procedure under GST: Filing of Returns. (E- Filing of returns).

TEXTBOOK:

T1 - Indirect Taxes: V.S. Datey, Taxmann Publications (P) Ltd, New Delhi

REFERENCE BOOK:

R1 - Indirect Taxation: V. Balachandran, Sultan Chand and Co, New Delhi.

Course Title: EMPLOYABILITY SKILLS (T)	Course Code:
Semester III	Course Group: PG
Teaching scheme in Hrs (L: T:P) : 2:0:0	Credits: 2
Map Code: NIL	Total Contact Hours: 30
CIA: 50 MARKS	SEE: -
Programme: All I PG Courses	#-Semester End Exam

Course Outcomes (COs)

No	Course (COs): After completion of this course, the students will be able to	POs	Cl. Ses	CL
CO1	Behave well and maintain proper body language during interviews.	PO7	6	AP
CO2	Introduce themselves during personal interviews and perform decently during telephonic interviews and Group Discussion	PO2	6	AP
CO3	Perform better in the verbal aptitude in the areas of sentence correction and analogy.	PO2	6	U
CO4	Develop imaginative writing on impromptu topics for placement selection process and also exhibit speaking skills confidently.	PO2	6	R
CO5	Answer commonly asked HR questions.	PO2	6	AP

UNIT I

(LECTURE HRS: 6)

Grooming Etiquettes – Understanding the importance of grooming and etiquettes in work place, How to groom for a job interview, developing outer and inner personality, learning professional etiquettes.

Body Language – Importance of body language in communication and in job interview, how to develop a positive body language, dos and don'ts of body language during GD and Job Interview, practicing constructive body language.

UNIT II

(LECTURE HRS: 6)

Self-Introduction – Introduction to Self-Introduction and its importance in a Job Interview, Working with Self-Introduction Format, Creating an impressive Self-Introduction and sharing it in class, Practicing to introduce oneself using Self-Introduction script.

Group Discussion (GD) – Why Group Discussion is conducted? Understanding the GD format, getting over the fear of GD, preparing for GD – What to say and how to say, do's and don'ts of GD, practicing to win the GD round.

UNIT III

(LECTURE HRS: 6)

Verbal Ability - Sentence Correction - Finding the error in a given sentence and understanding the reason behind the error.

Verbal Analogy - Choosing the option which has the same relationship as asked in the question.

Practice – Solving sample verbal aptitude question from interview test papers.

UNIT IV

(LECTURE HRS: 6)

Impromptu Topic Writing – Giving an Impromptu topic to write and instigating to write different perspectives on the topic.

Speak-up – Learning to speak impromptu using the technique of **JAM** (Just A Minute), objective and rules of JAM, key elements of success in JAM.

UNIT V

(LECTURE HRS: 6)

HR Interview Process – Understanding the Interview Process, Getting ready for the HR round (Grooming and mannerism), FAQs in Job Interview, How to answer the questions asked in a Job Interview, Impressing the interviewer with your performance.

Telephonic Interview – Importance of telephonic interview, preparing to give a telephonic interview, do's and don'ts of telephonic interview, practice

Text Book

- Verbal Ability | Edition: 4 | Kavitha Offset Printers | RVS Training Academy (2018)

Reference Books

- Interview Guide | RVS Training & Placement Division (2019)
- Personality Development & Soft Skills | Edition: 2 | Oxford University Press | Barun K Mitra (2016).
- Robert M Sherfield, Rhonda J.Montgomery, Patricia G.Moody, Cornerstone Developing Soft Skills, fourth Edition, Pearson Education, 2010.

Assessment Pattern:

Oral presentation, Mock Interview, Model Exam

SEMESTER - IV

Course Title: DATA VISUALIZATION USING TABLEAU – III (T+P)	Course Code:
Semester IV	Course Group: M-XI
Teaching scheme in Hrs (L: T:P) : 4:0:4	Credits: 6
Map Code: NIL	Total Contact Hours: 120
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No.	Course Outcome	PSOs	Cl. Ses	CL
CO1	Use tableau prep for data preparation and tableau desktop for data connection.	PSO1, PSO3	12L +12P	AP
CO2	Use various charts and calculations for Visualization.	PSO1, PSO3	12L +12P	AP
CO3	Draw a chart that includes Forecasting, Trend Lines, Reference Lines, Clustering, and Parameterized concepts.	PSO1, PSO3	12L +12P	AP
CO4	Use geographic visualization and advanced charts using Tableau	PSO1, PSO3	12L +12P	AP
CO5	Implement Dashboards and Stories using Tableau and publish them in Tableau Online	PSO1, PSO3	12L +12P	AP

UNIT - I

(LECTURE HRS: 12, PRACTICAL HRS:12)

Data Preparation using Tableau Prep - Data Visualization (Why data visualization?, Data visualization - Anscombe's Quartet, Power of data visualization, What is Data visualization?, How to achieve data visualization?) - Business Intelligence Tools (Why Business Intelligence (BI)?, Popular Business Intelligence (BI) Tools, BI Tools: Tableau Vs Power BI Vs Qlik Sense, Popularity: Tableau Vs Power BI Vs Qlik sense, Job trends : Tableau Vs Power BI Vs Qlik Sense) - Introduction to Tableau (Why Tableau?, What is Tableau?, Tableau Products)- Tableau architecture (Tableau architecture, Tableau server architecture, Tableau server components, ViZQL, Gateway/Load Balancer) - Data Preparation Using Tableau Prep (Why Tableau Prep?, Tableau Prep Products)- Tableau Prep Builder user Interface (Home Screen, Tableau Prep Builder Interface) - Establishing Connection (Home Screen, Connection to Data) - Data Preparation Steps in Tableau Prep Builder (Steps in Data Preparation, Input step, Filtering an Input, Cleaning Step, Aggregate step, Union Step, Join Step, Types of Join, Pivot

Step, Output Step) - Build a Simple Data flow (Build a data flow, the input step, the cleaning step, Connecting to another data source, the union step, the output step).

Data Connection with Tableau Desktop - Feature of Tableau Desktop (Feature of tableau desktop) - Data Connection (Connect to data from file, server or database, connect to a file, connect to a Database or server) - Joins and Unions (Joins and Unions, Inner Join Example, Left Join Example, Right Join Example, Full outer Join Example, Union Example, Cross Join Example, Perform Join, Join options available, cross join) - Types of Connection (Types of connections, what is Live Connection?, Live Connection: Real time Update, extract Connection, when to use? – Live / Extract Connection?) Demo - Demo I: Joins - Data Blending (Data Blending, Joins Vs Blending, when to use Data Blending?) Demo (Demo II : Data Blending) - Tableau Desktop UI (Tableau UI – Home screen, Tableau UI – Sheet, Tableau UI – Show me, Tableau UI – Fit Axes, Tableau Data types) - Demo III : Create a workbook and publish it on tableau server/ online- Demo IV: Save a workbook in different formats

UNIT - II

(LECTURE HRS: 12, PRACTICAL HRS:12)

Basic Visual Analytics - Visual Analytics (Why Visual analytics?, Scope of Visual analytics) - Types of Bar Charts (Bar Chart, Stacked Bar chart, Side by Side bar chart) - Types of Line Charts (Line chart, Labeled Line chart, Discrete Line chart, Continuous Line chart, Area Chart) - Pie Charts (Pie chart using show me tool, Pie chart through mark card) – Hierarchies (Create a Hierarchy, Hierarchies, Built in Hierarchies) - Data Granularity (Data Granularity, Data Granularity using Mark card) - Highlighting (Highlighting feature in tableau) - Sorting (Quick Sort, Sort using toolbar, Sort using Pill, Sort using mark card, sort by headers, sort by legends) - Grouping (Group by header, Group by data window, visual grouping, Group hierarchies) - Filtering (Applying filters to views, Filtering by headers, filtering by legends, Filtering by general tab, filtering by wildcard tab, filtering by condition tab, filtering by top tab, Filter actions, Add a filter action) - Sets (Sets, creating a fixed set, creating a dynamic set by general tab, Creating a dynamic set by top tab) - Demo (Demo I: Implement Filters, Demo II: Demonstrate Sets).

Calculations in Tableau - Introduction to calculations (Why calculations?, what are calculations?, Types of calculations, ways to create a calculated field, interface for creating a calculated field, Creating a calculated field) - Built in function in Tableau (Number functions, create a number calculation, String functions, create a string Calculation, Date functions, create a date calculation, Logical functions, create a Logical Calculation, Aggregate functions, Create an aggregate calculation) - Operators and syntax conventions (Arithmetic operators, logical operators, syntax conventions) - Introduction to table calculations (What is a table calculation? Quick table calculation) - Level of Detail Calculations (Level of Detail (LOD) Calculations, Level of detail types, Fixed LOD Expression, Fixed LOD Expression, Include LOD Expression, Exclude LOD Expression) - Introduction to R (What is R? Integrating Tableau with R) - Installation Guide: R (Installing Rserve, establishing

connection with R in Tableau, Built in R Functions in Tableau, Calculation using SCRIPT_BOOL function, Calculation using SCRIPT_INT function).

UNIT - III

(LECTURE HRS: 12, PRACTICAL HRS:12)

Advanced Visual analytics - Parameters (What are parameters in Tableau? creating parameter, User input analysis Example, what if analysis) - Tooltip - Trend Lines (Trend Lines, Describe Trend Line, Describe Trend Line : P- value, Describe Trend Line : R-Squared, Edit trend Lines, Trend Lines – Benefit of Colors) - Reference Lines, Bands and Distributions (Reference Lines, Bands and Distributions, Reference Lines, Reference Lines - Scope for the Line, Reference Lines- Aggregating options, Reference Lines - Labels, Reference Lines - Example I, Reference Line Example-II, reference band, Reference Distribution) - Forecasting (Forecasting, Forecast Example, Forecasting Length, Forecasting Source data, Forecast Model, Forecasting Model-Trend: None, Forecasting Model- Trend: Additive, Forecasting Model – Trend: Multiplicative, Forecasting – Summary box) – Clustering (Clustering, Clustering Example (sales-profit analysis) - Demo (Demo I: Parameter, Demo II: Trend Lines, Demo III: Forecast, Demo IV: Cluster).

Level of Detail (LOD) Expression in Tableau - LOD Use case (Use Case I – Count Customer by order, use case II – Profit per Business day, use case III - Comparative Sales in different regions, use case IV- Profit Vs Target, Use Case V- Find the second order Date, Use Case VI- Cohort Analysis).

UNIT - IV

(LECTURE HRS: 12, PRACTICAL HRS:12)

Geographic Visualization in Tableau - Introduction to Geographic Visualizations (Why Geographic Visualizations?, Introduction to maps, assign geographic roles to fields, Maps using marks card) - Manually assigning Geographic locations (Ambiguous Geographic locations, Editing Geographic locations, Editing unrecognized locations) - Spatial Files (Connect to a spatial file, interpretation of spatial Data, Create Maps from a Spatial File, Map views from a Spatial file, Aggregate and Disaggregate map views, Working with Additional Data, Map views for analysis, Joining Spatial Files) - Types of Maps (Types of Maps, create a Filled map, create a Symbol Map, Create a Density Map) - Custom Geocoding (Steps for custom Geocoding, Step 1: Create a CSV file, Step 2 (Optional): Create a Schema.ini File, Step 3: Import CSV File into Tableau Desktop, Step 4: Assign Geographic Roles to Fields) - Polygon Maps (What is Polygon Mapping? Ad-hoc Custom territories, Custom polygon map, Building a polygon map) - Mapbox Integration - Web map service (WMS) (Introduction to Web map Service (WMS), Connect to a WMS Server, use a WMS Background Map, Save a WMS server as a Tableau map Source (TMS), Import a TMS file, Use a WMS background map) - Background Images (Adding a Background Image, editing a Background Image, Generating the View, Generating Coordinates).

Advanced Charts in Tableau - Box and Whisker's Plot (Why Box and Whisker's Plot?, Box and Whiskers example) - Bullet Chart (Bullet Chart, What is Bar in Bar chart?, Bar in Bar chart Example) - Gantt Chart (Gantt Chart, Gantt Chart Example) - Waterfall Chart (Waterfall Chart, Waterfall Chart Example) - Pareto Chart (Pareto Chart, Pareto Chart Example) - Control Chart (Control Chart, Control Chart Example) - Funnel Chart (Funnel Chart, Funnel Chart Example) - Bump Chart (Bump Chart, Bump Chart Example) - Step and

Jump Lines (Step Lines, Jump Lines, Linear Lines) - World Cloud- Donut Chart (Donut Chart, Donut Chart Example) – Demo (Demos on Advanced Charts).

UNIT - V

(LECTURE HRS: 12, PRACTICAL HRS:12)

Dashboards and Stories - Introduction to Dashboards (Why Dashboards? Dashboard Approaches) - The Dashboard Interface - Dashboard Objects (Dashboard Objects, manipulating objects on the Dashboard, Options for Manipulating Objects) - Adding Objects to the Dashboard (Adding a Web Page Object, Adding an Image Object, Adding a text Object) - Dashboard Layouts and Formatting (Dashboard Layout – Containers, Dashboard Layout – Tiled, Dashboard Layout – Floating, Dashboard Layout – Positioning and sizing, Dashboard Layout – Filtering, Dashboard Formatting) - Interactive Dashboards using Actions (Types of Actions, add a Filter Action, Adding a URL action) - Designing Dashboard for devices (Designing a Dashboard for tablets, Designing a Dashboard for Mobile Phones) - Story Points (Story Points, Create a Story Point) - Demo (Demo I: Build a Dashboard).

Get Industry Ready - Tips and Tricks - Bonus Tip – Time Slider - Right Chart Type - Format Style - Data visualization best practices - Demo (Demos on Tableau tips and tricks).

Exploring Tableau online - Introduction to Tableau Online (What is tableau online? Features of Tableau Online, create an account on Tableau Online) - Administer a site on Tableau online (Site Administrator responsibilities, adding user to the site, Assigning Site roles to the users, Create a Group on the site) - Publishing a workbook to Tableau online - Interacting with content on Tableau online - Data Management Through Tableau Catalog (Why tableau catalog?) – AI - Powered Features in Tableau online (Ask Data Feature in Tableau online, Explain Data feature in Tableau online) - Understand Scheduling (Understand Scheduling, how to create a refresh schedule?) - Managing Permission on Tableau Online (What are Licences in Tableau online? What are site roles, what are permissions on Tableau online? Permissions, Set Permissions, how to set Permissions, List of permissions, grouped by the elements) - Data Security using Filters (Data Security using Filters, user-based filter, Row level filter, Row level filter Example) - Demo (Demos on Tableau online).

REFERENCE BOOKS:

1. “Business Intelligence Master’s Program”, “Online Certification”, <https://learning.edureka.co/mycourses>
2. “Tableau Questions & Answers guide to Tableau Concepts & FAQs”, Chandraish Sinha, 2016
3. “Kimball Dimensional Modeling Techniques” ,Ralph Kimball, Margy Ross 2013, Kimball University
4. Decision support and Business Intelligence Systems Edition: 1 Pearson. Efraim Turban, Ramesh Sharda and Dursun Delen (2014)
5. “Tableau 10.0 Best Practices”, Packt Publishing, Jenny Zhang (2016)
6. “Mastering Tableau”, Packt Publishing, David Baldwin Nore (2016)

Course Title: DATA VISUALIZATION USING POWER BI (T+P)	Course Code:
Semester IV	Course Group: M-XII
Teaching scheme in Hrs (L: T:P) : 4:0:4	Credits: 6
Map Code: NIL	Total Contact Hours: 120
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No.	Course Outcome	PSOs	Cl. Ses	CL
CO1	Apply the different features of the PowerBI Desktop and power query in retail business.	PSO1, PSO3	12L +12P	AP
CO2	Apply Data analysis expression (DAX) in Relational table using PowerBI	PSO1, PSO3	12L +12P	AP
CO3	Use PowerBI Q&A that enables users to discover, explore and visualize their own enterprise data	PSO1, PSO3	12L +12P	AP
CO4	Make Power BI reports and Dashboard using Power BI custom visualization and publish on mobile	PSO1, PSO3	12L +12P	AP
CO5	Implement Reports and Dashboards and publish them in the PowerBI report server	PSO1, PSO3	12L +12P	AP

UNIT - I

(LECTURE HRS: 12, PRACTICAL HRS:12)

Introduction to Power BI: Managing huge data-self-service Business Intelligence (SSIB) – self-service business intelligence tools – why power BI? - Power BI certification training - What is powerBI – the power of powerBI - Three P's of Power BI – flow -Power BI excel users – what does power BI have the excel does not?-process in Power BI - architecture of Power BI - Building blocks of Power BI - Building blocks of power BI : Data set - Building blocks of power BI : visualization - Building blocks of power BI : Reports - Building blocks of power BI : Dashboards – Power BI primary tools – Power Query – Power pivot -Power view – Power map – Power Q & A – Power BI desktop – other parts for Power BI – key benefits of Power BI.

Power BI Desktop: PowerBI Desktop - How to get PowerBI Desktop? – Installing PowerBI Desktop – Minimum requirements to run PowerBI Desktop - **Data sources & connection in Power BI Desktop:** Data sources in PowerBI Desktop – Data Connections – connecting to a Data source - **Connect to Data in Power BI Desktop:** Connect – Explore – Report – share

and Collaborate - **Query editor in Power BI:** Clean and Transform with the query editor - **Advanced Data changes and transformation:** Advanced Data changes and transformation - Cleaning irregularly formatted data (Transpose Data) – Cleaning irregularly formatted data (Create visuals) - **Views in PowerBI Desktop:** Views in PowerBI Desktop – Report view in PowerBI Desktop – Data view in Power BI Desktop – Relationship view in PowerBI Desktop -**Modeling Data:** Introduction to Modeling Data – How to manage Data Relationships – Create calculated columns – Optimize data models for better visuals.

UNIT - II

(LECTURE HRS: 12, PRACTICAL HRS:12)

Data Analysis Expressions (DAX): What is Data analysis Expressions (DAX)? – Why is DAX important? – Data types in DAX – Date time Data type in DAX – some Facts-DAX Calculation Types - steps to create calculated columns – Elements for a calculated column - How to create a new Column ?- step 1- How to create a new column step2 - How to create a new column step3 - Using variables in DAX Expressions – DAX functions – Aggregation functions - counting functions – logical functions -information functions – text functions – Date functions – measures in Dax – How to create a measure ? step 1- How to create a measure ? step 2 - How to create a measure ? step 3 - How to create a measure ? Result – Measure - another case - How to add new measure to a report? step 2.

Time Intelligence Function: Time intelligence functions - Time intelligence functions – types - **Filter Functions:** Filter Functions - **Table Relationship and DAX:** Table relationship and Dax – what are DAX relational functional? – Related and related table functions.

UNIT - III

(LECTURE HRS: 12, PRACTICAL HRS:12)

Data visualization: Getting started: Data visualization – What is data visualization? – Why data visualization? – Benefits of Data visualization - **Visualization in Power BI:** Getting Started: How to use a visual in PowerBI ? – Getting Started : create visualization in powerBI - Reports in powerBI – Getting Started : Customize visuals in PowerBI – visualization in PowerBI - Basic Area Chart – Combination Charts – Scatter Charts – Waterfall and Funnel charts – Slicers – Map visualizations – Map visualizations : Bubble maps - Map visualizations: Shape Maps – Tables – Matrixes – Gauges and single number cards - Modifying Colours in charts and visuals – Text Boxes – Shapes – Images – Page layout and Formatting - **R visuals in Power BI :** R visuals in PowerBI.

Introduction to PowerBI Q& A and Data Insights: Dashboard - What is a Dashboard? – Hierarchy to create a Dashboard – Dashboard vs Reports - **How to create a Dashboard:** How to create a Dashboard? step 1 - How to create a Dashboard? step 2 - How to create a Dashboard? step 3 - How to create a Dashboard ? step 4 - Dashboard – viewed – Create copy of a Dashboard - steps - **Dashboard Tiles in PowerBI:** What are Dashboard tiles? - **Ways to Pin (Add) a tile to a Dashboard:** Pinning tiles from a report - Pin a title to another Dashboard - step 1 - Pin a title to another Dashboard - step 2 - Pin a title to another Dashboard - step 3 - Pin a title to another Dashboard - step 4 and 5 - What is Q& A ? What is Q&A do? - Q&A helps you phrase the question - Power BI Q&A - steps to use - Quick

insights with Power BI - Run Quick insights on a dataset - Step 1 - Run Quick Insights on a Dataset - Steps 2 and 3 - Run Quick Insights on a Dataset - Steps 4 - Interact with the Quick insight cards - How Quick insights work? - Category outliners (top / bottom) - Change Points in a time series - overall trends in time series - Seasonality in time series - Time series outliers – Correlation - Low variance - Majority - steady share.

PowerBI publisher for Excel: PowerBI publisher for Excel - Download and install - Pin a range to a Dashboard - Pin a range to a Dashboard - steps - Demo - Pin a range to a Dashboard - Pin a chart to a dashboard - Manage Pinned elements - Connect to Power BI data in Excel - Connect to Power BI in Excel.

UNIT - IV

(LECTURE HRS: 12, PRACTICAL HRS:12)

Custom Visualizations: Custom visuals in PowerBI - What is office store? How to download custom visualization : Download custom visuals - step 1 (method 1) - Download custom visuals - step 1 (method 2) - Download custom visuals - step 2 - Download custom visuals -step 3 - Download custom visuals - step 4 - **Import custom visualization in power bi report:** import custom visualization to a report - import custom visualization to a report - steps - import custom visualization to a report-result - publish custom visuals to office store - items required to submit custom visual - submitting to power bi – tasks to do - submitting to the office store - tasks to do - KPI visuals – When to use KPI? - Data binding in powerbi.

Power BI Embedded: What is PowerBI embedded? - Licensing for Microsoft PowerBI embedded - key advantages of PowerBI embedded - Prerequisites for embedding a report - Microsoft powerbi embedded - conceptual model - workspace collection - workspace collection - properties - using workspace collection and workspaces - adding powerBI content to a workspace Application authentication tokens: embedding powerBI in your application - App tokens - types - Power BI rest API : Rest APIs - Dataset operations - Data source operations - Import, Report, and workspace operations - Flow for creation of PowerBI App using RESTful API.

UNIT - V

(LECTURE HRS: 12, PRACTICAL HRS:12)

PowerBI embedding without an embed token: Embedding without an Embed token - PowerBI Embedding with an Embed Token - PowerBI embedding with embed token - App token - claims - sample app token - scope of app tokens - decoded token with scope - example - operation and scope - PowerBI Embedded with Embed token - flow of tasks - Authenticate and authorize row level security with embedded powerBI - Row level security - row level security - three pillars - app token complete - Flow of tasks for RLS - Power BI Integration and Administration: Collaborating and publishing your work - Publish reports from desktop to service - using content packs to share your work - creating content packs - creating content pack - dialog box - create content pack - selecting the artifacts - creating a group in powerbi - create a group dialog box - What are apps in powerbi? - Licenses for apps - install an app - Get a direct link - Get the app from Microsoft AppSource.

Create and distribute an app: What is app workspace? Create an app workspace in powerBI sevice - create an app workspace - properties - adding content to the workspace - Distributing an app - Distributing an app - Details - Distributing an app - content - Share and Published app - PowerBI Gateways: What is a Gateway? - PowerBI - Gateway offerings -

How the Gateway works - putting a Gateway to work - install the Gateway - install the Gateway - second step - Choosing the type of Gateway to install - install the Gateway - Install the Gateway - identify the account - Install the Gateway - Signing in to your account - Install the Gateway - Creating recovery key - Gateway is Ready - **PowerBI Report server:** Microsoft PowerBI Report Server - PowerBI web portal - Power BI admin portal - Report server: Features - Report server : Considerations and Limitations - How to save your report to the Report server - How do you purchase PowerBI Report Server - More on PowerBI report server.

REFERENCE BOOKS:

1. “Business Intelligence Master’s Program”, “Online Certification”,
<https://learning.edureka.co/mycourses>
2. “Tableau Questions & Answers guide to Tableau Concepts & FAQs”, Chandraish Sinha, 2016
3. “Kimball Dimensional Modeling Techniques” ,Ralph Kimball, Margy Ross 2013, Kimball University
4. Decision support and Business Intelligence Systems Edition: 1 Pearson. Efraim Turban, Ramesh Sharda and Dursun Delen (2014)
5. “Tableau 10.0 Best Practices” , Packt Publishing, Jenny Zhang (2016)
6. “Mastering Tableau”, Packt Publishing, David Baldwin Nore (2016)

Course Title: FINANCIAL MANAGEMENT (T+P)	Course Code:
Semester IV	Course Group: M-XIII
Teaching scheme in Hrs (L: T:P) : 4:0:4	Credits 6
Map Code: NIL	Total Contact Hours: 120
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

No	Course Outcome	PSOs	CL Ses	CL
CO1	Understand the fundamental concepts of Finance and apply principles of Time Value of Money in business concepts.	PSO1	12L+12P	AP
CO2	Compute relevant cash flows for capital budgeting projects and apply various methods to analyze projects.	PSO1	17L+17P	AP
CO3	Assess the value of Fixed Income Securities and Common stocks.	PSO1	12L+12P	E
CO4	Analyse the risk and return trade off in Portfolio Investments.	PSO1	12L+12P	AN
CO5	Understand working capital and apply its method of financing in business.	PSO1	7L+7P	AP

UNIT – I

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Introduction to Finance: Fundamental challenges of finance (Valuation of Assets, Management of Assets) - A framework for financial analysis (Firms operation, Financial Manager Financial markets), Six principles of finance (1. Cost is always attached 2. Stockholders Want 3. Everyone acts to satisfy their interest first 4. Demand and Supply matters 5. Financial markets are highly adaptive and competitive 6. Risk Analysis is important). **Time Value of Money:** Present value (PV calculations) - Net present value (NPV Calculation) - Discount rates and Future Value (Problems) - Compound interest (Compounding, Effective interest rate problems) - Annuity and perpetuity (Future value of annuity and present value of annuity and Constant Cash flows till infinity).

UNIT – II

(LECTURE HRS: 17, PRACTICAL HRS: 17)

Capital Budgeting: Capital budgeting criteria (Accounting Rate of Return Method, Pay Back Period, Discounted Cash Flow Techniques, Net Present Value Method, Internal Rate of Return or Yield Method, Profitability Index or Benefit Cost Ratio, Terminal Value Method) - Mechanics of NPV calculations (Present value of future cash inflow and Cash outflow) - NPV rule (1. Only the cash flow is relevant and should be discounted 2. Always estimate cash flows on an incremental basis 3. Be consistent with the treatment of inflation 4. Separate investment and financing decisions) - Cash Flow Calculations (Problems) - Discount Rates (Cost of Capital, Cost of Equity, Cost of Debt, WACC) - Project interactions (Basic issues and solutions).

UNIT – III

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Valuation – I: Fixed-Income Securities: Fixed-income markets (Government bonds, corporate bonds, and Treasury bills) - Term structure of interest rates (Difference between the interest rates of different maturity - Zero coupon yield curve and government bond yield curve) - Market conventions (Face Value Convention, Interest Rates are Semi-Annual, Day Count Conventions, Interest Payments) - Properties of bond prices (Coupon rate, Par value, Yield to Maturity, Periods of Maturity) - Measuring and hedging interest rate risk (Duration of a bond) - Inflation risk (Inflation rate) and credit risk (default risk). **Valuation – II: Common Stocks Valuation:** Discounted cash flow (DCF) model (Present value of the Cash flows) - Earnings per share (EPS) (Valuation ratios: Profit per outstanding share of stock) - Price-to-earnings ratio (P/E) (Relative Valuation) - Discount rates (Interest rate used in discounted cash flow (DCF) analysis to determine the present value of future cash flows).

UNIT – IV

(LECTURE HRS: 12, PRACTICAL HRS: 12)

Risk and Return: Introduction to Risk and Return (Factors affecting the decision: Uncertainty, Time and Liquidity) - Historical asset returns (Calculation of Return and Expected return) Risk/reward trade-off Risk Analytics (High risk, high return) - Measures of risk (Beta, Sharp ratio, Standard deviation) - Risk and investment horizon Portfolio Theory (Harry Markowitz's Modern Portfolio management theory, Sharpe's theory of portfolio management, and the Capital Asset Pricing Model) – Diversification (Diversification of risk) - Systematic and idiosyncratic risk (Market risk, Company or industry specific risk) - Portfolio optimization (Diversification Optimal Portfolio) - Efficient risk/return trade-offs (Efficient frontier CML) -The Capital Asset Pricing Model (calculating the required rate of return, discount rate or cost of capital).

UNIT – V

(LECTURE HRS: 7, PRACTICAL HRS: 7)

Working Capital: Discussions on Working Capital (Understanding of working capital, Relevance of current assets and current liabilities) - Importance of working capital (1. Improves liquidity and solvency position, 2. Improve credit worthiness, 3. Dividend payment 4. Continuity in business operation 5. Repayment of loan) - Negative vs Positive working capital (Understanding Positive and Negative working capital and requirements to have negative working capital) - Working Capital decisions for firms (Working capital Management: Management of receivables, Inventories and Payables) - Working Capital Financing (Trade Credit, Working Capital Loans, Purchase / Discount of Bills, Bank Guarantee, Letter of Credit, Factoring).

TEXT BOOK:

T1 - Brealey, Myers et.al, 2014, Principles of Corporate Finance, 11th Edition, McGraw Hill Education, New Delhi.

REFERENCE BOOKS:

R1 - Aswath Damodran, 2012, Applied Corporate Finance, 3rd Edition, John Wiley and Sons

R2 - Ross, Westerfield et.al ,2014, Corporate Finance, 10th Edition, McGraw Hill Education, New Delhi.

Course Title: INTERSHIP TRAINING AND VIVA VOCE (P)	Course Code:
Semester IV	Course Group: PV
Teaching scheme in Hrs (L: T:P) : 0:0:4	Credits: 2
Map Code: NIL	Total Contact Hours: 60
CIA: 25 Marks	SEE: 75 Marks
Programme: M.Com (Computer Applications)	#-Semester End Exam

INTERSHIP TRAINING AND VIVA VOCE – GUIDELINES

- Internship is for a period of 30 days.
- The student has to undergo Internship at the end of third semester.
- The student has to prepare a log book to ensure his/her attendance which contains the following details.

Sl. No	Date	Department	Work observed/Work Done	Signature of the HoD / In-Charge

- The student has to prepare a project based on his/her training, which consists of the following details.

CHAPTER	DETAILS
I	Introduction about the industry
II	Company Profile
III	Organization Chart
IV	Overview of the functions
V	Conclusion

- A report of the internship should be submitted to the faculty allotted within the stipulated time after completing the same.

- Internal viva voce for the internship will be conducted in the IV semester by faculty committee. External viva voce will be conducted consisting of internal and external members.
- The mark split up is 25 for Continuous Internal Assessment & 75 for Semester End Assessment.
- Continuous Internal Assessment marks split up. First Review: 5 Marks, Second Review: 10 Marks, Final Review: 10 Marks.
- Students who fail in the internship report and viva voce examination **or** who are absent for the viva voce **or** who fail to submit the internship report before the due date will have to resubmit the internship report and take up the viva voce examination during the subsequent semester.