

*Placed at the meeting of
Academic Council
held on 15.11.2023*

APPENDIX - CC

MADURAI KAMARAJ UNIVERSITY

(University with Potential for Excellence)

M.COM., COMPUTER APPLICATIONS

**CHOICE BASED CREDIT SYSTEM/LEARNING OUTCOME BASED
CURRICULUM FRAMEWORK**

SYLLABUS

**(THIS WILL COME INTO EFFECT FROM THE ACADEMIC YEAR
2023 - 2024)**

REGULATIONS AND SCHEME OF EXAMINATIONS

1. Introduction of the Programme

This is a two-year full-time Post Graduate degree in Commerce, under semester pattern. This course is for the non-autonomous colleges affiliated to Madurai Kamaraj University. This course enables the students to pursue research programmes, professional courses and to become an entrepreneur. The curriculum is designed to suit the current changes in the environment in industry and commerce.

2. Eligibility Conditions

A candidate who has passed any one of the following degree of this University or any other University accepted by the syndicate as equivalent thereto subject to such conditions as may be prescribed therefore, will be eligible for admission to M.Com., Computer Applications Degree course.

B.Com.,	B.Com., (E Commerce)
B.Com., (CA)	B.Com., (CS)
B.Com., (PA)	B.B.A.,
B.Com., (Honors)	B.Com., (Banking & Insurance)

any other degree with Accounting, Costing and Banking as allied/ancillary subject.

2.1 Duration of the Programme : 2 years

2.2 Medium of Instructions : English

3. Objective of the Programme

- 1) To enable the students to pursue research programmes – M.Phil., & Ph.D.,
- 2) To enable the students to pursue professional courses viz., CA., CMA and CS
- 3) To facilitate the students employable by equipping employability skills
- 4) To develop business acumen either to become an entrepreneur or facilitate entrepreneurs

4. Outcome of the Programme

- ❖ Making the students eligible for employment in teaching profession
- ❖ Equipping the students to complete Intermediate CA., CMA., CS courses
- ❖ Making the students employable in Corporate sector
- ❖ Including confidence among the students to appear for competitive examinations

5. Core Subject Papers: 12
6. Subject Elective Papers: 6
7. Non-Major Elective Papers: 2
8. Skill enhancement/Professional Competency Skill Paper: 1
9. Unitizations: 5 units each subject
10. Pattern of Semester Exam: 4 semesters
11. Scheme of Internal Assessment:

Test	: 10 marks (average of best two tests)
Assignment	: 5 marks
Seminar	: 5 marks
Group Discussions	: 5 marks

Total	25 marks

12. External Exam: 75 marks

13. Question Paper Pattern:

Part A	10*1 =	10 marks
Part B (either or)	5*7 =	35 marks
Part C (Open choice)	3*10 =	30 marks
(3 out of 5)		

Total		75 marks

14. Scheme of evaluation: Detailed scheme are required with allotment of marks

15. Passing minimum: External minimum 45 % of 75 marks = 34 marks. Aggregate 50 marks

15.1 Classification

S.No	Range of CGPA	Class
1	40 & above but below 50	III
2	50 & above but below 60	II
3	60 & above	I

16. Teaching Methodology

Classroom teaching
Seminar

Role-play
Classroom exercises
Case study
Group discussion

17. Retotaling and Revaluation Provisions

Candidate may apply for retotaling and revaluation within ten days from the date of the result published in the University website along with the required forms and fees.

18. Transitory Provision

The candidates of previous scheme may be permitted to write exams in their own scheme up to the examinations of April 2024 as a transitory provision.

M.COM., COMPUTER APPLICATIONS

Programme Outcomes:

PO1: Problem Solving Skill:

Apply knowledge of Management Theories and Human Resource Practices to solve business problems through research in global context.

PO2: Decision Making Skill:

Foster analytical and critical thinking abilities to enable decision-making based on data.

PO3: Ethical Value:

Incorporate quality, ethical and value-based legal perspectives in all organisational activities.

PO4: Employability Skill:

Develop business acumen to enhance employability skills in the competitive environment.

PO5: Entrepreneurial Skill:

Equip with skills and competencies to become an entrepreneur.

PO6: Contribution to Society:

Succeed in career endeavours and contribute significantly to society.

PO7: Communication Skill:

Develop communication, managerial and interpersonal skills.

PO8: Individual and Team Leadership Skill:

Lead oneself and the team to achieve organizational goals.

PO 9: Multicultural competence:

Demonstrate knowledge of the values and beliefs of multiple cultures to address issues in the global scenario

PO 10: Moral and ethical awareness/reasoning:

Embrace moral and ethical values in one's life,

PO 11: Leadership readinessqualities:

Demonstrate to take up leadership mapping out the tasks and formulating an inspiring vision and mission

PO 12: Lifelong learning:

Acquire knowledge and skills, including "learning how to learn",

M.Com., Computer Applications**Programme Specific Outcomes:****PSO 1 - Entrepreneurship:**

Exhibit entrepreneurial ability by enhancing critical thinking, problem solving, decision making and leadership skills that will facilitate startups and high potential organisations.

PSO2 – Research and Development:

Design and implement accounting, marketing, finance and HR systems and practices grounded in research that comply with mercantile laws, leading the organisation towards growth and development.

PSO 3 – Contribution to the Society:

Contribute to the development of the society by collaborating with stakeholders for mutual benefit.

PSO4 - Placement:

Demonstrate respectful engagement with others' ideas, behaviors, beliefs and apply in diverse frames of decisions and actions.

PSO5 - Contribution to Business World:

Facilitate production of employable, ethical and innovative professionals to sustain in the dynamic business world.

Mapping of Course outcomes (COs) with Programme Outcomes (POs) and Programme Specific Outcomes (PSOs) can be carried out, assigning the appropriate level(1 – Low; 2 – Middle and 3 – High) in the grids:

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PS0 1	PSO 2	PSO 3
CO 1									
CO 2									
CO 3									
CO 4									
CO 5									

Strong - 3

Medium – 2

Low - 1

Template for P.G., Programmes

[illegible]

Choice Based Credit System (CBCS), Learning Outcomes Based Curriculum Framework (LOCF) Guideline Based Credits and Hours Distribution System

First Year – Semester – I

Part	List of Courses	Credits	No. of Hours
	Core – I	5	6
	Core – II	5	6
	Core – III	4	6
	Elective – I	3	6
	Elective – II	3	6
		20	30

Semester-II

Part	List of Courses	Credits	No. of Hours
	Core – IV	5	6
	Core – V	5	6
	Core – VI	4	6
	Elective – III	3	4
	Elective – IV	3	4
	NME – I	2	4
		22	30

Second Year – Semester – III

Part	List of Courses	Credits	No. of Hours
	Core – VII	5	6
	Core – VIII	5	6
	Core – IX	5	6
	Core (Industry Module) – X	4	6
	Elective – V	3	3
	NME- II	2	3
	Internship / Industrial Activity [Credits]	2	-
		26	30

Semester-IV

Part	List of Courses	Credits	No. of Hours
	Core – XI	5	6
	Core – XII	5	6
	Project with VIVA VOCE	7	10
	Elective – VI (Industry Entrepreneurship)	3	4
	Skill Enhancement Course – III / Professional Competency Skill	2	4
	Extension Activity	1	-
		23	30

Total 91 Credits for PG Courses

METHODS OF EVALUATION		
Internal Evaluation	Continuous Internal Assessment Test	25 Marks
	Assignments / Snap Test / Quiz	
	Seminars	
	Attendance and Class Participation	
External Evaluation	End Semester Examination	75 Marks
Total		100 Marks
METHODS OF ASSESSMENT		
Remembering (K1)	• The lowest level of questions require students to recalling formation from the course content • Knowledge questions usually require students to identify information in the textbook.	
Understanding (K2)	• Understanding off acts and ideas by comprehending or ganizing, comparing, translating, interpolating and interpreting in their own words. • The questions go beyond simple recall and require students to combine data together	
Application (K3)	• Students have to solve problems by using/applying a concept learned in the classroom. • Students must use their knowledge to determine a exact response.	
Analyze (K4)	• Analyzing the question is one that asks the students to break down something into its component parts. • Analyzing requires students to identify reasons causes or motives and reach conclusions or generalizations.	
Evaluate (K5)	• Evaluation requires an individual to make judgment on something. • Questions to be asked to judge the value of an idea, a character, a workfare, or a solution to a problem. • Students are engaged indecision-making and problem– solving. • Evaluation questions do not have single right answers.	
Create (K6)	• The questions of this category challenge students to get engaged in creative and original thinking. • Developing or iginal ideas and problem solving skills	

Credit Distribution for PG Programme in Commerce**M.Com., Computer Applications****First Year****Semester I**

	Course	Credit	Hours per Week
Part I	Core I - Business Finance	5	6
	Core II - Digital Marketing	5	6
	Core III - Banking and Insurance	4	6
	Elective I A - Introduction to Industry 4.0 (or) I B - Big Data Analytics	3	6
	Elective II A–Enterprise Resource Planning (or) II B - Database Management System	3	6
		22	30

Semester II

	Course	Credit	Hours per Week
Part I	Core IV - Strategic Cost Management	5	6
	Core V - Corporate Accounting	5	6
	Core VI - Setting up of Business Entities	4	6
	Elective III A - Data Mining and Data Warehousing (or) III B - Technology in Banking	3	4
	Elective IV A - Financial Analytics (Practical) (or) IV B - Management Information System	3	4
	NME – I	2	4
		22	30

Second Year**Semester III**

	Course	Credit	Hours per Week
Part I	Core VII - Taxation	5	6
	Core VIII - Research Methodology	5	6
	Core IX - Computers in Business	5	6
	Core X - International Business	4	6
	Elective V A –Applied Data Analytics and Machine Learning (or) V B - Python R Programming	3	3
Part II	NME – II	2	3
	Internship/Industrial Activity (Credits)	2	-
		26	30

Semester IV

	Course	Credit	Hours per Week
Part I	Core XI- Corporate and Economic Laws	5	6
	Core XII- Human Resource Analytics	5	6
	Project with Viva	7	10
	Elective VI A- Cyber and Data Security (or) VI B - E-Commerce	3	4
Part II	Skill Enhancement/ Professional Competency Skill	2	4
	Extension Activity	1	-
		23	30
	Total (Semester I to IV)credits	91	



MADURAI KAMARAJ UNIVERSITY

(University with Potential for Excellence)

Re-accredited by NAAC with 'A++' Grade in the 4th Cycle

Prof. Dr. M. Ramakrishnan, M.E., Ph.D., Ph.D. Palkalai Nagar, Madurai – 625 021,
Registrar (i/c) Tamil Nadu, India.

Ref:B1/ BoS/M.Com/NME/2023

Date: 30-01-2024

ERRATA

To

All the Principals of the Non-Autonomous colleges
affiliated to Madurai Kamaraj University
(offereing M.Com and M.Com. (CA) degree programmes)

Sir/Madam,

Sub: Non-Major Elective (NME) removed from the syllabus for M.Com and M.Com (Computer Applications) degree programmes offered by the non-autonomous colleges affiliated to this university implemented from the academic year 2023-2024 onwards - vide Appendices – CB and CC approved by the Acadmic Council on 15-11-2023 and by the Senate on 21-11-2023 respectively. – intimated – reg

Ref: Email received from Dr. S.A.N.Shazuli Ibrahim, Chairman, Board of Studies in Commerce (PG), Madurai Kamaraj University, Madurai dated 28-01-2024

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With reference to the above, I am by direction to inform you that the Non-Major Elective (NME) papers have been removed from the syllabus for M.Com and M.Com (Computer Applications) degree programmes offered by the non-autonomous colleges affiliated to this university implemented from the academic year 2023-2024 onwards. Further, the changes in the credits and hours per week are to be followed as per the credit distribution tables appended herewith.

This may be informed to all the students of your college, accordingly.

Yours faithfully,

REGISTERAR i/c

Encl.: As above

Copy to :

The VC's Office  
The Registrar's Office  
The Dean-in-charge, College Development Council  
The Controller of Examinations-in-charge  
The Assistant Registrar/Deputy Registrar/Sr. Deputy Registrar - Strong Room  
The Assistant Registrar/Deputy Registrar/Sr. Deputy Registrar - Confidential Section  
The Assistant Registrar/Deputy Registrar/Sr. Deputy Registrar - PG Programmes  
The Superintendent/Sr. Superintendent - PG. Semester Section  
The Superintendent/Sr. Superintendent - Confidential Section  
The EDP Section

The NME papers for PG Commerce degree programmes have been removed. Further, the changes in the credits and hours per week are to be followed as under.

### **Credit Distribution for M.Com., Computer Applications**

#### **First Year**

##### **Semester I**

|        | <b>Course</b>                                                                        | <b>Credit</b> | <b>Hours per Week</b> |
|--------|--------------------------------------------------------------------------------------|---------------|-----------------------|
| Part I | Core I - Business Finance                                                            | 5             | 6                     |
|        | Core II - Digital Marketing                                                          | 5             | 6                     |
|        | Core III - Banking and Insurance                                                     | 4             | 6                     |
|        | Elective I A - Introduction to Industry 4.0<br>(or) I B - Big Data Analytics         | 3             | 6                     |
|        | Elective II A-Enterprise Resource Planning<br>(or) II B - Database Management System | 3             | 6                     |
|        |                                                                                      | 22            | 30                    |

##### **Semester II**

|        | <b>Course</b>                                                                                | <b>Credit</b> | <b>Hours per Week</b> |
|--------|----------------------------------------------------------------------------------------------|---------------|-----------------------|
| Part I | Core IV - Strategic Cost Management                                                          | 5             | 6                     |
|        | Core V - Corporate Accounting                                                                | 5             | 6                     |
|        | Core VI - Setting up of Business Entities                                                    | 4             | 6                     |
|        | Elective III A - Data Mining and Data Interpretation<br>(or) III B - Technology in Banking   | 4             | 6                     |
|        | Elective IV A - Financial Analytics (Practical)<br>(or) IV B - Management Information System | 4             | 6                     |
|        |                                                                                              | 22            | 30                    |

**Second Year  
Semester III**

|        | Course                                                                                       | Credit | Hours per Week |
|--------|----------------------------------------------------------------------------------------------|--------|----------------|
| Part I | Core VII - Taxation                                                                          | 5      | 6              |
|        | Core VIII - Research Methodology                                                             | 5      | 6              |
|        | Core IX - Computers in Business                                                              | 5      | 6              |
|        | Core X - International Business                                                              | 4      | 6              |
|        | Elective V A –Applied Data Analytics and Machine Learning<br>(or) V B - Python R Programming | 5      | 6              |
|        | Internship/Industrial Activity (Credits)                                                     | 2      | -              |
|        |                                                                                              | 26     | 30             |

**Semester IV**

|         | Course                                                           | Credit    | Hours per Week |
|---------|------------------------------------------------------------------|-----------|----------------|
| Part I  | Core XI- Corporate and Economic Laws                             | 5         | 6              |
|         | Core XII- Human Resource Analytics                               | 5         | 6              |
|         | Project with Viva                                                | 7         | 10             |
|         | Elective VI A- Cyber and Data Security<br>(or) VI B - E-Commerce | 3         | 4              |
| Part II | Skill Enhancement/ Professional Competency Skill                 | 2         | 4              |
|         | Extension Activity                                               | 1         | -              |
|         |                                                                  | 23        | 30             |
|         | <b>Total (Semester I to IV) credits</b>                          | <b>91</b> |                |

**M.Com. Computer Applications****First Year Core –I****Semester I****BUSINESS FINANCE**

| Course Code | Title of the Course     | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|-------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                         |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>BUSINESS FINANCE</b> |          | 6 | - | - | - | 5       | 6           | 25    | 75       | 100   |

|   | <b>Learning Objectives</b>                                                                |
|---|-------------------------------------------------------------------------------------------|
| 1 | To outline the fundamental concepts in finance                                            |
| 2 | To estimate and evaluate risk in investment proposals                                     |
| 3 | To evaluate leasing as a source of finance and determine the sources of startup financing |
| 4 | To examine cash and inventory management techniques                                       |
| 5 | To appraise capital budgeting techniques for MNCs                                         |

**Course Units****UNIT I (18 hrs)****Introduction to Business Finance and Time value of money**

Business Finance: Meaning, Objectives, Scope -Time Value of money: Meaning, Causes – Compounding – Discounting – Sinking Fund Deposit Factor – Capital Recovery Factor – Multiple Compounding– Effective rate of interest – Doubling period (Rule of 69 and Rule of 72) – Practical problems.

**UNIT II (18 hrs)****Risk Management**

Risk and Uncertainty: Meaning – Sources of Risk – Measures of Risk – Measurement of Return – General pattern of Risk and Return – Criteria for evaluating proposals to minimise Risk (Single Asset and Portfolio) – Methods of Risk Management – Hedging currency risk.



|                                                                                                                                                                                                                                                                                                                                                                                                              |                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT III</b>                                                                                                                                                                                                                                                                                                                                                                                              | <b>(18 hrs)</b> |
| <b>Start up Financing and Leasing</b>                                                                                                                                                                                                                                                                                                                                                                        |                 |
| Start up Financing: Meaning, Sources, Modes (Bootstrapping, Angel investors, Venture capital fund) - Leasing: Meaning – Types of Lease Agreements – Advantages and Disadvantages of Leasing – Financial evaluation from the perspective of Less or and Lessee.                                                                                                                                               |                 |
| <b>UNIT IV</b>                                                                                                                                                                                                                                                                                                                                                                                               | <b>(18 hrs)</b> |
| <b>Cash, Receivable and Inventory Management</b>                                                                                                                                                                                                                                                                                                                                                             |                 |
| Cash Management: Meaning, Objectives and Importance – Cash Cycle – Minimum Operating Cash – Safety level of cash – Optimum cash balance - Receivable Management: Meaning – Credit policy – Controlling receivables: Debt collection period, Ageing schedule, Factoring – Evaluating investment in accounts receivable - Inventory Management: Meaning and Objectives – EOQ with price breaks – ABC Analysis. |                 |
| <b>UNIT V</b>                                                                                                                                                                                                                                                                                                                                                                                                | <b>(18 hrs)</b> |
| <b>Multi National Capital Budgeting</b>                                                                                                                                                                                                                                                                                                                                                                      |                 |
| Multi National Capital Budgeting: Meaning, Steps involved, Complexities, Factors to be considered – International sources of finance – Techniques to evaluate multi-national capital expenditure proposals: Discounted Pay Back Period, NPV, Profitability Index, Net Profitability Index and Internal Rate of Return – Capital rationing -Techniques of Risk analysis in Capital Budgeting.                 |                 |

### Course Outcomes

Students will be able to

|      |                                                                                |
|------|--------------------------------------------------------------------------------|
| CO 1 | Explain important finance concepts                                             |
| CO 2 | Estimate risk and determine its impact on return                               |
| CO 3 | Explore leasing and other sources of finance for startups                      |
| CO 4 | Summarise cash receivable and inventory management techniques                  |
| CO 5 | Evaluate techniques of long term investment decision incorporating risk factor |

### Books for study:

1. Maheshwari S.N., (2019), “Financial Management Principles and Practices”, 15<sup>th</sup> Edition, Sultan Chand & Sons, New Delhi.
2. Khan M.Y & Jain P.K., (2011), “Financial Management: Text, Problems and Cases”, 8<sup>th</sup> Edition, McGraw Hill Education, New Delhi.



3. Prasanna Chandra, (2019), “Financial Management, Theory and Practice”, 10<sup>th</sup> Edition, McGraw Hill Education, New Delhi.
4. Apte P.G, (2020), “International Financial Management” 8th Edition, Tata McGraw Hill, New Delhi.
5. Dr.Shazuli Ibrahim S.A.N.,(2022), “Financial Management”, Pass Publications, Madurai.

**Books for reference:**

1. Pandey I. M., (2021), “Financial Management”, 12<sup>th</sup> Edition, Pearson India Education Services Pvt. Ltd, Noida.
2. Kulkarni P. V. & Satyaprasad B. G., (2015), “Financial Management”, 14<sup>th</sup> Edition, Himalaya Publishing House Pvt Ltd, Mumbai.
3. Rustagi R. P., (2022), “Financial Management, Theory, Concept, Problems”, 6<sup>th</sup> Edition, Taxmann Publications Pvt. Ltd, New Delhi.
4. Arokiamary Geetha Rufus, Ramani N. & Others, (2017), “Financial Management”, 1<sup>st</sup> Edition, Himalaya Publishing House Pvt Ltd, Mumbai.

**Web references:**

1. <https://resource.cdn.icai.org/66674bos53808-cp8.pdf>
2. <https://resource.cdn.icai.org/66677bos53808-cp10u2.pdf>
3. <https://resource.cdn.icai.org/66592bos53773-cp4u5.pdf>
4. <https://resource.cdn.icai.org/65599bos52876parta-cp16.pdf>

Note: Latest edition of the books may be used

**Mapping of Course Outcomes with POs and PSOs**

|     | Pos |   |   |   |   |   | PSOs |   |   |
|-----|-----|---|---|---|---|---|------|---|---|
|     | 1   | 2 | 3 | 4 | 5 | 6 | 1    | 2 | 3 |
| CO1 | 3   | 3 | 1 | 3 | 3 | 3 | 2    | 2 | 2 |
| CO2 | 3   | 3 | 2 | 3 | 3 | 3 | 3    | 3 | 3 |
| CO3 | 2   | 2 | 1 | 2 | 2 | 2 | 3    | 2 | 2 |
| CO4 | 2   | 2 | 1 | 2 | 2 | 2 | 2    | 2 | 2 |
| CO5 | 3   | 3 | 2 | 3 | 3 | 3 | 3    | 3 | 3 |

**Strong - 3**

**Medium – 2**

**Low - 1**

**M.Com. Computer Applications****First Year****Core – II****Semester I****DIGITAL MARKETING**

| Course Code | Title of the Course      | y | L | T | P | O | Credits | Hours | Marks |     |     |    |
|-------------|--------------------------|---|---|---|---|---|---------|-------|-------|-----|-----|----|
|             |                          |   |   |   |   |   |         |       | A     | ern | tot | al |
|             | <b>DIGITAL MARKETING</b> |   | 6 | - | - | - | 5       | 6     | 25    | 75  | 100 |    |

|   | <b>Learning Objectives</b>                                               |
|---|--------------------------------------------------------------------------|
| 1 | To assess the evolution of digital marketing                             |
| 2 | To appraise the dimensions of online marketing mix                       |
| 3 | To infer the techniques of digital marketing                             |
| 4 | To analyse online consumer behaviour                                     |
| 5 | To interpret data from social media and to evaluate game based marketing |

**Course Units****UNIT I****(18 hrs)****Introduction to Digital Marketing**

Digital Marketing – Transition from traditional to digital marketing – Rise of internet – Growth of e-concepts – Growth of e-business to advanced e-commerce – Emergence of digital marketing as a tool – Digital marketing channels – Digital marketing applications, benefits and limitations – Factors for success of digital marketing – Emerging opportunities for digital marketing professionals.

**UNIT II****(18 hrs)****Online marketing mix**

Online marketing mix – E-product – E-promotion – E-price – E-place – Consumer segmentation – Targeting – Positioning – Consumers and online shopping issues –

Website characteristics affecting online purchase decisions – Distribution and implication on online marketing mix decisions.

**UNIT III (18 hrs)**

**Digital media channels**

Digital media channels – Search engine marketing – ePR – Affiliate marketing – Interactive display advertising – Opt-in-email marketing and mobile text messaging, Invasive marketing – Campaign management using – Facebook, Twitter, Corporate Blogs – Advantages and disadvantages of digital media channels – Metaverse marketing.

**UNIT IV (18 hrs)**

**Online consumer behavior**

Online consumer behavior – Cultural implications of key website characteristics – Dynamics of online consumer visit – Models of website visits – Web and consumer decision making process – Data base marketing – Electronic consumer relationship management – Goals – Process – Benefits – Role – Next generation CRM.

**UNIT V (18 hrs)**

**Analytics and Gamification**

Digital Analytics – Concept – Measurement framework – Demystifying web data - Owned social metrics – Measurement metrics for Facebook, Twitter, YouTube, Slide Share, Pinterest, Instagram, Snapchat and LinkedIn – Earned social media metrics - Digital brand analysis – Meaning – Benefits – Components – Brand share dimensions – Brand audience dimensions – Market influence analytics – Consumer generated media and opinion leaders – Peer review – Word of mouth – Influence analytics – Mining consumer generated media – Gamification and game based marketing – Benefits – Consumer motivation for playing online games.

**Course Outcomes:**

Students will be able to:

|      |                                           |
|------|-------------------------------------------|
| CO 1 | Explain the dynamics of digital marketing |
| CO 2 | Examine online marketing mix              |
| CO 3 | Compare digital media channels            |
| CO 4 | Interpret online consumer behavior        |
| CO 5 | Analyse social media data                 |

**Books for study:**

1. Puneet Singh Bhatia, (2019) “Fundamentals of Digital Marketing”, 2<sup>nd</sup> Edition, Pearson Education Pvt Ltd, Noida.
2. Dave Chaffey, Fiona Ellis-Chadwick, (2019) “Digital Marketing”, Pearson Education Pvt Ltd, Noida.
3. Chuck Hemann& Ken Burbary, (2019) “Digital Marketing Analytics”, Pearson Education Pvt Ltd, Noida.
4. Seema Gupta, (2022) “Digital Marketing” 3<sup>rd</sup> Edition, McGraw Hill Publications Noida.
5. Kailash Chandra Upadhyay, (2021) “Digital Marketing: Complete Digital Marketing Tutorial”, Notion Press, Chennai.
6. Michael Branding, (2021) “Digital Marketing”, Empire Publications India Private Ltd, New Delhi.

**Books for reference:**

1. Vandana Ahuja, (2016) “Digital Marketing”, Oxford University Press. London.
2. Ryan Deiss& Russ Henneberry, (2017) “Digital Marketing”, John Wiley and Sons Inc. Hoboken.
3. Alan Charlesworth, (2014), “Digital Marketing - A Practical Approach”, Routledge, London.
4. Simon Kingsnorth, Digital Marketing Strategy, (2022) “An Integrated approach to Online Marketing”, Kogan Page Ltd. United Kingdom.
5. Maity Moutusy, (2022) “Digital Marketing” 2<sup>nd</sup> Edition, Oxford University Press, London.

**Web references:**

1. <https://www.digitalmarketer.com/digital-marketing/assets/pdf/ultimate-guide-to-digital-marketing.pdf>
2. <https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/educational-technologies/all/gamification-and-game-based-learning>
3. <https://journals.ala.org/index.php/ltr/article/download/6143/7938>

Note: Latest edition of the books may be used

**Mapping of course outcomes with POs and PSOs**

|     | POs |   |   |   |   |   | PSOs |   |   |
|-----|-----|---|---|---|---|---|------|---|---|
|     | 1   | 2 | 3 | 4 | 5 | 6 | 1    | 2 | 3 |
| CO1 | 3   | 3 | 2 | 3 | 3 | 3 | 3    | 3 | 3 |
| CO2 | 3   | 3 | 2 | 3 | 3 | 3 | 3    | 3 | 3 |
| CO3 | 3   | 3 | 2 | 2 | 3 | 2 | 3    | 3 | 2 |

|            |   |   |   |   |   |   |   |   |   |
|------------|---|---|---|---|---|---|---|---|---|
| <b>CO4</b> | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| <b>CO5</b> | 3 | 3 | 1 | 3 | 3 | 2 | 3 | 3 | 2 |

**Strong - 3****Medium – 2****Low - 1****M.Com., Computer Applications****First Year****Core – III****Semester I****BANKING AND INSURANCE**

| <b>Course Code</b> | <b>Title of the Course</b>   | <b>Category</b> | <b>L</b> | <b>T</b> | <b>P</b> | <b>O</b> | <b>Credits</b> | <b>Inst. Hours</b> | <b>Marks</b> |                 |              |
|--------------------|------------------------------|-----------------|----------|----------|----------|----------|----------------|--------------------|--------------|-----------------|--------------|
|                    |                              |                 |          |          |          |          |                |                    | <b>CIA</b>   | <b>External</b> | <b>Total</b> |
|                    | <b>BANKING AND INSURANCE</b> |                 | 6        | -        | -        | -        | 4              | 6                  | 25           | 75              | 100          |

|   | <b>Learning Objectives</b>                                                              |
|---|-----------------------------------------------------------------------------------------|
| 1 | To understand the evolution of new era banking                                          |
| 2 | To explore the digital banking techniques                                               |
| 3 | To analyse the role of insurance sector                                                 |
| 4 | To evaluate the mechanism of customer service in insurance and the relevant regulations |
| 5 | To analyse risk and its impact in banking and insurance industry                        |

**Course Units****UNIT I****(18 hrs)****Introduction to Banking**

Banking: Brief History of Banking - Rapid Transformation in Banking: Customer Shift - Fintech Overview - Fintech Outlook - The Financial Disruptors - Digital Financial Revolution - New Era of Banking. Digital Banking – Electronic Payment Systems– Electronic Fund Transfer System – Electronic Credit and Debit Clearing – NEFT – RTGS –VSAT–SFMS–SWIFT.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>UNIT II</b> <span style="float: right;"><b>(18 hrs)</b></span><br><b>Contemporary Developments in Banking</b><br>Distributed Ledger Technology – Blockchain: Meaning - Structure of BlockChain - Types of Block Chain - Differences between DLT and Blockchain - Benefits of Blockchain and DLT - Unlocking the potential of Blockchain – Crypto currencies, Central Bank Digital Currency (CBDC) - Role of DLT in financial services - AI in Banking: Future of AI in Banking - Applications of AI in Banking - Importance of AI in banking - Banking reimagined with AI. Cloud banking - Meaning - Benefits in switching to Cloud Banking. |
| <b>UNIT III</b> <span style="float: right;"><b>(18 hrs)</b></span><br><b>Indian Insurance Market</b><br>History of Insurance in India – Definition and Functions of Insurance – Insurance Contract – Indian Insurance Market – Reforms in Insurance Sector – Insurance Organisation – Insurance organisation structure. Insurance Intermediaries: Insurance Broker – Insurance Agent - Surveyors and Loss Assessors - Third Party Administrators (Health Services) – Procedures - Code of Conduct.                                                                                                                                              |
| <b>UNIT IV</b> <span style="float: right;"><b>(18 hrs)</b></span><br><b>Customer Services in Insurance</b><br>Customer Service in Insurance – Quality of Service - Role of Insurance Agents in Customer Service-Agent's Communication and Customer Service –Ethical Behaviour in Insurance – Grievance Redressal System in Insurance Sector –Integrated Grievance Management System- Insurance Ombudsman - Insurance Regulatory and Development Authority of India Act (IRDA) – Regulations and Guidelines.                                                                                                                                     |
| <b>UNIT V</b> <span style="float: right;"><b>(18 hrs)</b></span><br><b>Risk Management</b><br>Risk Management and Control in banking and insurance industries – Methods of Risk Management – Risk Management by Individuals and Corporations – Tools for Controlling Risk.                                                                                                                                                                                                                                                                                                                                                                      |

### Course Outcomes

Students will be able to

|      |                                                                  |
|------|------------------------------------------------------------------|
| CO 1 | Relate the transformation in banking from traditional to new age |
| CO 2 | Apply modern techniques of digital banking                       |

|      |                                       |
|------|---------------------------------------|
| CO 3 | Evaluate the role of insurance sector |
| CO 4 | Examine the regulatory mechanism      |
| CO 5 | Assess risk mitigation strategies     |

**Books for study:**

1. Indian Institute of Banking and Finance (2021), “Principles & Practices of Banking”, 5<sup>th</sup> Edition, Macmillan Education India Pvt. Ltd, Noida, Uttar Pradesh.
2. Mishra M N & Mishra S B, (2016), “Insurance Principles and Practice”, 22<sup>nd</sup> Edition, S. Chand and Company Ltd, Noida, Uttar Pradesh.
3. Emmett, Vaughan, Therese Vaughan M., (2013), “Fundamentals of Risk and Insurance”, 11<sup>th</sup> Edition, Wiley & Sons, New Jersey, USA.
4. Theo Lynn , John G. Mooney, PierangeloRosati, Mark Cummins (2018), Disrupting Finance: FinTech and Strategy in the 21st Century (Palgrave Studies in Digital Business & Enabling Technologies), Macmillan Publishers, NewYork (US)

**Books for reference:**

1. SundharamKPM &Varshney P. N., (2020), “Banking Theory, Law and Practice”, 20<sup>th</sup> Edition, Sultan Chand & Sons, New Delhi.
2. Gordon &Natarajan, (2022), “Banking Theory, Law and Practice”, 9<sup>th</sup> Edition, Himalaya Publishing House Pvt Ltd, Mumbai.
3. Gupta P. K. (2021), “Insurance and Risk Management” 6<sup>th</sup> Edition, Himalaya Publishing House Pvt Ltd, Mumbai.
4. Susanne Chishti.,& Janos Barberis(2016), The Fintech book: The financial technology handbook for investors, entrepreneurs and visionaries. John Wiley & Sons.

**Web references:**

1. <https://corporatefinanceinstitute.com/resources/knowledge/finance/fintech-financial-technology>
2. [https://mrcet.com/downloads/digital\\_notes/CSE/IV%20Year/CSE%20B.TECH%20IV%20YEAR%20II%20SEM%20BCT%20\(R18A0534\)%20NOTES%20Final%20PDF.pdf](https://mrcet.com/downloads/digital_notes/CSE/IV%20Year/CSE%20B.TECH%20IV%20YEAR%20II%20SEM%20BCT%20(R18A0534)%20NOTES%20Final%20PDF.pdf)
3. [https://www.irdai.gov.in/ADMINCMS/cms/frmGeneral\\_Layout.aspx?page=PageNo108&flag=1](https://www.irdai.gov.in/ADMINCMS/cms/frmGeneral_Layout.aspx?page=PageNo108&flag=1)

Note: Latest edition of the books may be used

**Mapping of course outcomes with POs and PSOs**

|     | POs |   |   |   |   |   | PSOs |   |   |
|-----|-----|---|---|---|---|---|------|---|---|
|     | 1   | 2 | 3 | 4 | 5 | 6 | 1    | 2 | 3 |
| CO1 | 2   | 2 | 1 | 3 | 3 | 3 | 3    | 3 | 3 |
| CO2 | 3   | 3 | 3 | 3 | 3 | 3 | 3    | 3 | 3 |
| CO3 | 2   | 2 | 1 | 2 | 2 | 2 | 2    | 3 | 2 |

|                   |   |   |                   |   |   |                |   |   |   |
|-------------------|---|---|-------------------|---|---|----------------|---|---|---|
| <b>CO4</b>        | 3 | 2 | 2                 | 1 | 2 | 2              | 2 | 3 | 2 |
| <b>CO5</b>        | 3 | 3 | 1                 | 3 | 3 | 3              | 3 | 3 | 3 |
| <b>Strong - 3</b> |   |   | <b>Medium – 2</b> |   |   | <b>Low - 1</b> |   |   |   |

### M.Com., Computer Applications

**First Year**

**Elective –I A**

**Semester I**

#### INTRODUCTION TO INDUSTRY 4.0

| Course Code | Title of the Course                 | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|-------------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                                     |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>INTRODUCTION TO INDUSTRY 4.0</b> |          | 6 | - | - | - | 3       | 6           | 25    | 75       | 100   |

|    | <b>LEARNING OBJECTIVES</b>                                                                   |
|----|----------------------------------------------------------------------------------------------|
| 1. | To enable the students to comprehend the change from industry 1.0 to 4.0                     |
| 2. | To gain knowledge on the challenges and future prospects of applying artificial intelligence |
| 3. | To learn the applications of big data for industrial growth and development                  |
| 4. | To understand the applications of IoT in various sectors                                     |
| 5. | To understand why education has to be aligned with industry 4.0                              |

### Course Units

#### **UNIT I**

**(12 hrs)**

##### **Introduction**

Industry: Meaning, Types - Industrial Revolution: Industrial Revolution 1.0 to 4.0: Meaning, Goals and Design Principles - Technologies of Industry 4.0 - Big Data – Artificial Intelligence (AI) – Industrial Internet of Things - Cyber Security – Cloud – Augmented Reality.



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT II</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>(12 hrs)</b> |
| <b>Artificial Intelligence</b><br>Artificial Intelligence (AI): Need, History and Foundations -The AI - environment - Societal Influences of AI – Application Domains and Tools - Associated Technologies of AI - Future prospects of AI – Challenges of AI.                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |
| <b>UNIT III</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>(12 hrs)</b> |
| <b>Big Data</b><br>Evolution - Data Evolution - Data : Terminologies - Essential of Big Data in Industry 4.0 - Big Data Merits and Limitations - Big Data Components : Big Data Characteristics - Big Data Processing Frameworks - Big Data Tools - Big Data Applications - Big Data Domain Stack : Big Data in Data Science – Big Data in IoT - Big Data in Machine Learning - Big Data in Databases - Big Data Usecases: Big Data in Social Causes - Big Data for Industry - Big Data Roles - Learning Platforms; Internet of Things (IoT) : Introduction to IoT – Architecture of IoT Technologies for IoT - Developing IoT Applications - Applications of IoT - Security in IoT. |                 |
| <b>UNIT IV</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>(12 hrs)</b> |
| <b>Applications of IoT</b><br>IoT in Manufacturing – Healthcare – Education – Aerospace and Defence – Agriculture – Transportation and Logistics – Impact of Industry 4.0 on Society: Impact on Business, Government, People - Tools for Artificial Intelligence - Big Data and Data Analytics - Virtual Reality - Augmented Reality –IoT - Robotics.                                                                                                                                                                                                                                                                                                                                |                 |
| <b>UNIT V</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>(12 hrs)</b> |
| <b>Industry 4.0</b><br>Education 4.0 – Curriculum 4.0 – Faculty 4.0 – Skills required for Future - Tools for Education – Artificial Intelligence Jobs in 2030 – Jobs 2030 - Framework for aligning Education with Industry 4.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |

### Course Outcomes

Students will be able to

|      |                                                                                  |
|------|----------------------------------------------------------------------------------|
| CO 1 | Discuss on the change from industry 1.0 to 4.0                                   |
| CO 2 | Discover the challenges and future prospects of applying artificial intelligence |
| CO 3 | Apply big data for industrial growth and development                             |

|      |                                                                                               |
|------|-----------------------------------------------------------------------------------------------|
| CO 4 | Apply IoT in various sectors like Manufacturing, Healthcare, Education, Aerospace and Défense |
| CO 5 | Appraise why education has to be aligned with industry 4.0                                    |

**Books for study:**

1. Seema Acharya J, Subhashini Chellappan, (2019) “Big Data and Analytics”, 2<sup>nd</sup> Edition, Wiley Publication, New Delhi.
2. Russel S, Norvig P (2010), “Artificial Intelligence: A Modern approach”, 3<sup>rd</sup> Edition, Prentice Hall, New York.
3. Pethuru Raj and Anupama C. Raman, (2017), "The Internet of Things: Enabling Technologies, Platforms, and Use Cases", Auerbach Publications

**Books for reference:**

1. Judith Hurwitz, Alan Nugent, Fern Halper, Marcia Kaufman, “Big Data for Dummies”, John Wiley & Sons, Inc.
2. Nilsson (2000), Artificial Intelligence: A new synthesis, Nils J Harcourt Asia PTE Ltd.

**Web references:**

1. [https://sist.sathyabama.ac.in/sist\\_coursematerial/uploads/SEEA1403.pdf](https://sist.sathyabama.ac.in/sist_coursematerial/uploads/SEEA1403.pdf)
2. [https://library.oapen.org/bitstream/handle/20.500.12657/43836/external\\_content.pdf?sequence=1](https://library.oapen.org/bitstream/handle/20.500.12657/43836/external_content.pdf?sequence=1)
3. [https://www.vssut.ac.in/lecture\\_notes/lecture1428643004.pdf](https://www.vssut.ac.in/lecture_notes/lecture1428643004.pdf)

Note: Latest edition of the books may be used.

**Mapping of course outcomes with POs and PSOs**

|     | POs |   |   |   |   |   | PSOs |   |   |
|-----|-----|---|---|---|---|---|------|---|---|
|     | 1   | 2 | 3 | 4 | 5 | 6 | 1    | 2 | 3 |
| CO1 | 2   | 2 | 2 | 3 | 3 | 3 | 3    | 3 | 3 |
| CO2 | 2   | 3 | 2 | 3 | 3 | 3 | 3    | 3 | 3 |
| CO3 | 2   | 3 | 2 | 3 | 3 | 3 | 3    | 3 | 3 |
| CO4 | 2   | 3 | 2 | 3 | 3 | 3 | 3    | 3 | 3 |
| CO5 | 2   | 3 | 2 | 3 | 3 | 3 | 3    | 3 | 3 |

**Strong - 3****Medium – 2****Low - 1**

**M.Com., Computer Applications****First Year****Elective – I B****Semester I****BIG DATA ANALYTICS**

| Course Code | Title of the Course       | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|---------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                           |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>BIG DATA ANALYTICS</b> |          | 6 | - | - | - | 3       | 6           | 25    | 75       | 100   |

|    | <b>Learning Objectives</b>                                                         |
|----|------------------------------------------------------------------------------------|
| 1. | To understand the various aspects of data science and applying them in health care |
| 2. | To learn the applications of big data for industrial growth and development        |
| 3. | To understand the characteristics of 5 V's                                         |
| 4. | To know the big data problems                                                      |
| 5. | To understand the Hadoop                                                           |

**Course Units**

|                                                                                                                                                                                                                                                                   |                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT I</b>                                                                                                                                                                                                                                                     | <b>(12 hrs)</b> |
| <b>Introduction to Data Science</b><br><br>Introduction to data science – Case Studies – Data Science in Biomedicine and Healthcare – Sequence Processing – Medical Image Analysis – Natural Language Processing – Network Modelling and Probabilistic Modelling. |                 |
| <b>UNIT II</b>                                                                                                                                                                                                                                                    | <b>(12 hrs)</b> |
| <b>Big Data</b><br><br>Big data: Meaning – Importance of Big Data – Example of Big Data – Source of Big Data - Machine -Generated Data - Advantages – Big Data generated by people – Organization of Generated Data - Integrating the data.                       |                 |

|                                                                                                                                                                                                                                                                                                                                                                                        |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT III</b>                                                                                                                                                                                                                                                                                                                                                                        | <b>(12 hrs)</b> |
| <b>Characteristics of Big Data</b>                                                                                                                                                                                                                                                                                                                                                     |                 |
| Characteristics of big data volume – Variety –Velocity – Characteristics of Big Data – Veracity – Valence and Value – Getting value out of Big Data using 5-step process to structure your analysis.                                                                                                                                                                                   |                 |
| <b>UNIT IV</b>                                                                                                                                                                                                                                                                                                                                                                         | <b>(12 hrs)</b> |
| <b>Data Science: Getting value out of Big Data</b>                                                                                                                                                                                                                                                                                                                                     |                 |
| Building a Big Data Strategy – Happening of Big Data science – Five Components of Data Science. Steps in Data Science: Acquiring Data, Preprocessing and Exploring Data – Analysing Data – Communicating results – Turning insights into action.                                                                                                                                       |                 |
| <b>UNIT V</b>                                                                                                                                                                                                                                                                                                                                                                          | <b>(12 hrs)</b> |
| <b>Big Data Systems and Hadoop</b>                                                                                                                                                                                                                                                                                                                                                     |                 |
| Meaning of Distributed File System – Scalable Computing over the Internet – Programming Models for Big Data – Introduction to Hadoop systems – The Hadoop Distributed File System: A Storage System for Big Data – YARN: A Resource Manager for Hadoop – Map Reduce: Simple Programming for Big Results – When to Reconsider Hadoop? – Cloud Computing: An important Big Data enabler. |                 |

### Course Outcomes

Students will be able to:

|      |                                                                                                                        |
|------|------------------------------------------------------------------------------------------------------------------------|
| CO 1 | Describe the Big Data landscape including examples of realworld big data problems                                      |
| CO 2 | Explain the advantages of Big Data.                                                                                    |
| CO 3 | Explain the Vs of Big Data and its impacts of data collection, monitoring, storage, analysis and reporting             |
| CO 4 | Identify what are and what are not big data problems and be able to recast big data problems as data science questions |
| CO 5 | ExplainHadoop technology                                                                                               |

**Books for study:**

1. Peter Guerra and Kirk Borne (2016), "Ten Signs of Data Science Maturity", O'Reilly Media Pvt Ltd, USA
2. Tom White (2012), "Hadoop: The Definitive Guide" Third Edition, O'Reilly Media, USA.
3. Seema Acharya (2015), Subhasini Chellappan, "Big Data Analytics", Wiley, USA

**Books for reference:**

1. Howard Wen, Big Ethics for Big Data, O'Reilly Media, USA.
2. Michael Mineli, Michele Chambers, Ambiga Dhiraj (2013), Big Data, Big Analytics: Emerging Business Intelligence and Analytic Trends for Today's Businesses, Wiley Publications, USA .
3. Judith S. Hurwitz, Alan Nugent, Fern Halper, Marcia Kaufman (2015), "Big Data for Dummies", John Wiley & Sons, Inc., USA.

**Web references:**

1. <https://www.coursera.org/learn/big-data-introduction/home/welcome>
2. <https://www.coursera.org/learn/bioconductor?action=enroll&authMode=login>

Note: Latest edition of the books may be used.

**Mapping of course outcomes with POs and PSOs**

|                   | POs |   |                   |   |   |                | PSOs |   |   |
|-------------------|-----|---|-------------------|---|---|----------------|------|---|---|
|                   | 1   | 2 | 3                 | 4 | 5 | 6              | 1    | 2 | 3 |
| <b>CO1</b>        | 2   | 2 | 2                 | 2 | 1 | 2              | 1    | 1 | 2 |
| <b>CO2</b>        | 2   | 2 | 2                 | 3 | 1 | 3              | 1    | 2 | 3 |
| <b>CO3</b>        | 3   | 3 | 3                 | 3 | 2 | 3              | 2    | 3 | 3 |
| <b>CO4</b>        | 2   | 2 | 2                 | 2 | 1 | 2              | 1    | 2 | 2 |
| <b>CO5</b>        | 3   | 3 | 3                 | 3 | 3 | 3              | 3    | 3 | 3 |
| <b>Strong - 3</b> |     |   | <b>Medium – 2</b> |   |   | <b>Low - 1</b> |      |   |   |

**M.Com., Computer Applications****First Year****Elective –II A****Semester I****ENTERPRISE RESOURCE PLANNING**

| Course Code | Title of the Course                 | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|-------------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                                     |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>ENTERPRISE RESOURCE PLANNING</b> |          | 6 | - | - | - | 3       | 6           | 25    | 75       | 100   |

|    | <b>LEARNING OBJECTIVES</b>                        |
|----|---------------------------------------------------|
| 1. | To learn the history and growth of ERP            |
| 2. | To understand the risks involved while using ERP  |
| 3. | To gain knowledge on the various ERP technologies |
| 4. | To learn the dynamics of ERP marketplace          |
| 5. | To choose appropriate ERP solutions or packages   |

**Course Units**

|                                                                                                                                                                                                                                                                                                                                       |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT I</b>                                                                                                                                                                                                                                                                                                                         | <b>(12 hrs)</b> |
| <b>Enterprise an Overview</b><br>Business Functions and Business Processes - Integrated Management Information - Business Modelling - Integrated Data Model. Business Processes: Major Business Processes. Introduction to ERP: Common ERP Myths - A Brief History of ERP - Reasons for the Growth of ERP Market - Advantages of ERP. |                 |
| <b>UNIT II</b>                                                                                                                                                                                                                                                                                                                        | <b>(12 hrs)</b> |
| <b>Risk of ERP</b><br>People Issues - Process Risks - Technological Risks - Implementation Issues-Operation and Maintenance Issues - Unique Risks of ERP Projects - Managing Risks on ERP Projects. Benefits of ERP: Information Integration - Reduction of Lead Time - On-Time                                                       |                 |

Shipment - Reduction in Cycle Time - Improved Resource Utilization - Better Customer Satisfaction - Improved Supplier Performance - Increased Flexibility - Reduced Quality Costs - Better Analysis and Planning Capabilities - Improved Information Accuracy and Decision Making Capability - Use of Latest Technology.

### **UNIT III**

**(12 hrs)**

#### **ERP and Related Technologies**

Business Process Reengineering (BPR) - Business Intelligence (BI) - Business Analytics (BA) - Data Warehousing- Data Mining - On - Line Analytical Processing (OLAP) - Product Life Cycle Management (PLM) - Supply Chain Management (SCM) - Customer Relationship Management (CRM) - Geographic Information Systems (GIS) - Intranets and Extranets. Advanced Technology and ERP Security: Technological Advancements - Computer Crimes - ERP and Security - Computer Security - Crime and Security.

### **UNIT IV**

**(12 hrs)**

#### **ERP Market Place and Market Place Dynamics**

Market Overview - ERP Market Tiers. Market Place Dynamics - Industry - Wise ERP Market Share - ERP: The Indian Scenario. Business Modules of an ERP Package: Functional Modules of ERP Software: Integration of ERP, Supply Chain, and Customer Relationship Applications.

### **UNIT V**

**(12 hrs)**

#### **ERP Implementation**

Benefits of Implementing ERP - Implementation Challenges. ERP Implementation Life Cycle: Objectives of ERP Implementation - Different Phases of ERP Implementation- Reasons for ERP Implementation Failure. ERP Package Selection: ERP Package Evaluation and Selection - The Selection Process - ERP Packages: Make or Buy.

### **Course outcomes**

Students will be able to

|      |                                                              |
|------|--------------------------------------------------------------|
| CO 1 | Recall the history and growth of ERP                         |
| CO 2 | Appraise the risks involved while using ERP                  |
| CO 3 | Select from among various ERP technologies                   |
| CO 4 | Analyse the dynamics of ERP marketplace                      |
| CO 5 | Distinguish and choose appropriate ERP solutions or packages |

**Books for study:**

1. Alexis Leon (2008), “Enterprise Resource Planning”, 2<sup>nd</sup> edition, Tata McGraw-Hill, Noida.
2. Jagan Nathan Vaman (2008), “ERP in Practice”, Tata McGraw-Hill, Noida.
3. MahadeoJaiswal and Ganesh Vanapalli (2009), “ERP”, Macmillan India, Noida.

**Books for reference:**

1. Sinha P. Magal and Jeffery Word (2012), “Essentials of Business Process and Information System”, Wiley India, USA.
2. Summer (2008), “ERP”, Pearson Education, Noida.
3. Vinod Kumar Grag and N.K. Venkitakrishnan (2006), “ERP- Concepts and Practice”, Prentice Hall of India, New Delhi.

**Web references:**

1. [https://mrcet.com/downloads/digital\\_notes/CSE/III%20Year/ERP%20Digital%20notes.pdf](https://mrcet.com/downloads/digital_notes/CSE/III%20Year/ERP%20Digital%20notes.pdf)
2. [https://mrcet.com/downloads/digital\\_notes/ME/III%20year/ERP%20Complete%20Digital%20notes.pdf](https://mrcet.com/downloads/digital_notes/ME/III%20year/ERP%20Complete%20Digital%20notes.pdf)
3. [https://www.vssut.ac.in/lecture\\_notes/lecture1428643004.pdf](https://www.vssut.ac.in/lecture_notes/lecture1428643004.pdf)

Note: Latest edition of the books may be used.

**Mapping of course outcomes with POs and PSOs**

|            | POs               |   |   |                   |   |   | PSOs           |   |   |
|------------|-------------------|---|---|-------------------|---|---|----------------|---|---|
|            | 1                 | 2 | 3 | 4                 | 5 | 6 | 1              | 2 | 3 |
| <b>CO1</b> | 2                 | 1 | 2 | 2                 | 3 | 3 | 3              | 3 | 3 |
| <b>CO2</b> | 3                 | 3 | 2 | 3                 | 3 | 3 | 3              | 3 | 3 |
| <b>CO3</b> | 3                 | 3 | 2 | 3                 | 3 | 3 | 3              | 3 | 3 |
| <b>CO4</b> | 3                 | 3 | 2 | 3                 | 3 | 3 | 3              | 3 | 3 |
| <b>CO5</b> | 3                 | 3 | 2 | 3                 | 3 | 3 | 3              | 3 | 3 |
|            | <b>Strong - 3</b> |   |   | <b>Medium – 2</b> |   |   | <b>Low - 1</b> |   |   |



**M.Com., Computer Applications****First Year****Elective – II B****Semester I****DATABASE MANAGEMENT SYSTEM**

| Course Code | Title of the Course                                                                                                     | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|-------------------------------------------------------------------------------------------------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                                                                                                                         |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>DATABASE MANAGEMENT SYSTEM</b>                                                                                       |          | 6 | - | - | - | 3       | 6           | 25    | 75       | 100   |
|             | <b>LEARNING OBJECTIVES</b>                                                                                              |          |   |   |   |   |         |             |       |          |       |
| 1.          | To introduce the basic concepts of Relational Database Management System and the working knowledge of Linux environment |          |   |   |   |   |         |             |       |          |       |
| 2.          | To understand designing databases and queries in SQL                                                                    |          |   |   |   |   |         |             |       |          |       |
| 3.          | To learn RDBMS                                                                                                          |          |   |   |   |   |         |             |       |          |       |
| 4.          | To upskill the functions and operators                                                                                  |          |   |   |   |   |         |             |       |          |       |
| 5.          | To understand the constraints, locks and MySQL                                                                          |          |   |   |   |   |         |             |       |          |       |

**Course Units****UNIT I****(12 hrs)****Introduction to Database Systems and Linux**

Introduction to File and Database systems Database System Structure - Data Models  
 Introduction to Network Models: ER Model, Relational Model - Introduction to Linux  
 Operating System - Properties of Linux - Desktop Environment - Linux basics commands -  
 Working with Files - Text Editors - I/O Redirections - Pipes, Filters, and Wildcards -  
 Changing Access Rights.

**UNIT II****(12 hrs)****SQL Definition and Normalization**

SQL – Data Definition - Queries in SQL - Updates - Views - Integrity and Security.  
 Relational Database design – Functional dependences and Normalization for relational  
 databases (up to BCNF) - Query Forms.

|                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT III</b>                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>(12 hrs)</b> |
| <b>Files and RDBMs</b>                                                                                                                                                                                                                                                                                                                                                                                                           |                 |
| Record Storage and Primary File Organization - Secondary Storage Devices - Operations on Files - Heap File - Sorted Files - Hashing Techniques - Index Structure for Files - Different Types of Indexes - B-Tree - B+Tree - Query Processing - Multimedia Databases - Basic Concepts and Applications - Indexing and Hashing - Text Databases - Overview of RDBMs - Advantages of RDBMs over DBMs – Introduction to Data Mining. |                 |
| <b>UNIT IV</b>                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>(12 hrs)</b> |
| <b>Data Definition and Manipulation Language</b>                                                                                                                                                                                                                                                                                                                                                                                 |                 |
| Data Definition Language - Data Manipulation Language - Transaction Control - Data Control Language Grant - Revoke Privilege Command - Set Operators - Joins- Kinds of Joins - Table Aliases - Sub queries - Multiple and Correlated Sub Queries - Functions - Single Row - Date, Character, Numeric, Conversion and Group Functions                                                                                             |                 |
| <b>UNIT V</b>                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>(12 hrs)</b> |
| <b>Constraints and MYSQL</b>                                                                                                                                                                                                                                                                                                                                                                                                     |                 |
| Constraints - Domain, Equity, Referential Integrity Constraints - Locks - Types of Locks, Table Partitions - Synonym - Introduction to PL/SQL - Introduction - MySQL as an RDBMS Tool - Data types and Commands.                                                                                                                                                                                                                 |                 |

## COURSE OUTCOMES

Students will be able to:

|      |                                                  |
|------|--------------------------------------------------|
| CO 1 | Identify models and schemas in DBMS and LINUX    |
| CO 2 | Demonstrate Queries in SQL                       |
| CO 3 | Discuss handling files and databases             |
| CO 4 | Apply skills on functions and operators in RDBMS |
| CO 5 | Apply constraints and locks in SQL               |

**Books for study:**

1. Ramakrishnan Raghu and Gehrke Johannes, “Database Management Systems”, McGraw–Hill, USA.
2. Rajendra Prasad Mahapatra and GovindVerma, “Database Management System”, Khanna Publications, New Delhi.

**Books for reference:**

1. Ramon A Mata-Toledo and Pauline K Cushman, “Database Management System”, Schaun’s Outlines, New York.
2. Abraham Silberschatz, Henry F Korth and S. Sudarshan, “Database System Concepts” McGraw–Hill, USA.

**Web references:**

1. <http://education-portal.com/academy/lesson/what-is-a-database-management-systempurpose-and-function.html>.
2. [http://www.comptechdoc.org/os/linux/usersguide/linux\\_ugbasics.html](http://www.comptechdoc.org/os/linux/usersguide/linux_ugbasics.html).
3. <http://www.dummies.com/how-to/content/common-linux-commands.html>.

Note: Latest edition of the books may be used

**Mapping of course outcomes with POs and PSOs**

|            | POs |   |   |   |   |   | PSOs |   |   |
|------------|-----|---|---|---|---|---|------|---|---|
|            | 1   | 2 | 3 | 4 | 5 | 6 | 1    | 2 | 3 |
| <b>CO1</b> | 2   | 3 | 3 | 3 | 2 | 2 | 2    | 3 | 2 |
| <b>CO2</b> | 3   | 3 | 2 | 3 | 3 | 3 | 2    | 2 | 3 |
| <b>CO3</b> | 1   | 2 | 2 | 2 | 1 | 2 | 1    | 2 | 2 |
| <b>CO4</b> | 3   | 3 | 3 | 3 | 3 | 3 | 3    | 3 | 3 |
| <b>CO5</b> | 3   | 3 | 3 | 3 | 1 | 2 | 1    | 3 | 2 |

**Strong - 3**

**Medium – 2**

**Low - 1**

**M.Com., Computer Applications****First Year****Core – IV****Semester II****STRATEGIC COST MANAGEMENT**

| Course Code | Title of the Course              | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|----------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                                  |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>STRATEGIC COST MANAGEMENT</b> |          | 6 | - | - | - | 5       | 6           | 25    | 75       | 100   |

|   | <b>Learning Objectives</b>                                         |
|---|--------------------------------------------------------------------|
| 1 | To analyse the aspects of strategic and quality control management |
| 2 | To analyse and select cost control techniques                      |
| 3 | To apply activity based costing for decision making                |
| 4 | To utilise transfer pricing methods in cost determination          |
| 5 | To apply cost management techniques in various sectors             |

**Course Units****UNIT I****(18 hrs)****Introduction to Strategic Cost Management**

Introduction to Strategic Cost Management (SCM) – Need for SCM – Differences between SCM and Traditional Cost Management - Value Chain Analysis: Meaning and steps - Quality Cost Management: Meaning of Quality and Quality Management – Cost of Quality –Indian Cost Accounting Standard 21 on Quality Control - Introduction to Lean System – Benefits of Lean System – Just in Time (JIT) – Kaizen Costing.

**UNIT II(18 hrs)****Cost Control and Reduction**

Cost Management Techniques: Cost Control: Meaning and Prerequisites - Cost Reduction: Meaning and Scope – Differences between Cost control and cost reduction - Pareto Analysis: Meaning, importance and applications - Target Costing: Meaning, steps and Principles – Life Cycle Costing: Meaning, Strategies for each stage of product life cycle, Benefits – Learning Curve: Meaning, Learning curve ratio and applications.

|                                                                                                                                                                                                                                                                |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT III</b>                                                                                                                                                                                                                                                | <b>(18 hrs)</b> |
| <b>Activity Based Cost Management</b>                                                                                                                                                                                                                          |                 |
| Activity Based Cost Management: Concept, Purpose, Stages, Benefits, Relevance in Decision making and its Application in Budgeting – Practical problems.                                                                                                        |                 |
| <b>UNIT IV</b>                                                                                                                                                                                                                                                 | <b>(18 hrs)</b> |
| <b>Transfer Pricing</b>                                                                                                                                                                                                                                        |                 |
| Transfer Pricing: Meaning, Benefits, Methods: Pricing based on cost, Market price on transfer price, Negotiated pricing and Pricing based on opportunity costs – Practical Problems.                                                                           |                 |
| <b>UNIT V</b>                                                                                                                                                                                                                                                  | <b>(18 hrs)</b> |
| <b>Cost Management in Agriculture and IT sector</b>                                                                                                                                                                                                            |                 |
| Agriculture Sector: Features, Cost Structure, Cost Management, Tools to measure the performance, Minimum Support Price and International Perspective – Information Technology Sector: Features, Cost Structure, Cost Management and International Perspective. |                 |

### Course Outcomes

Students will be able to

|   |                                                    |
|---|----------------------------------------------------|
| 1 | Discuss strategic cost management and QC           |
| 2 | Choose the appropriate technique for cost control  |
| 3 | Utilise activity based costing in practice         |
| 4 | Adopt transfer pricing methods                     |
| 5 | Build cost structure for Agriculture and IT sector |

### Books for study:

1. Ravi M Kishore (2018), “Strategic Cost Management”, 5<sup>th</sup> Edition, Taxmann Publications Pvt. Ltd, New Delhi.
2. Bandgar P. K., (2017), “Strategic Cost Management”, 1<sup>st</sup> Edition, Himalaya Publishing House Pvt Ltd, Mumbai.
3. Sexena V. K., (2020), “Strategic Cost Management and Performance Evaluation”, 1<sup>st</sup> Edition, Sultan Chand & Sons, New Delhi.

### Books for reference:

1. John K Shank and Vijay Govindarajan(2008), Strategic Cost Management, Simon & Schuster; Latest edition, UK
2. JawaharLal, (2015), “Strategic Cost Management”, 1<sup>st</sup> Edition, Himalaya Publishing House Pvt Ltd, Mumbai.)
3. Arora M. N., (2021), “A Text Book of Cost and Management Accounting”, 11<sup>th</sup> Edition, Vikas Publishing House Pvt. Ltd., New Delhi.

**Web references:**

1. <https://www.accountingtools.com/articles/strategic-cost-management.html#:~:text=Strategic%20cost%20management%20is%20the,it%20or%20have%20no%20impact.>
2. <https://ca-final.in/wp-content/uploads/2018/09/Chapter-4-Cost-Management-Techniques.pdf>
3. <https://resource.cdn.icai.org/66530bos53753-cp5.pdf>

Note: Latest edition of the books may be used

**Mapping of course outcomes with POs and PSOs**

|     | POs |   |   |   |   |   | PSOs |   |   |
|-----|-----|---|---|---|---|---|------|---|---|
|     | 1   | 2 | 3 | 4 | 5 | 6 | 1    | 2 | 3 |
| CO1 | 3   | 3 | 3 | 3 | 3 | 3 | 3    | 3 | 3 |
| CO2 | 3   | 3 | 2 | 3 | 3 | 3 | 3    | 3 | 3 |
| CO3 | 3   | 3 | 2 | 3 | 3 | 3 | 3    | 3 | 3 |
| CO4 | 3   | 3 | 2 | 3 | 3 | 3 | 3    | 2 | 3 |
| CO5 | 3   | 3 | 1 | 3 | 3 | 3 | 3    | 3 | 3 |

**Strong - 3****Medium – 2****Low - 1****M.Com., Computer Applications****First Year****Core – V****Semester II****CORPORATE ACCOUNTING**

| Course Code | Title of the Course         | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|-----------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                             |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>CORPORATE ACCOUNTING</b> |          | 6 | - | - | - | 5       | 6           | 25    | 75       | 100   |

|   | <b>Learning Objectives</b>                                 |
|---|------------------------------------------------------------|
| 1 | To understand the accounting treatment for issue of shares |
| 2 | To determine profits for fire and marine insurance         |
| 3 | To prepare consolidated financial statements               |

|   |                                        |
|---|----------------------------------------|
| 4 | To account for price level changes     |
| 5 | To adopt financial reporting standards |

### Course Units

|                                                                                                                                                                                                                                                                                                                   |                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT 1</b>                                                                                                                                                                                                                                                                                                     | <b>(18 hrs)</b> |
| <b>Issue of Shares and Final Accounts of Companies</b>                                                                                                                                                                                                                                                            |                 |
| Issue of Shares: ESOPs - ESPS - Sweat Equity Shares - Book Building- Buy-back of Shares - Conversion of debentures into shares - Final accounts of Companies as per Schedule III of the Companies Act, 2013 – Managerial remuneration.                                                                            |                 |
| <b>UNIT II</b>                                                                                                                                                                                                                                                                                                    | <b>(18 hrs)</b> |
| <b>Insurance Company Accounts</b>                                                                                                                                                                                                                                                                                 |                 |
| Insurance Company Accounts: Types of Insurance - Final accounts of life assurance Companies- Ascertainment of profit- Valuation Balance Sheet-Final accounts of Fire, Marine and miscellaneous Insurance Companies.                                                                                               |                 |
| <b>Unit III</b>                                                                                                                                                                                                                                                                                                   | <b>(18 hrs)</b> |
| <b>Consolidated financial statements</b>                                                                                                                                                                                                                                                                          |                 |
| Consolidated financial statements as per AS 21: Consolidated Profit and Loss Account – Minority interest – Cost of control – Capital reserve – Inter-company holdings – Preparation of consolidated Balance Sheet.                                                                                                |                 |
| <b>UNIT IV</b>                                                                                                                                                                                                                                                                                                    | <b>(18 hrs)</b> |
| <b>Contemporary Accounting Methods</b>                                                                                                                                                                                                                                                                            |                 |
| Accounting for price level changes – Social responsibility accounting – Human resource accounting - Forensic Accounting.                                                                                                                                                                                          |                 |
| <b>UNIT V(18 hrs)</b>                                                                                                                                                                                                                                                                                             |                 |
| <b>Financial reporting</b>                                                                                                                                                                                                                                                                                        |                 |
| Financial reporting: Meaning, Objectives, Characteristics – Indian Accounting Standards (AS 5, AS 10, AS 19, AS 20) – Corporate Social Responsibility: Meaning, Key provisions of Companies Act, 2013, Accounting for CSR expenditure, Reporting of CSR, Presentation and disclosure in the financial statements. |                 |

**Question pattern: Theory: 20%; Problems: 80%**

## Course Outcomes

Students will be able to

|     |                                                                                                                                                            |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CO1 | Prepare Financial Statements of companies as per schedule III of Companies Act, 2013                                                                       |
| CO2 | Apply the provisions of IRDA Regulations, 2002 in the preparation of final accounts of Life Insurance and General Insurance Companies.                     |
| CO3 | Prepare Consolidated Financial Statements of Holding Companies in accordance with AS 21.                                                                   |
| CO4 | Assess contemporary accounting methods                                                                                                                     |
| CO5 | Examine Financial Reporting based on appropriate Accounting Standards and provisions of Companies Act 2013 with respect to Corporate Social Responsibility |

### Books for study:

1. Gupta R. L. & Radhaswamy M. (2021), "Corporate Accounting – Volume I & II", 14<sup>th</sup> Edition, Sultan Chand & Sons, New Delhi.
2. Maheshwari S. N., Sharad K. Maheshwari & Suneel K. Maheshwari, (2022), "Advanced Accountancy - Volume I & II", 11<sup>th</sup> Edition, Vikas Publishing House Pvt. Ltd., New Delhi.
3. Jain S. P., Narang K. L., Simmi Agrawal and Monika Sehgal (2019), "Advanced Accountancy - Corporate Accounting – Volume - II", 22<sup>nd</sup> Edition, Kalyani Publishers, New Delhi.
4. Reddy T. S. & Murthy A., (2022), "Corporate Accounting – Volume I & II", 17<sup>th</sup> Edition, Margham Publications, Chennai.
5. Dr. Shazuli Ibrahim S.A.N., (2023), "Corporate Accounting – Volume I & II", Pass Publications, Madurai.

### Books for reference:

1. Arulanandam M.A & Raman K.S., (2021), "Advanced Accounting (Corporate Accounting – II)", 8<sup>th</sup> Edition, Himalaya Publishing House Pvt Ltd, Mumbai.
2. Shukla M C, Grewal T S and Gupta S C, (2022), "Advanced Accounts Volume II", 19<sup>th</sup> Edition, Sultan Chand & Sons, New Delhi.
3. Gupta R. L., (2022), "Problems and Solutions in Company Accounts", 2<sup>nd</sup> Edition, Sultan Chand & Sons, New Delhi.

### Web references:

1. <https://resource.cdn.icai.org/66550bos53754-p1-cp9.pdf>
2. <https://resource.cdn.icai.org/66545bos53754-p1-cp4.pdf>
3. <https://resource.cdn.icai.org/66638bos53803-cp1.pdf>
4. <http://ppup.ac.in/download/econtent/pdf/MBA%201st%20sem%20Lecture%20note%20on%20forensic%20accounting%20by%20Anjali.pdf>

Note: Latest edition of the books may be used



**Mapping of course outcomes with POs and PSOs**

|             | <b>POs</b> |          |          |          |          |          | <b>PSOs</b> |          |          |
|-------------|------------|----------|----------|----------|----------|----------|-------------|----------|----------|
|             | <b>1</b>   | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>1</b>    | <b>2</b> | <b>3</b> |
| <b>CO 1</b> | 3          | 3        | 2        | 3        | 3        | 3        | 3           | 3        | 3        |
| <b>CO 2</b> | 3          | 3        | 3        | 3        | 2        | 3        | 2           | 3        | 3        |
| <b>CO 3</b> | 3          | 3        | 2        | 3        | 3        | 3        | 3           | 3        | 3        |
| <b>CO 4</b> | 3          | 3        | 3        | 3        | 3        | 3        | 3           | 3        | 3        |
| <b>CO 5</b> | 3          | 3        | 3        | 3        | 3        | 3        | 3           | 3        | 3        |

**Strong - 3****Medium – 2****Low - 1**

**M.Com., Computer Applications****First Year****Core – VI****Semester II****SETTING UP OF BUSINESS ENTITIES**

| Course Code | Title of the Course                                                         | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|-----------------------------------------------------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                                                                             |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>SETTING UP OF BUSINESS ENTITIES</b>                                      |          | 6 | - | - | - | 4       | 6           | 25    | 75       | 100   |
|             | <b>Learning Objectives</b>                                                  |          |   |   |   |   |         |             |       |          |       |
| 1           | To understand the startup landscape and its financing                       |          |   |   |   |   |         |             |       |          |       |
| 2           | To analyse the formation and registration of Section 8 company              |          |   |   |   |   |         |             |       |          |       |
| 3           | To outline the concept of LLP and business collaboration                    |          |   |   |   |   |         |             |       |          |       |
| 4           | To understand the procedure for obtaining registration and license          |          |   |   |   |   |         |             |       |          |       |
| 5           | To create awareness about the legal compliances governing business entities |          |   |   |   |   |         |             |       |          |       |

## Course Units

**UNIT I (18 hrs)****Startups in India**

Types of business organisations – Factors governing selection of an organisation - Startups – Evolution – Definition of a Startup – Startup landscape in India – Startup India policy – Funding support and incentives – Indian states with Startup policies – Exemptions for startups – Life cycle of a Startup – Important points for Startups – Financing options available for Startups – Equity financing – Debt financing – IPO – Crowd funding – Incubators - Mudra banks – Successful Startups in India.

**UNIT II (18 hrs)****Not-for-Profit Organisations**

Formation and registration of NGOs – Section 8 Company – Definition – Features – Exemptions – Requirements of Section 8 Company – Application for incorporation – Trust: Objectives of a trust – Persons who can create a trust – Differences between a public and private trust – Exemptions available to trusts – Formation of a trust - Trust deed – Society – Advantages – Disadvantages – Formation of a society – Tax exemption to NGOs.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT III</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>(18 hrs)</b> |
| <b>Limited Liability Partnership and Joint Venture</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |
| <p>Limited Liability Partnership: Definition – Nature and characteristics – Advantages and disadvantages – Procedure for incorporation – LLP agreement – Annual compliances of LLP-Business collaboration: Definition – Types –Joint venture: Advantages and disadvantages – Types – Joint venture agreement - Successful joint ventures in India – Special Purpose Vehicle – Meaning – Benefits – Formation.</p>                                                                                                                                                                                                                                                                                  |                 |
| <b>UNIT IV</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>(18 hrs)</b> |
| <b>Registration and Licenses</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |
| <p>Registration and Licenses: Introduction – Business entity registration – Mandatory registration – PAN – Significance – Application and registration of PAN – Linking of PAN with Aadhar –TAN – Persons liable to apply for TAN – Relevance of TAN – Procedure to apply for TAN –GST: Procedure for registration – Registration under Shops and Establishment Act –MSME registration – Clearance from Pollution Control Board – FSSAI registration and license – Trade mark, Patent and Design registration.</p>                                                                                                                                                                                 |                 |
| <b>UNIT V</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>(18 hrs)</b> |
| <b>Environmental Legislations in India</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |
| <p>Geographical Indication of Goods (Registration and Protection) Act, 1999: Objectives, Salient Features - The Environmental Protection Act, 1986: Prevention, control and abatement of environmental pollution - The Water (Prevention And Control of Pollution) Act, 1974: The Central and State Boards for Prevention and Control of Water Pollution - Powers and Functions of Boards - Prevention and Control of Water Pollution - Penalties and Procedure- The Air (Prevention and Control of Pollution) Act, 1981: Central and State Boards for The Prevention and Control of Air Pollution - Powers And Functions - Prevention and Control of Air Pollution - Penalties and Procedure.</p> |                 |

**Course Outcomes**

Students will be able to:

|      |                                                          |
|------|----------------------------------------------------------|
| CO 1 | Build a startup and acquire finance                      |
| CO 2 | Comply with the legal requirements for Section 8 Company |
| CO 3 | Initiate the proceedings for LLP                         |
| CO 4 | Illustrate the registration and licensing procedure      |
| CO 5 | Examine the compliance of regulatory framework           |

**Books for study:**

1. Kailash Thakur, (2007) “Environment Protection Law and Policy in India”, 2<sup>nd</sup> Edition, Deep & Deep Publication Pvt. Ltd., New Delhi.
2. Avtar Singh, (2015), “Intellectual Property Law”, Eastern Book Company, Bangalore
3. Zad N.S and DivyaBajpai, (2022) “Setting up of Business Entities and Closure” (SUBEC), Taxmann, Chennai
4. AmitVohra&RachitDhingra (2022) “Setting Up Of Business Entities & Closure”, 6<sup>th</sup> Edition, Bharath Law House, New Delhi

**Books for reference:**

1. Setting up of Business Entities and Closure (2021), Module 1, Paper 3, The Institute of Company Secretaries of India, MP Printers, Noida
2. The Air (Prevention and Control of Pollution) Act, 1981, Bare Act, 2022 Edition, Universal/LexisNexis, Noida
3. The Water (Prevention and Control of Pollution) Act, 1974, Bare Act, 2022 Edition, Universal/LexisNexis, Noida
4. Cliff Ennico, (2005) “Small Business Survival Guide Starting Protecting and Securing your Business for Long-Term Success”, Adams Media, USA
5. Daniel Sitarz, (2011) “Sole Proprietorship: Small Business Start-up Kit”, 3<sup>rd</sup> Edition, Nova Publishing, USA

**Web references:**

1. [https://www.icsi.edu/media/webmodules/FINAL\\_FULL\\_BOOK\\_of\\_EP\\_SBEC\\_2018.pdf](https://www.icsi.edu/media/webmodules/FINAL_FULL_BOOK_of_EP_SBEC_2018.pdf)
2. [https://www.mca.gov.in/MinistryV2/incorporation\\_company.html](https://www.mca.gov.in/MinistryV2/incorporation_company.html) 3)
3. [https://legislative.gov.in/sites/default/files/The%20Limited%20Liability%20Partnership%20 Act,%202008.pdf](https://legislative.gov.in/sites/default/files/The%20Limited%20Liability%20Partnership%20Act,%202008.pdf)
4. <https://legislative.gov.in/sites/default/files/A1999-48.pdf>
5. [https://www.indiacode.nic.in/bitstream/123456789/6196/1/the\\_environment\\_protection\\_act%2C1986.pdf](https://www.indiacode.nic.in/bitstream/123456789/6196/1/the_environment_protection_act%2C1986.pdf)

Note: Latest edition of the books may be used

**Mapping of course outcomes with POs and PSOs**

|            | <b>POs</b> |          |          |          |          |          | <b>PSOs</b> |          |          |
|------------|------------|----------|----------|----------|----------|----------|-------------|----------|----------|
|            | <b>1</b>   | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>1</b>    | <b>2</b> | <b>3</b> |
| <b>CO1</b> | 3          | 3        | 3        | 3        | 3        | 3        | 3           | 1        | 3        |
| <b>CO2</b> | 3          | 2        | 2        | 3        | 2        | 3        | 2           | 3        | 3        |
| <b>CO3</b> | 3          | 3        | 2        | 3        | 3        | 3        | 3           | 3        | 3        |
| <b>CO4</b> | 3          | 3        | 3        | 3        | 3        | 3        | 3           | 3        | 3        |
| <b>CO5</b> | 3          | 3        | 3        | 3        | 3        | 3        | 3           | 3        | 3        |

**Strong - 3****Medium – 2****Low - 1**

**M.Com., Computer Applications****First Year****Elective – III A****Semester II****DATA MINING AND DATA WAREHOUSING**

| Course Code | Title of the Course                     | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|-----------------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                                         |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>DATA MINING AND DATA WAREHOUSING</b> |          | 4 | - | - | - | 3       | 4           | 25    | 75       | 100   |

| LEARNING OBJECTIVES |                                                                                         |
|---------------------|-----------------------------------------------------------------------------------------|
| 1.                  | To understand the basic concepts, principles and need of data warehousing               |
| 2.                  | To gain knowledge on the data warehouse architecture, modelling and its implementation. |
| 3.                  | To understand steps in implementing data mart and its various dimensions                |
| 4.                  | To learn the features, types and challenges of data mining                              |
| 5.                  | To aid the students to understand the various data mining tools and techniques          |

**Course Units**

|                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT I</b>                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>(12 hrs)</b> |
| <b>Data Warehouse</b><br>Definition - history of data warehouse - features of data warehouses - characteristics of data warehouse - goals of data warehousing- principles of data warehousing - need for data warehouse - benefits of data warehouse - need for separate data warehouse - difference between database and data warehouse - applications of data warehouses - components of data warehouse- data staging component. |                 |
| <b>UNIT II</b>                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>(12 hrs)</b> |
| <b>Data Warehouse Architecture</b><br>Data warehouse architecture - properties of data warehouse architectures - types of data warehouse architectures- three-tier data warehouse architecture - ETL (extract, transform, and load) process - selecting an ELT tool- Difference between ETL and ELT types of data warehouses - data warehouse modelling - data modelling life cycle - types of data                                |                 |

warehouse models- data warehouse design - data warehouse implementation- implementation guidelines - meta data - necessity of metadata in data warehouses - types of metadata- metadata repository - benefits of metadata repository.

### **UNIT III**

**(12 hrs)**

#### **Data Mart**

Data Mart- Reasons for creating a data mart- Types of Data Marts- Steps in Implementing a Data Mart- Difference between Data Warehouse and Data Mart. - Dimensional Modeling-Objectives of Dimensional Modeling- Advantages of Dimensional Modeling - Elements of Dimensional Modeling - Dimension Table- Multidimensional Data Model- Data Cube.

### **UNIT IV**

**(12 hrs)**

#### **Data Mining**

Definition - History of Data Mining- Features of Data Mining - Types of Data Mining - Data Mining Vs Data Warehousing- Advantages and Disadvantages of Data Mining - Data Mining Applications - Challenges of Implementation in Data mining - Steps involved in Data Mining - Classification of Data Mining Systems.

### **UNIT V**

**(12hrs)**

#### **Data Mining Tools & Techniques**

Data Mining Implementation Process - Data Mining Architecture - Clustering in Data Mining - Different types of Clustering - Text Data Mining - Bitcoin Data Mining - Data Mining Vs Big Data - Data Mining Models - Trends in Data Mining.

### **Course Outcomes**

Students will be able to:

|             |                                                                         |
|-------------|-------------------------------------------------------------------------|
| <b>CO 1</b> | Explain the basic concepts, principles and need of data warehousing     |
| <b>CO 2</b> | Appraise data warehouse architecture, modelling and its implementation. |
| <b>CO 3</b> | Choose various steps in implementing data mart and its dimensions       |
| <b>CO 4</b> | Recall the features and types of data mining                            |
| <b>CO 5</b> | Apply various data mining tools and techniques                          |

**Books for study:**

1. Jiawei Han, Micheline Kamber (2011), Data Mining, Concepts and Techniques, Morgan Kauffman Publishers, California.
2. Pang Ning Tan, Michael Steinbach, Vipin Kumar (2005), Introduction to Data Mining, Addison Wesley, USA.
3. K. P. Soman, Shyam Diwakar, V. Ajay (2006), Insight into Data Mining: Theory & Practice, Prentice Hall of India, New Delhi.

**Books for reference:**

1. BPB Editorial Board (2004), "Data Mining", BPB publications, Noida.
2. Ian H. Witten & Eibe Frank (2011), "Data Mining, Practical Machine Learning Tools and Techniques", Morgan Kaufmann series.
3. Ramesh Sharda, Dursun Delen, Efraim Turban (2018), "Business Intelligence", Pearson Education Services Pvt Ltd, Noida.

**Web references:**

1. [https://mrcet.com/downloads/digital\\_notes/ME/III%20 year/ERP%20 Complete%20Digital%20notes.pdf](https://mrcet.com/downloads/digital_notes/ME/III%20year/ERP%20Complete%20Digital%20notes.pdf)
2. [https://mrcet.com/pdf/Lab%20Manuals/IT/DATA%20WAREHOUSING%20AND%020DATA%20MINING%20\(R18A0524\).pdf00](https://mrcet.com/pdf/Lab%20Manuals/IT/DATA%20WAREHOUSING%20AND%020DATA%20MINING%20(R18A0524).pdf00)

**Mapping of course outcomes with POs and PSOs**

|            | POs |   |   |   |   |   | PSOs |   |   |
|------------|-----|---|---|---|---|---|------|---|---|
|            | 1   | 2 | 3 | 4 | 5 | 6 | 1    | 2 | 3 |
| <b>CO1</b> | 1   | 1 | 1 | 1 | 2 | 3 | 2    | 2 | 3 |
| <b>CO2</b> | 2   | 3 | 2 | 2 | 2 | 3 | 2    | 2 | 3 |
| <b>CO3</b> | 3   | 3 | 3 | 3 | 3 | 3 | 3    | 3 | 3 |
| <b>CO4</b> | 3   | 3 | 3 | 3 | 3 | 3 | 3    | 3 | 3 |
| <b>CO5</b> | 3   | 3 | 3 | 3 | 3 | 3 | 3    | 3 | 3 |

**Strong - 3****Medium – 2****Low - 1**



**M.Com., Computer Applications****First Year****Elective – III B****Semester II****TECHNOLOGY IN BANKING**

| Course Code | Title of the Course          | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                              |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>TECHNOLOGY IN BANKING</b> |          | 4 | - | - | - | 3       | 4           | 25    | 75       | 100   |

| Learning Objectives |                                                                                       |
|---------------------|---------------------------------------------------------------------------------------|
| 1                   | To understand the network essentials for an operational core banking system           |
| 2                   | To provide an overview of customer centric electronic banking.                        |
| 3                   | To understand the evolution of electronic fund transfer systems in the banking sector |
| 4                   | To analyse the digital technologies offered in banking services.                      |
| 5                   | To understand the information security system                                         |

**Course Units**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT I</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>(12 hrs)</b> |
| <b>Introduction to Core Banking Computerization</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |
| Essentials of Bank Computerization – Stand Alone and Multi-User System – Local Area Network and Wide Area Network: Features, Advantages and Limitations – Core Banking: Essential Requirements and Benefits.                                                                                                                                                                                                                                                                                                                                                                                      |                 |
| <b>UNIT II</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>(12 hrs)</b> |
| <b>Electronic Payment System and Banking Facilities</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |
| Electronic Payment Systems – ATM: Features – Advantages – Disadvantages – Brown Label and White Label ATM, PIN, Electro Magnetic Cards, Credit Cards, Debit Cards and Smart Cards: Features, Benefits and Limitations – Multiple Pin in Smart Card – Electronic Purse – Electronic Cheque – Electronic Cash – Electronic Banking – Home Banking (Corporate and Personal) – Update Facilities – Internet Banking – Mobile Banking: Features, Advantages and Limitations – Signature Storage and Retrieval System – Cheque Truncation – MICR and OCR: Characteristics – Advantages and Limitations. |                 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT III</b><br><b>Electronic Fund Transfer and Its Transitions</b><br>Electronic Fund Transfer System – Electronic Credit and Debit Clearing – NEFT, RTGS, VSAT, SFMS, SWIFT: Features, Advantages and Limitations – Digital Signature – Unified Payments Interface (UPI): Concept, Mechanism and Services Covered – Digital Wallets (E-Wallets): Features, Benefits and Types.                                                                                                                                                                                                                                                                                                                                                     | <b>(12 hrs)</b> |
| <b>UNIT IV</b><br><b>Trends in Banking Technology</b><br>Recent Developments in Banking Technology: Digital Account Opening – Application Programming Interface – Video Collaboration – Person-to-Person Payments – Cloud Computing – NUUP (National Unified USSD Platform), AePS (Aadhaar enabled Payment System) – APBS (Aadhaar Payments Bridge System) - Role of IDBRT (Institute of Development and Research in Banking) in banking technology development - Status of E-banking in India - Process of E-Banking - Benefits of E-banking - Emerging challenges in banking industry - Scope of IT to tackle the key challenges.                                                                                                     | <b>(12 hrs)</b> |
| <b>UNIT V</b><br><b>Information Security System</b><br>Information security - Software based security systems - Hardware based security systems (smart card, M chip) – Hackers: Techniques used by the hackers, Phishing, Pharming, Key loggers, Screen loggers, Phishing - Trojans transaction poisoning - Card related fraud - Site cloning – False merchant site - Authentication methodologies and security measures (Password protection - Smart cards - Biometric characteristics) - Encryption and security - Customer confidentiality - Regulatory environment of internet banking - Legal Framework for Electronic Transactions – Cyber security as per Information Technology Act, 2000 – RBI Guidelines on Internet Banking. | <b>(12 hrs)</b> |

## Course Outcomes

### Students will be able to

|      |                                                                                                             |
|------|-------------------------------------------------------------------------------------------------------------|
| CO 1 | Discuss the utility of stand-alone and multi-user systems access in Core banking.                           |
| CO 2 | Assess the multi-faceted electronic payment options available to customer and host transactions in banking. |
| CO 3 | Evaluate the dynamic transitions in Electronic Fund transfer systems.                                       |
| CO 4 | Evaluate the enhanced utility and user interface and other recent developments in banking technologies.     |
| CO5  | Assess the information security system                                                                      |

### Books for study:

1. SangeethaR,(2013) “Technology in Banking”, 1<sup>st</sup> Edition, Charulatha Publications, Chennai.
2. Sohani, A K, (2012) “Technology in Banking Sector”, SBS Publishers and Distributors Pvt Ltd, New Delhi.
3. Uppal R K and Dhiraj Sharma, (2017) “Banking with Technology: A New Vision - 2020”, Bharti Publication, New Delhi
4. Indian Institute of Banking and Finance, (2017) “Information Technology, Data Communications and Electronic Banking”, 3<sup>rd</sup> Edition, Macmillan Publishers India Private Limited, Noida.

### Books for reference:

1. Vadlamani Ravi, (2007) “Advances in Banking Technology and Management: Impacts of ICT and CRM”, 1<sup>st</sup> Edition, Information Science Reference, Hershey, (USA).
2. Lucian Morrisand Tim Walker, (2021) “ The Handbook of Banking Technology” , John Wiley & Sons, New York.
3. Indian Institute of Banking and Finance, (2017), “Security in Electronic Banking”, 3<sup>rd</sup> Edition, Macmillan Publishers India Private Limited, Noida.
4. Uppal R.K., AgrimUppal(2008) “Banking Services and Information Technology: The Indian Experience”, New Century Publications, New Delhi.

### Web references:

1. <https://rbidocs.rbi.org.in/rdocs/Bulletin/PDFs/64767.pdf>
2. [https://www.researchgate.net/profile/Ravi-Vadlamani/publication/237383828\\_Chapter\\_I\\_Introduction\\_to\\_Banking\\_Technology\\_and\\_Management/links/572a89bc08aef7c7e2c4fbc3/Chapter-I-Introduction-to-Banking-Technology-and-Management.pdf](https://www.researchgate.net/profile/Ravi-Vadlamani/publication/237383828_Chapter_I_Introduction_to_Banking_Technology_and_Management/links/572a89bc08aef7c7e2c4fbc3/Chapter-I-Introduction-to-Banking-Technology-and-Management.pdf)
3. <https://eprocure.gov.in/cppp/rulesandprocs/kbadqkdlcswfjdelrquehwuxcfmijmuixngudufgbuubgubfugbububjxcgfvbsdihbgfGhdfgFHtyhRtMjk4NzY=#:~:text=%5B9th%20June%2C%202000%5D%20An,communication%20and%20storage%20of%20information%2C>

Note: Latest edition of the book may be used

### Mapping of course outcomes with POs and PSOs

|            | POs               |   |   |                   |   |                | PSOs |   |   |
|------------|-------------------|---|---|-------------------|---|----------------|------|---|---|
|            | 1                 | 2 | 3 | 4                 | 5 | 6              | 1    | 2 | 3 |
| <b>CO1</b> | 2                 | 3 | 2 | 3                 | 3 | 2              | 3    | 2 | 2 |
| <b>CO2</b> | 2                 | 3 | 2 | 3                 | 3 | 3              | 3    | 3 | 3 |
| <b>CO3</b> | 1                 | 2 | 3 | 3                 | 3 | 3              | 3    | 3 | 3 |
| <b>CO4</b> | 2                 | 2 | 2 | 3                 | 3 | 3              | 3    | 3 | 3 |
| <b>CO5</b> | 1                 | 2 | 3 | 2                 | 2 | 3              | 2    | 3 | 3 |
|            | <b>Strong - 3</b> |   |   | <b>Medium – 2</b> |   | <b>Low - 1</b> |      |   |   |

**M.Com., Computer Applications****First Year****Elective – IV A****Semester II****FINANCIAL ANALYTICS (PRACTICALS)**

| Course Code | Title of the Course                     | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|-----------------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                                         |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>FINANCIAL ANALYTICS (PRACTICALS)</b> |          | 4 | - | - | - | 3       | 4           | 25    | 75       | 100   |

|    | <b>Learning Objectives</b>                                                                                                         |
|----|------------------------------------------------------------------------------------------------------------------------------------|
| 1. | To understand the statistical concepts relating to Probability, decision making under uncertainty and analysis of exploratory data |
| 2. | To learn the use of regression, time series analysis and building of models using accounting data                                  |
| 3. | To gain knowledge on R and python programming                                                                                      |
| 4. | To prepare, analyse and forecast financial statements using cash flow statements                                                   |
| 5. | To gain knowledge on concept, application, and issues in capital budgeting                                                         |

**Course Units**

|                                                                                                                                                                               |                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT I</b>                                                                                                                                                                 | <b>(12 hrs)</b> |
| <b>Statistical Concepts</b>                                                                                                                                                   |                 |
| Probability, Normal, Lognormal distribution properties, Decision making under uncertainty - Cleaning and pre-processing financial data, Exploratory Data Analysis in Finance. |                 |
| <b>UNIT II</b>                                                                                                                                                                | <b>(12 hrs)</b> |
| <b>Simple Linear Models</b>                                                                                                                                                   |                 |
| Use of Regression in Finance, Building Models using Accounting Data, Understanding stock price behaviour, time series analysis in finance.                                    |                 |

|                                                                                                                   |                 |
|-------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT III</b>                                                                                                   | <b>(12 hrs)</b> |
| <b>Using R for Analysis of Data</b>                                                                               |                 |
| Quick introduction to R and Python, understanding data in finance, sources of data, Using R for analysis of data. |                 |
| <b>UNIT IV</b>                                                                                                    | <b>(12 hrs)</b> |
| <b>Cash Flow Concepts</b>                                                                                         |                 |
| Cash flow statement – Prepare and Analyse, Modelling and forecasting of financial statements.                     |                 |
| <b>UNIT V</b>                                                                                                     | <b>(12 hrs)</b> |
| <b>Capital Budgeting</b>                                                                                          |                 |
| NPV, IRR – Concept, application, and issues, Use of real options for better financial outcomes.                   |                 |

### Course Outcomes

Students will be able to

|      |                                                                                       |
|------|---------------------------------------------------------------------------------------|
| CO 1 | Analyse decisions under uncertainty and also analyse exploratory                      |
| CO 2 | Build models using accounting data and analyse using regression and time series tools |
| CO 3 | Apply R and python programming                                                        |
| CO 4 | Estimate and analyse financial statements using cash flow statements                  |
| CO 5 | Select appropriate capital budgeting techniques for decision making                   |

### Books for study:

1. Gary Koop, “Analysis of Economic Data”, 4<sup>th</sup> Edition, Wiley, USA.
2. David Ruppert, David S. Matteson, “Statistics and Data Analysis for Financial Engineering; with R examples”, Springer, USA.

### Books for reference:

1. Ang Clifford, “Analyzing Financial Data and Implementing Financial Models Using „R“”, Springer, USA.
2. Wayne L. Winston, “Microsoft Excel 2013: Data Analysis and Business Modeling”, Microsoft Publishing, USA.

**Web references:**

1. [https://personal.ntu.edu.sg/nprivault/MH8331/financial\\_risk\\_analytics.pdf](https://personal.ntu.edu.sg/nprivault/MH8331/financial_risk_analytics.pdf)
2. <https://dynamics.microsoft.com/en-us/finance/what-is-financial-analytics/>

Note: Latest edition of the books may be used

**Mapping of course outcomes with POs and PSOs**

|            | POs |   |            |   |   |         | PSOs |   |   |
|------------|-----|---|------------|---|---|---------|------|---|---|
|            | 1   | 2 | 3          | 4 | 5 | 6       | 1    | 2 | 3 |
| CO1        | 3   | 3 | 1          | 3 | 3 | 2       | 3    | 2 | 2 |
| CO2        | 3   | 3 | 1          | 3 | 3 | 2       | 3    | 2 | 2 |
| CO3        | 3   | 3 | 1          | 3 | 3 | 2       | 3    | 2 | 2 |
| CO4        | 3   | 3 | 1          | 3 | 3 | 2       | 3    | 2 | 2 |
| CO5        | 3   | 3 | 1          | 3 | 3 | 2       | 3    | 2 | 2 |
| Strong - 3 |     |   | Medium – 2 |   |   | Low - 1 |      |   |   |

**M.Com., Computer Applications****First Year****Elective – IV B****Semester II****MANAGEMENT INFORMATION SYSTEM**

| Course Code | Title of the Course                  | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|--------------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                                      |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>MANAGEMENT INFORMATION SYSTEM</b> |          | 4 | - | - | - | 3       | 4           | 25    | 75       | 100   |

|    | <b>Learning Objectives</b>                            |
|----|-------------------------------------------------------|
| 1. | To understand the basic concept of Information system |
| 2. | To identify the importance of MIS                     |

|    |                                                            |
|----|------------------------------------------------------------|
| 3. | To understand the Functional Management Information System |
| 4. | To learn the role of system analyst                        |
| 5. | To apply the concept of Enterprise Resource Planning       |

### Course Units

|                                                                                                                                                                                                                                                                                                                                                          |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT I</b>                                                                                                                                                                                                                                                                                                                                            | <b>(12 hrs)</b> |
| <b>Information System</b><br><br>Introduction to information system - Management - Structure and Activities - Information needs and sources - Types of management decisions and information need - System classification - Elements of system, input, output, process and feedback.                                                                      |                 |
| <b>UNIT II</b>                                                                                                                                                                                                                                                                                                                                           | <b>(12 hrs)</b> |
| <b>Types of Management Information Systems</b><br><br>Transaction Processing Information System - Information system for managers - Intelligence information system – Decision support system - Executive information systems.                                                                                                                           |                 |
| <b>UNIT III</b>                                                                                                                                                                                                                                                                                                                                          | <b>(12 hrs)</b> |
| <b>Functional Management Information Systems</b><br><br>Functional Management Information System: Production Information system - Marketing Information Systems - Accounting Information System - Financial Information System - Human Resource Information System.                                                                                      |                 |
| <b>UNIT IV</b>                                                                                                                                                                                                                                                                                                                                           | <b>(12 hrs)</b> |
| <b>System design and Database</b><br><br>System Analysis and Design: The work of a system analyst - SDLC- System design – Requirement analysis - Data flow diagram - Relationship diagram - Design - Implementation - Evaluation and maintenance of MIS - Database System: Overview of Database - Components - Advantages and disadvantages of database. |                 |



**UNIT V****(12 hrs)****Enterprise Resource Planning**

Enterprise Resource Planning (ERP) System - Benefits of the ERP - How ERP is different from conventional packages - Need for ERP - ERP components - Selection of ERP Package - ERP implementation - Customer Relationship management - Organisation & Types - Decision Making - Data & information - Characteristics & Classification of information - Cost & value of information - Various channels of information and MIS

**Course Outcomes**

Students will be able to

|      |                                                   |
|------|---------------------------------------------------|
| CO 1 | Identify the basic concept of Information system  |
| CO 2 | Discuss the importance of MIS                     |
| CO 3 | Explain the functional MIS                        |
| CO 4 | Describe the role of system analyst               |
| CO 5 | Apply the concept of Enterprise resource planning |

**Books for study:**

1. Azam, M (2012), "Management Information System", McGrawHill Education, Noida.
2. Laudon, K., Laudon, J. and Dass, R. (2010), "Management Information Systems – Managing the Digital Firm", 11th Edition, Pearson, Noida.
3. Murdick, R.G., Ross, J.E. and Claggett, J.R. (2011), "Information Systems for Modern Management", 3rd Edition, PHI, New Delhi.

**Books for reference:**

1. O'Brien, J.A., Morakas, G.M. and Behl, R. (2009), "Management Information Systems", 9th Edition, Tata McGraw-Hill Education, Noida.
2. Saunders, C.S. and Pearson, K.E. (2009), "Managing and Using Information Systems", 3rd Edition, Wiley India Pvt. Ltd., New Delhi.
3. Stair, R. and Reynolds, G. (2012), "Information Systems", 10th Edition, Cengage Learning, Noida.

**Web references:**

1. <https://cleartax.in/g/terms/mis-meaning-mis-full-form-marketing-information-system/amp>
2. <https://www.techtarget.com/searchitoperations/definition/MIS-management-information-systems>

Note: Latest edition of the books may be used

**Mapping of course outcomes with POs and PSOs**

|                   | <b>POs</b> |          |                   |          |          |                | <b>PSOs</b> |          |          |
|-------------------|------------|----------|-------------------|----------|----------|----------------|-------------|----------|----------|
|                   | <b>1</b>   | <b>2</b> | <b>3</b>          | <b>4</b> | <b>5</b> | <b>6</b>       | <b>1</b>    | <b>2</b> | <b>3</b> |
| <b>CO1</b>        | 1          | 1        | 2                 | 2        | 1        | 2              | 1           | 2        | 2        |
| <b>CO2</b>        | 2          | 2        | 2                 | 2        | 1        | 2              | 1           | 2        | 2        |
| <b>CO3</b>        | 3          | 3        | 3                 | 3        | 1        | 2              | 1           | 2        | 3        |
| <b>CO4</b>        | 3          | 3        | 3                 | 3        | 2        | 3              | 2           | 3        | 3        |
| <b>CO5</b>        | 3          | 3        | 3                 | 3        | 2        | 3              | 2           | 3        | 3        |
| <b>Strong - 3</b> |            |          | <b>Medium – 2</b> |          |          | <b>Low - 1</b> |             |          |          |

**M.Com., Computer Applications****Second Year****Core – VII****Semester III****TAXATION**

| <b>Course Code</b> | <b>Title of the Course</b> | <b>Category</b> | <b>L</b> | <b>T</b> | <b>P</b> | <b>O</b> | <b>Credits</b> | <b>Inst. Hours</b> | <b>Marks</b> |                 |              |
|--------------------|----------------------------|-----------------|----------|----------|----------|----------|----------------|--------------------|--------------|-----------------|--------------|
|                    |                            |                 |          |          |          |          |                |                    | <b>CIA</b>   | <b>External</b> | <b>Total</b> |
|                    | <b>TAXATION</b>            |                 | 6        | -        | -        | -        | 5              | 6                  | 25           | 75              | 100          |

|          | <b>Learning Objectives</b>                                                                                 |
|----------|------------------------------------------------------------------------------------------------------------|
| <b>1</b> | To identify deductions from gross total income and computation of income for different classes of assesses |
| <b>2</b> | To understand the procedure for filing of returns and tax planning                                         |
| <b>3</b> | To analyse the structure on international business taxation                                                |
| <b>4</b> | To assess Goods and Services Tax and filing GST returns                                                    |
| <b>5</b> | To compute customs duty as per Customs Act                                                                 |

**Course Units**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT I</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>(18 hrs)</b> |
| <b>Assessment of persons</b><br>Tax Exemptions for Agricultural Income - Deductions to be made in computing total income (80G, 80GGB & 80GGC, 80IA, 80IAB, 80IAC, 80IB, 80IBA, 80ID, 80IE, 80JJA, 80JJAA, 80LA, 80M, 80P, 80PA) – Assessment of Firms, AOP, BOI, Company and Co-operative society.                                                                                                                                                                                                                                                                                 |                 |
| <b>UNIT II</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>(18 hrs)</b> |
| <b>Tax Returns and Tax planning</b><br>Return of income: Statutory obligation, Return Forms, Time for filing of return, Revised return, Modified return–Assessment -Tax Deducted at Source - Advance payment of Tax: Persons liable to pay, Due date, Computation - Payment in pursuance of order of Assessing Officer, Consequences on non-payment. – Tax planning, Tax avoidance and Tax evasion - Tax planning and specific management decisions: Make or buy, Own or lease, Retain or replace, Shut down or continue.                                                          |                 |
| <b>UNIT III</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>(18 hrs)</b> |
| <b>International business taxation</b><br>International business taxation - Taxation of Non-resident - Double taxation relief - Transfer pricing and other anti-avoidance measure - Application and interpretation of tax treaties - (Double taxation avoidance agreement - DTAA) - Equalization levy.                                                                                                                                                                                                                                                                             |                 |
| <b>UNIT IV</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>(18 hrs)</b> |
| <b>Goods and Services Tax</b><br>Goods and Services Tax: GST Act, 2017 - Registration – Procedure for registration under Schedule III – Amendment of registration – Rates of Tax of IGST, CGST, SGST/UGTST- Assessment of GST- Self-assessment – Provisional assessment – Scrutiny of returns – Assessment of non filers of returns – Assessment of unregistered persons – Assessment in certain special cases – Tax Invoice – Credit and Debit Notes – Payment of Tax – Input Tax Credit - Anti profiteering -- Filing of Returns- Penalties – Prosecution – Appeal and Revision. |                 |
| <b>UNIT V</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>(18 hrs)</b> |
| <b>Customs Act, 1962</b><br>Customs Act, 1962: Important Definitions – Basics – Importance of Customs Duty – Constitutional authority for levy of Customs Duty – Types of Customs Duty – Prohibition of Importation and Exportation of goods – Valuation of goods for Customs                                                                                                                                                                                                                                                                                                      |                 |

Duty – Transaction Value – Assessable Value – Computation of Assessable Value and Customs Duty.

### **Course Outcomes**

**Students will be able to:**

|      |                                                           |
|------|-----------------------------------------------------------|
| CO 1 | Estimate taxable income                                   |
| CO 2 | File returns and plan taxes                               |
| CO 3 | Illustrate the nuances of international business taxation |
| CO 4 | Apply the provisions of GST                               |
| CO 5 | Assess the provisions of Customs Act                      |

### **Books for study:**

1. VinodSinghania and KapilSinghania, Direct Taxes Law & Practice Professional Edition, Taxmann Publications, New Delhi
2. Mehrotra H.C. and Goyal S.P, Income Tax including Tax Planning & Management, SahityaBhawan Publications, Agra
3. Sekar G, “Direct Taxes” - A Ready Refresher, Sitaraman C.& Co Pvt.Ltd., Chennai.
4. Balachandran V, (2021) Textbook of GST and Customs Law, Sultan Chand and Sons, New Delhi
5. VandanaBangar andYogendraBangar, “Comprehensive Guide to Taxation”(Vol.I and II),AadhyaPrakashan, Prayagraj(UP).

### **Books for reference:**

1. Sha R. G. and Usha Devi N.,(2022) “Income Tax” (Direct and Indirect Tax), HimalayaPublishing House,Mumbai.
2. GirishAhuja and Ravi Gupta, “Practical Approach to Direct and Indirect Taxes: Containing Income Tax and GST”, Wolters Kluwer India Private Limited
3. Swetha Jain, GST Law & Practice, Taxmann Publishers Pvt.Ltd, Chennai.
4. Datt V.S., “GST - Input Tax Credit”,Taxmann Publishers, Chennai.
5. AnuragPandy,“Law & Practices of GST and Service Tax”- Sumedha Publication House, New Delhi.

### **Web references:**

1. [https://www.icsi.edu/media/webmodules/16112021\\_Advance\\_Tax\\_Laws.pdf](https://www.icsi.edu/media/webmodules/16112021_Advance_Tax_Laws.pdf)
2. [https://www.icsi.edu/media/webmodules/Final\\_Direct\\_Tax\\_Law\\_17\\_12\\_2020.pdf](https://www.icsi.edu/media/webmodules/Final_Direct_Tax_Law_17_12_2020.pdf)
3. [https://www.icsi.edu/media/webmodules/TL\\_Final\\_pdf\\_25102021.pdf](https://www.icsi.edu/media/webmodules/TL_Final_pdf_25102021.pdf)

Note: Latest edition of the books may be used

**Mapping of course outcomes with POs and PSOs**

|            | POs |   |   |   |   |   | PSOs |   |   |
|------------|-----|---|---|---|---|---|------|---|---|
|            | 1   | 2 | 3 | 4 | 5 | 6 | 1    | 2 | 3 |
| <b>CO1</b> | 3   | 3 | 3 | 3 | 3 | 3 | 3    | 2 | 3 |
| <b>CO2</b> | 3   | 3 | 3 | 3 | 3 | 3 | 2    | 2 | 3 |
| <b>CO3</b> | 3   | 3 | 3 | 3 | 3 | 3 | 3    | 2 | 3 |
| <b>CO4</b> | 3   | 3 | 3 | 3 | 3 | 3 | 3    | 2 | 3 |
| <b>CO5</b> | 3   | 3 | 3 | 3 | 3 | 3 | 3    | 3 | 3 |

**Strong - 3****Medium – 2****Low - 1****M.Com., Computer Applications****Second Year****Core – VIII****Semester III****RESEARCH METHODOLOGY**

| Course Code | Title of the Course         | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|-----------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                             |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>RESEARCH METHODOLOGY</b> |          | 6 | - | - | - | 5       | 6           | 25    | 75       | 100   |

|   | <b>Learning Objectives</b>                                               |
|---|--------------------------------------------------------------------------|
| 1 | To understand the fundamentals of research                               |
| 2 | To construct theoretical design and formulate hypotheses                 |
| 3 | To evaluate the data collection techniques                               |
| 4 | To perform parametric and non-parametric tests                           |
| 5 | To enhance report writing skills and develop ethical conduct in research |

**Course Units****UNIT I****(18 hrs)****Introduction to Research Methodology**

Research: Definition – Objectives – Motivations for research – Types of research – Maintaining objectivity in research – Criteria of good research – Applications of research in business - Formulating a research problem – Literature Review – Reasons for review –

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Reference management tools - Identification of research gap – Framing of objectives.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |
| <b>UNIT II</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>(18 hrs)</b> |
| <b>Hypothesis Testing and Research Design</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |
| Hypothesis – Formulation of hypothesis – Testing of hypothesis – Type I and Type II errors – Research design – Types of research design - Methods of data collection: Census, Sample survey, Case study – Sampling: Steps in sampling design, Methods of sampling – Testing of reliability and validity – Sampling errors.                                                                                                                                                                                                                                                   |                 |
| <b>UNIT III</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>(18 hrs)</b> |
| <b>Data Collection</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |
| Variable: Meaning and types - Techniques of data collection – Primary data: Meaning, Advantages and limitations – Techniques: Interview, Schedule, Questionnaire, Observation – Secondary Data: Meaning and sources.                                                                                                                                                                                                                                                                                                                                                         |                 |
| <b>UNIT IV</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>(18 hrs)</b> |
| <b>Data Analysis</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |
| Data Analysis – Uni-variate Analysis: Percentile, Mean, Median, Mode, Standard deviation, Range, Minimum, Maximum, Independent sample t-test – Bi-variate analysis: Simple correlation, Simple Regression, Chi-square, Paired samples t-test, ANOVA, Man-Whitney test – Wilcoxon signed rank test – Kruskal Wallis test (Simple problems)<br>Multi Variate Analysis: Multiple Correlation, Multiple Regression, Factor Analysis, Friedman’s test, Cluster analysis, Confirmatory Factor Analysis (CFA), Structural Equation Modelling (SEM), Multiple Discriminant Analysis. |                 |
| <b>UNIT V</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>(18 hrs)</b> |
| <b>Preparation of Research Report</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |
| Report preparation – Guidelines and precautions for interpretation – Steps in Report writing - Style of research reports (APA, MLA, Anderson, Harvard) – Mechanics of report writing – Ethics in Research – Avoiding plagiarism – Plagiarism checker tools – Funding agencies for business research.                                                                                                                                                                                                                                                                         |                 |

**Question pattern: Theory: 80%; Problems: 20%**

## Course Outcomes

Students will be able to:

|      |                                                                 |
|------|-----------------------------------------------------------------|
| CO 1 | Recall the research concepts and recognise the research problem |
| CO 2 | Formulate research hypothesis and determine the sample size     |
| CO 3 | Select appropriate method for data collection                   |
| CO 4 | Make inferences based on statistical tests                      |
| CO 5 | Draft a research report avoiding plagiarism                     |

### Books for study:

1. Tripathi, (2014) “Research Methodology in Management and Social Sciences”. Sultan Chand & Sons, New Delhi.
2. Kothari C.R and GauravGarg, (2020) “Research Methodology” – Methods and Techniques. New Age International (P) Limited, New Delhi.
3. Krishnaswami and Ranganathan, (2011) “Methodology of Research in Social Sciences”, Himalaya Publishing House, Mumbai.
4. Dr.Shazuli Ibrahim S.A.N., (2022), “Research Methodology”, Pass Publications, Madurai.

### Books for reference:

1. Donald R. Cooper, Pamela S. Schindler and J.K.Sharma, “Business Research Methodology”, 12<sup>th</sup> Edition, Tata Mcgraw Hill, Noida (UP).
2. SashiK.Guptha and ParneetRangi,(2018) “Research Methodology” , Kalyani Publisher, Ludhiana.
3. Sharma R D and HardeepChahal, (2004) “Research Methodology In Commerce and Management”, Anmol Publications, New Delhi

### Web references:

1. [https://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture\\_notes/health\\_science\\_students/ln\\_research\\_method\\_final.pdf](https://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/health_science_students/ln_research_method_final.pdf)
2. <https://ccsuniversity.ac.in/bridge-library/pdf/MPhil%20Stats%20Research%20Methodology-Part1.pdf>
3. [https://prog.lmu.edu.ng/colleges\\_CMS/document/books/EIE%20510%20LECTURE%20NOTES%20first.pdf](https://prog.lmu.edu.ng/colleges_CMS/document/books/EIE%20510%20LECTURE%20NOTES%20first.pdf)
4. <https://www.statisticssolutions.com/academic-research-consulting/data-analysis-plan/>

Note: Latest edition of the books may be used

**Mapping of course outcomes with POs and PSOs**

|     | POs |   |   |   |   |   | PSOs |   |   |
|-----|-----|---|---|---|---|---|------|---|---|
|     | 1   | 2 | 3 | 4 | 5 | 6 | 1    | 2 | 3 |
| CO1 | 3   | 3 | 3 | 2 | 2 | 3 | 2    | 3 | 3 |
| CO2 | 3   | 3 | 3 | 2 | 2 | 3 | 2    | 3 | 3 |
| CO3 | 3   | 3 | 3 | 2 | 2 | 3 | 2    | 3 | 3 |
| CO4 | 3   | 3 | 3 | 2 | 2 | 3 | 2    | 3 | 3 |
| CO5 | 3   | 3 | 3 | 2 | 2 | 3 | 2    | 3 | 3 |

**Strong - 3****Medium – 2****Low - 1****M.Com., Computer Applications****Second Year****Core–IX****Semester III****COMPUTERS IN BUSINESS**

| Course Code | Title of the Course          | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                              |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>COMPUTERS IN BUSINESS</b> |          | 2 | - | 4 | - | 5       | 6           | 25    | 75       | 100   |

|   | <b>Learning Objectives</b>                                                              |
|---|-----------------------------------------------------------------------------------------|
| 1 | To understand the fundamentals of SPSS                                                  |
| 2 | To compare the values obtained in t-test and ANOVA                                      |
| 3 | To perform regression and non-parametric tests                                          |
| 4 | To create company, groups and ledgers and obtain financial statements using Tally Prime |
| 5 | To understand inventory management and account for goods and services tax               |

**Course Units****UNIT I****(18 hrs)****Introduction to SPSS**

Opening a data file in SPSS – Variable view – Data view – Entering data into the data editor – Saving the data file– Table creation – Descriptive statistics: Percentile values, Measures of central tendency, Measures of dispersion, Distribution – Cronbach’s Alpha test – Charts and graphs - Editing and copying SPSS output.



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT II(18 hrs)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |
| <b>Parametric Tests in SPSS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |
| Compare means: One-sample t-test, Independent Samples t-test, Paired-samples t-test and One-way ANOVA, Two-way ANOVA - Correlation: Bi-variate, Partial and Multiple. Simple linear regression.                                                                                                                                                                                                                                                                                              |                 |
| <b>UNIT III</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>(18 hrs)</b> |
| <b>Non-parametric Tests in SPSS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |
| Chi-square test - Mann Whitney's test for independent samples – Wilcoxon matched pairs sample test– Friedman's test – Wilcoxon signed rank test – Kruskal Wallis test                                                                                                                                                                                                                                                                                                                        |                 |
| <b>UNIT IV</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>(18 hrs)</b> |
| <b>Introduction to Tally Prime</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |
| Tally Prime: Introduction – Starting Tally Prime – Creation of a Company - Selecting company - Shutting a company - Altering company– Creating Accounting groups and ledgers – Vouchers – Practical problems for a new and existing business and not-for profit organisation. Accounting reports: Introduction – Displaying Trial balance, Profit and Loss Account, Balance sheet, Day book, Purchase register, Sales register, Cashflow/Funds flow and ratio analysis – Practical problems. |                 |
| <b>UNIT V</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>(18 hrs)</b> |
| <b>Inventory and GST in Tally Prime</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |
| Inventory: Introduction to Inventory Masters – Creation of stock group – Creation of Godown – Creation of unit of measurement – Creation of stock item – Entering inventory details in Accounting vouchers – Practical problems. GST: Introduction – Enabling GST – Defining tax details – Entries in Accounting vouchers – View invoice report – Practical problems.                                                                                                                        |                 |

### **Question Pattern: 100% Practical**

#### **Course Outcomes**

Students will be able to:

|             |                              |
|-------------|------------------------------|
| <b>CO 1</b> | Create data file in SPSS     |
| <b>CO 2</b> | Examine Means of samples     |
| <b>CO 3</b> | Conduct non-parametric tests |

|             |                                                                      |
|-------------|----------------------------------------------------------------------|
| <b>CO 4</b> | Create a company, form groups and get automated financial statements |
| <b>CO 5</b> | Automate inventory management and GST filing                         |

**Books for study:**

1. SundaraPandian.P, Muthulakshmi. S &Vijayakumar, T (2022), Research Methodology &Applications of SPSS in Social Science Research, Sultan Chand & Sons, New Delhi
2. Morgan George. A, Barrett C Karen, Leech L Nancy and Gloeckner Gene W (2019), IBM SPSS for Introductory Statistics, Routledge, 6<sup>th</sup> Edition, U.K
3. Official Guide to Financial Accounting using TallyPrime (2021), BPB Publication, Delhi
4. Chheda Rajesh, U (2020), Learn Tally Prime, Ane Books, 4<sup>th</sup> Edition, New Delhi

**Books for reference:**

1. Kulas John, Renata Garcia Prieto Palacios Roji, Smith Adams (2021), IBM SPSS Essentials: Managing and Analysing Social Sciences Data, 2<sup>nd</sup> Edition, John Wiley & Sons Inc., New York
2. Rajathi. A, Chandran. P (2011), SPSS for You, MJP Publishers, Chennai
3. SangwanRakesh (2022), Learn Tally Prime in English, Ascend Prime Publication, Pilani
4. LodhaRoshan (2022), Tally Prime with GST Accounting, Law Point Publication, Kolkata

**Web references:**

1. <https://www.spss-tutorials.com/basics/>
2. <https://www.tallyclub.in/>
3. <https://tallysolutions.com/business-guides/inventory-management-in-tally-erp9/>

Note: Latest edition of the books may be used

**Mapping of course outcomes with POs and PSOs**

|             | POs |   |   |   |   |   | PSOs |   |   |
|-------------|-----|---|---|---|---|---|------|---|---|
|             | 1   | 2 | 3 | 4 | 5 | 6 | 1    | 2 | 3 |
| <b>CO 1</b> | 2   | 3 | 2 | 2 | 3 | 3 | 2    | 3 | 3 |
| <b>CO 2</b> | 3   | 3 | 2 | 2 | 3 | 3 | 2    | 3 | 3 |
| <b>CO 3</b> | 3   | 3 | 2 | 2 | 3 | 3 | 2    | 3 | 3 |
| <b>CO 4</b> | 3   | 3 | 2 | 3 | 3 | 3 | 3    | 3 | 3 |
| <b>CO 5</b> | 3   | 3 | 2 | 3 | 3 | 3 | 3    | 3 | 3 |

**Strong - 3****Medium – 2****Low - 1**

**M.Com., Computer Applications****Second Year****Core – X****Semester IV****INTERNATIONAL BUSINESS**

| Course Code | Title of the Course           | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|-------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                               |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>INTERNATIONAL BUSINESS</b> |          | 6 | - | - | - | 4       | 6           | 25    | 75       | 100   |

|   | <b>Learning Objectives</b>                                                                  |
|---|---------------------------------------------------------------------------------------------|
| 1 | To understand the concepts of International Business and International Business Environment |
| 2 | To analyse the different theories of International Business.                                |
| 3 | To understand the legal procedures involved in International Business.                      |
| 4 | To evaluate the different types of economic integrations.                                   |
| 5 | To analyse the operations of MNCs through real case assessment.                             |

**Course Units**

|                                                                                                                                                                                                                                                                                                                                                                                                  |                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT I</b>                                                                                                                                                                                                                                                                                                                                                                                    | <b>(18 hrs)</b> |
| <b>Introduction to International business</b>                                                                                                                                                                                                                                                                                                                                                    |                 |
| International Business - Meaning, Nature, Scope and Importance- Stages of internationalization of Business-Methods of entry into foreign markets: Licensing-Franchising- Joint Ventures-Strategic Alliances- Subsidiaries and Acquisitions - Framework for analyzing international business environment- Domestic, Foreign and Global Environment-Recent Developments in International Business. |                 |
| <b>UNIT II</b>                                                                                                                                                                                                                                                                                                                                                                                   | <b>(18 hrs)</b> |
| <b>Theoretical Foundations of International business</b>                                                                                                                                                                                                                                                                                                                                         |                 |
| Theoretical Foundations of International Business: Theory of Mercantilism- Theory of Absolute and Comparative Cost Advantage - Haberler's Theory of Opportunity Cost- Heckscher- Ohlin Theory Market Imperfections Approach-Product Life Cycle Approach - Transaction Cost Approach- Dunning's Eclectic Theory of International Production.                                                      |                 |

|                                                                                                                                                                                                                                                                                                                                                                                                               |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT III</b>                                                                                                                                                                                                                                                                                                                                                                                               | <b>(18 hrs)</b> |
| <b>Legal framework of International Business</b>                                                                                                                                                                                                                                                                                                                                                              |                 |
| Legal framework of International Business: Nature and complexities: Code and common laws and their implications to Business-International Business contract - Legal provisions, Payment terms.                                                                                                                                                                                                                |                 |
| <b>UNIT IV</b>                                                                                                                                                                                                                                                                                                                                                                                                | <b>(18 hrs)</b> |
| <b>Multi-Lateral Agreements and Institutions</b>                                                                                                                                                                                                                                                                                                                                                              |                 |
| Multi-Lateral Agreements and Institutions: Economic Integration – Forms: Free Trade Area, Customs Union, Common Market and Economic Union-Regional Blocks: Developed and Developing Countries-NAFTA- EU-SAARC, ASEAN - BRICS - OPEC-Promotional role played by IMF-World Bank and its affiliates- IFC, MIGA and ICSID – ADB - Regulatory role played by WTO and UNCTAD.                                       |                 |
| <b>UNIT V</b>                                                                                                                                                                                                                                                                                                                                                                                                 | <b>(18 hrs)</b> |
| <b>Multinational Companies (MNCs) and Host Countries</b>                                                                                                                                                                                                                                                                                                                                                      |                 |
| Multinational Companies (MNCs) and Host Countries: MNCs – Nature and characteristics. Decision Making-Intra Firm Trade and Transfer Pricing – Technology Transfer-Employment and labour relations- Management Practices- Host Country Government Policies-International Business and Developing countries: Motives of MNC operations in Developing Countries (Discuss case studies)-Challenges posed by MNCs. |                 |

### Course Outcomes

Students will be able to:

|      |                                                                                      |
|------|--------------------------------------------------------------------------------------|
| CO 1 | Recall the concepts of International Business and International Business Environment |
| CO 2 | Analyze different theories of International Business                                 |
| CO 3 | Evaluate the legal procedures involved in International Business.                    |
| CO 4 | Explain the different types of economic integrations.                                |
| CO 5 | Identify the operations of MNCs through real case assessment                         |

### Books for study:

1. Charles W.L. Hill, International Business: Competing in the Global Market Place, McGraw Hill, New York
2. Charles W. L. Hill, Chow How Wee & Krishna Udayasankar, International Business: An Asian Perspective- McGraw Hill, New York
3. Rakesh Mohan Joshi (2009), International Business, Oxford University Press

**Books for reference:**

1. Donald Ball, Michael Geringer, Michael Minor & Jeanne McNett, International Business: The Challenge of Global Competition, McGraw Hill Education, New York
2. Alan M Rugman & Simon Collinson, International Business: Pearson Education, Singapore

**Web references:**

1. <https://www.icsi.edu/media/webmodules/publications/9.5%20International%20Business.pdf>
2. [https://ebooks.lpude.in/commerce/mcom/term\\_3/DCOM501\\_INTERNATIONAL\\_BUSINESS.pdf](https://ebooks.lpude.in/commerce/mcom/term_3/DCOM501_INTERNATIONAL_BUSINESS.pdf)
3. <https://www.shobhituniversity.ac.in/pdf/econtent/International-Business-Unit-1-Dr-Neha-Yajurvedi.pdf>

Note: Latest edition of the books may be used

**Mapping of course outcomes with POs and PSOs**

|            | POs |   |                   |   |                   |   | PSOs           |   |   |
|------------|-----|---|-------------------|---|-------------------|---|----------------|---|---|
|            | 1   | 2 | 3                 | 4 | 5                 | 6 | 1              | 2 | 3 |
| <b>CO1</b> | 1   | 3 | 1                 | 2 | 2                 | 2 | 3              | 1 | 2 |
| <b>CO2</b> | 3   | 2 | 3                 | 1 | 3                 | 3 | 2              | 2 | 1 |
| <b>CO3</b> | 2   | 1 | 2                 | 3 | 2                 | 2 | 3              | 3 | 3 |
| <b>CO4</b> | 1   | 3 | 1                 | 2 | 1                 | 1 | 2              | 2 | 2 |
| <b>CO5</b> | 3   | 2 | 2                 | 2 | 2                 | 2 | 1              | 1 | 1 |
|            |     |   | <b>Strong - 3</b> |   | <b>Medium – 2</b> |   | <b>Low - 1</b> |   |   |

**M.Com., Computer Applications****Second Year****Elective – V A****Semester III****APPLIED DATA ANALYTICS AND MACHINE LEARNING**

| Course Code | Title of the Course                                | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|----------------------------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                                                    |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>APPLIED DATA ANALYTICS AND MACHINE LEARNING</b> |          | 3 | - | - | - | 3       | 3           | 25    | 75       | 100   |

| LEARNING OBJECTIVES |                                                                        |
|---------------------|------------------------------------------------------------------------|
| 1.                  | To understand basics of data analysis in Python                        |
| 2.                  | To interpret the data analysis pipeline via usage of NumPy and Pandas. |
| 3.                  | To examine methods of working with textual and time series data        |
| 4.                  | To investigate machine learning techniques with Scikit-Learn           |
| 5.                  | To understand advanced machine learning techniques                     |

**Course Units**

|                                                                                                                                                                                                                                                                                                                                                             |                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT I</b>                                                                                                                                                                                                                                                                                                                                               | <b>(12 hrs)</b> |
| <b>Introduction to Data Analysis with Python</b>                                                                                                                                                                                                                                                                                                            |                 |
| Introduction to Data Analysis with Python: Data Analysis - Understanding Nature of Data - Data Analysis Process - Quantitative and Qualitative Data Analysis-Introduction to Python - PyPI, SciPy.Getting started with Python - Explore the first data set - The Jupyter notebook.                                                                          |                 |
| <b>UNIT II</b>                                                                                                                                                                                                                                                                                                                                              | <b>(12 hrs)</b> |
| <b>Working across the entire data analysis pipeline</b>                                                                                                                                                                                                                                                                                                     |                 |
| Working across the entire data analysis pipeline, - Getting, cleaning and manipulating the data - Numpy library – Ndarray - Basic Operation- Shape Manipulation - Array Manipulation - General Concepts - Pandas Library- Introduction to Pandas Data Structures - Index functionalities - Operations between Data Structures - Interacting with Databases. |                 |

|                                                                                                                                                                                                     |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT III</b>                                                                                                                                                                                     | <b>(12 hrs)</b> |
| <b>Working with textual and time-series data</b>                                                                                                                                                    |                 |
| Working with textual data - Working with time-series data - Databases in Python - Statistical data analysis.                                                                                        |                 |
| <b>UNIT IV</b>                                                                                                                                                                                      | <b>(12 hrs)</b> |
| <b>Basics of machine learning with Scikit-learn</b>                                                                                                                                                 |                 |
| Basics of machine learning with Scikit-learn - Introduction to machine learning -Fitting a first model - Cost functions and outliers - Linear regressions - Gradient descent - Feature engineering. |                 |
| <b>UNIT V</b>                                                                                                                                                                                       | <b>(12 hrs)</b> |
| <b>Advanced machine learning techniques</b>                                                                                                                                                         |                 |
| Advanced machine learning techniques: K-nearest neighbours - Logistic regressions - Decision trees and SVMs - Clustering and Dimensionality reduction - Introduction to deep learning.              |                 |

### Course Outcomes

Students will be able to:

|             |                                                                                 |
|-------------|---------------------------------------------------------------------------------|
| <b>CO 1</b> | Demonstrate data analysis with apt knowledge in foundational concepts of Python |
| <b>CO 2</b> | Demonstrate getting, cleaning and manipulation of data using NumPy and Pandas   |
| <b>CO 3</b> | Use Python for Statistical Data analysis                                        |
| <b>CO 4</b> | Use Scikit-Learn for advanced Data analysis                                     |
| <b>CO 5</b> | Explain advanced machine learning techniques                                    |

### Books for study:

1. Fabio Nelli (2018), “Python Data Analytics with Pandas, Numpy and Matplotlib”, 2<sup>nd</sup> Edition, Apress, New York.
2. Paul Barry, Shroff (2011), “Head First Python”, 1<sup>st</sup> Edition, O'Reilly Media, USA.
3. Mark Lutz, Shroff (2011), “Programming Python”, 4<sup>th</sup> Edition, O'Reilly Media, USA.

**Books for reference:**

1. Wes McKinney, “Python for Data Analysis”, 2<sup>nd</sup> Edition, O’Reilly publication, USA.
2. Martin C Brown (2001), “Python the Complete Reference”, McGraw Hill, USA.
3. Mark Lutz, Shroff (2010), “Python Pocket Reference”, 3<sup>rd</sup> Edition, O’Reilly Media, USA.
4. Ashok Namdev Kamthane, Amit Ashok Kamthane (2018), “Problem Solving and Python Programming”, McGraw Hill Education Pvt. Ltd. Noida.

**Web references:**

1. <https://pandas.pydata.org/pandas-docs/version/1.4.4/pandas.pdf>
2. [https://mrcet.com/downloads/digital\\_notes/CSE/IV%20Year/MACHINE%20LEARNING\(R17A0534\).pdf](https://mrcet.com/downloads/digital_notes/CSE/IV%20Year/MACHINE%20LEARNING(R17A0534).pdf)

Note: Latest edition of the books may be used.

**Mapping of course outcomes with POs and PSOs**

|            | POs               |   |   |                   |   |   | PSOs           |   |   |
|------------|-------------------|---|---|-------------------|---|---|----------------|---|---|
|            | 1                 | 2 | 3 | 4                 | 5 | 6 | 1              | 2 | 3 |
| <b>CO1</b> | 1                 | 2 | 1 | 3                 | 3 | 1 | 3              | 2 | 1 |
| <b>CO2</b> | 1                 | 2 | 1 | 3                 | 3 | 1 | 3              | 2 | 1 |
| <b>CO3</b> | 1                 | 2 | 1 | 3                 | 3 | 1 | 3              | 2 | 1 |
| <b>CO4</b> | 1                 | 2 | 1 | 3                 | 3 | 1 | 3              | 2 | 1 |
| <b>CO5</b> | 1                 | 2 | 1 | 3                 | 3 | 1 | 3              | 2 | 1 |
|            | <b>Strong - 3</b> |   |   | <b>Medium – 2</b> |   |   | <b>Low - 1</b> |   |   |



**M.Com., Computer Applications****Second Year****Elective–V B****Semester III****PYTHON AND R FOR DATA ANALYTICS**

| Course Code | Title of the Course                    | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|----------------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                                        |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>PYTHON AND R FOR DATA ANALYTICS</b> |          | 3 | - | - | - | 3       | 3           | 25    | 75       | 100   |

|    | Learning Objectives                  |
|----|--------------------------------------|
| 1. | To understand the basics of Python   |
| 2. | To learn Bio Python                  |
| 3. | To understand the features of R      |
| 4. | To learn data handling               |
| 5. | To identify the use of bio conductor |

**COURSE UNITS**

|                                                                                                                                                                                                                                                                                                                                      |                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT I</b>                                                                                                                                                                                                                                                                                                                        | <b>(12 hrs)</b> |
| <b>Introduction to Python</b><br><br>Installation of Python - Variables - Types - Strings - Jupiter notebooks - Objects - Functions - Control structures - Operators - User-Defined Functions - Data Structures - List,Tuple -Dictionary.                                                                                            |                 |
| <b>UNIT II</b>                                                                                                                                                                                                                                                                                                                       | <b>(12 hrs)</b> |
| <b>Numpy and Scipy</b><br><br>Numpy library – Ndarray - Basic Operations - Conditions and Boolean Arrays - Shape Manipulation - Array Manipulation - General Concepts - Structured Arrays - Reading and Writing Array on Files - SciPy Library for Statistics: linalg sub package - Normality-Correlation - t-Test- Chi-Test- ANOVA. |                 |

|                                                                                                                                                                                                                                                                       |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT III</b>                                                                                                                                                                                                                                                       | <b>(12 hrs)</b> |
| <b>R Programming</b>                                                                                                                                                                                                                                                  |                 |
| Introduction to R - Installing R - Features of R - Reserved words - Operators, -Strings - Data types and operations - Basic Data types – Vectors - List, Matrices – Arrays - Factors - Data frames - Flow control - Decision making - Loop Control Statements -Loops. |                 |
| <b>UNIT IV</b>                                                                                                                                                                                                                                                        | <b>(12 hrs)</b> |
| <b>Visualisation using R</b>                                                                                                                                                                                                                                          |                 |
| R as a Deluxe Calculator - Creating Objects and Assigning Values - Graphics: Simple Plotting - Advanced Plotting - Using Color in Plots - Using Subscripts and Superscripts in Graph Labels - Interactive Graphics - Saving Graphical Output - Loops.                 |                 |
| <b>UNIT V</b>                                                                                                                                                                                                                                                         | <b>(12 hrs)</b> |
| <b>Data Handling</b>                                                                                                                                                                                                                                                  |                 |
| Feature selection models - Data Preprocessing - Normalization - Methods - Data reduction - Data sampling - Heat maps - Classification: Based on analogy - rules - probabilities - statistics and prediction with R.                                                   |                 |

### Course Outcomes

Students will be able to:

|      |                                                  |
|------|--------------------------------------------------|
| CO 1 | Describe the basics of Python                    |
| CO 2 | Explain the necessity for programming in biology |
| CO 3 | Apply R programming                              |
| CO 4 | Discuss Data handling                            |
| CO 5 | Apply R in Phylogenetics                         |

**Books for study:**

1. Fabio Nelli (2018), "Python Data Analytics with Pandas, Numpy and Matplotlib", 2<sup>nd</sup> Edition, Apress, New York.
2. Wes McKinney, "Python for Data Analysis", 2<sup>nd</sup> Edition, O'Reilly publication, USA.
3. Jeeva Jose (2018), "Beginner's Guide for Data Analysis using R Programming", Khanna Book Publishing Co. Ltd., New Delhi.
4. Norman Matloff (2011), "The Art of R programming - A tour of statistical software design", 1<sup>st</sup> Edition, No Starch Press, USA.

**Books for reference:**

1. Mark Lutz (2009), "Learning Python", O'Reilly Media Publication, USA.
2. Martin C Brown (2001), "Python: The Complete Reference". McGraw-Hill Media, USA.
3. Gentleman R, Carey V.J, Huber W, Irizarry, RA, and Dudoit, S, "Bioinformatics and Computational Biology Solutions Using R and Bioconductor", Springer, New York.

**Web references:**

1. [www.sthurlow.com/python/](http://www.sthurlow.com/python/)
2. [www.learnpython.org](http://www.learnpython.org)
3. [www.codecademy.com/en/tracks/python](http://www.codecademy.com/en/tracks/python)

Note: Latest edition of the books may be used

**Mapping of course outcomes with POs and PSOs**

|            | POs               |   |   |                   |   |   | PSOs           |   |   |
|------------|-------------------|---|---|-------------------|---|---|----------------|---|---|
|            | 1                 | 2 | 3 | 4                 | 5 | 6 | 1              | 2 | 3 |
| <b>CO1</b> | 2                 | 2 | 2 | 2                 | 1 | 2 | 1              | 2 | 3 |
| <b>CO2</b> | 2                 | 2 | 2 | 2                 | 1 | 2 | 1              | 2 | 2 |
| <b>CO3</b> | 3                 | 3 | 3 | 3                 | 2 | 3 | 2              | 3 | 3 |
| <b>CO4</b> | 3                 | 3 | 3 | 3                 | 3 | 3 | 3              | 3 | 3 |
| <b>CO5</b> | 3                 | 3 | 3 | 3                 | 3 | 3 | 3              | 3 | 3 |
|            | <b>Strong - 3</b> |   |   | <b>Medium – 2</b> |   |   | <b>Low - 1</b> |   |   |

**M.Com., Computer Applications****Second Year****Core – XI****Semester IV****CORPORATE AND ECONOMIC LAWS**

| Course Code | Title of the Course                | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|------------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                                    |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>CORPORATE AND ECONOMIC LAWS</b> |          | 6 | - | - | - | 5       | 6           | 25    | 75       | 100   |

|   | <b>Learning Objectives</b>                                                                                                                    |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | To analyse current and capital account transactions and deal with foreign currency under FEMA Act                                             |
| 2 | To understand unethical competitive practices and forums for redressal of consumer disputes under Competition Act and Consumer Protection Act |
| 3 | To understand the procedure for obtaining patents and copyright under The Copyright and Patents Act                                           |
| 4 | To evaluate offences and punishment for money laundering under Prevention of Money Laundering Act                                             |
| 5 | To explain the registration and related procedures under Real Estate Act                                                                      |

**Course Units****UNIT I****(18 hrs)****Introduction to Foreign Exchange Management Act, 1999**

Foreign Exchange Management Act, 1999: Introduction – Definitions – Current Account transactions – Capital Account transactions – Realisation, repatriation and surrender of foreign currency – Remittance of assets – Possession and retention of foreign currency or foreign coins – Authorised person – Adjudication and Appeal.

**UNIT II****(18 hrs)****Competition Act, 2002 and Consumer Protection Act, 2019**

Competition Act, 2002: Objective – Prohibition of Agreements, Prohibition of Abuse of Dominant Position - Regulation of combinations - Competition Commission of India: Duties, Powers and Functions of Commission - Appellate Tribunal.

|                                                                                                                                                                                                                                                                                                                                                                          |                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| The Consumer Protection Act, 2019: Objects; Rights of consumers – Consumer Dispute Redressal Commissions - Consumer protection councils – Procedure for admission to complaints – Appeal against orders.                                                                                                                                                                 |                 |
| <b>UNIT III</b>                                                                                                                                                                                                                                                                                                                                                          | <b>(18 hrs)</b> |
| <b>Law relating to intellectual property rights</b>                                                                                                                                                                                                                                                                                                                      |                 |
| Law relating to intellectual property rights: Introduction - The Copyright Act, 1957: Works in which copyright subsist - Ownership of copyright and the rights of the owner - Assignment of copyright - Disputes with respect to assignment of copyright - Term of copyright - Registration of copyright - Infringement of copyright.                                    |                 |
| The Patents Act, 1970: Inventions not patentable - Applications for patents - Publication and examination of applications - Grant of patents and rights conferred - Register of patents. Trademarks Act, 1999: Conditions for registration - Procedure for and duration of registration - Effect of registration - Collective marks.                                     |                 |
| <b>UNIT IV</b>                                                                                                                                                                                                                                                                                                                                                           | <b>(18 hrs)</b> |
| <b>Prevention of Money Laundering Act, 2002</b>                                                                                                                                                                                                                                                                                                                          |                 |
| Prevention of Money Laundering Act, 2002: Offence of money laundering –Punishment for money laundering –Attachment, adjudication and confiscation - Obligations of Banking Companies, Financial Institutions and Intermediaries – Summons, Search and Seizure – Appellate Tribunal.                                                                                      |                 |
| <b>UNIT V</b>                                                                                                                                                                                                                                                                                                                                                            | <b>(18 hrs)</b> |
| <b>Real Estate (Regulation and Development) Act, 2016</b>                                                                                                                                                                                                                                                                                                                |                 |
| Real Estate (Regulation and Development) Act, 2016: Introduction - Salient features of the Act - Registration of Real Estate Project – Registration of Real Estate agents – Functions and duties of promoter – Rights and duties of Allottees – Offences, penalties and adjudication – Specimen agreement for sale to be executed between the promoter and the allottee. |                 |

## Course Outcomes

Students will be able to:

|      |                                                                                                                                          |
|------|------------------------------------------------------------------------------------------------------------------------------------------|
| CO 1 | Recall important provisions of FEMA                                                                                                      |
| CO 2 | Evaluate the provisions of the Competition Act, 2002 and Consumer Protection Act to govern commercial competition and protect a consumer |
| CO 3 | Recall the process relating to obtaining copyrights and patents.                                                                         |
| CO 4 | Examine the provisions of Money Laundering Act                                                                                           |
| CO 5 | Analyse the provisions relating to regulation of real estate.                                                                            |

### Books for study:

1. MunishBandari (2022), A Textbook on Corporate and Economic Laws, 33<sup>rd</sup> Edition, Bestword Publications, New Delhi
2. AmitVohra and RachitDhingra (2022), Economic, Business and Commercial Laws, 18th Edition, Bharat Book House, Siliguri
3. PankajGarg (2021), Taxmann's Corporate and Economic Laws, 7<sup>th</sup> Edition, Taxmann Publications, New Delhi

### Books for reference:

1. Sekar G and SaravanaPrasath B (2022), Students' Handbook on Corporate and Economic Law, Commercial Law Publishers (India) Pvt.Ltd., New Delhi
2. Taxmann (2021), FEMA & FDI Ready Reckoner, 15<sup>th</sup> Edition, Taxmann Publications, New Delhi
3. AhujaV.K. and ArchaVashishtha (2020), Intellectual Property Rights (contemporary Developments), Thomson Reuters, Toronto, (CAN)

### Web references:

1. <https://resource.cdn.icai.org/67333bos54154-m3cp1.pdf>
2. <https://resource.cdn.icai.org/67335bos54154-m3cp3.pdf>
3. <https://resource.cdn.icai.org/68523bos54855-cp1.pdf>
4. <https://resource.cdn.icai.org/68524bos54855-cp2.pdf>

Note: Latest edition of the books may be used

**Mapping of course outcomes with POs and PSOs**

|            | POs               |   |   |                   |   |   | PSOs           |   |   |
|------------|-------------------|---|---|-------------------|---|---|----------------|---|---|
|            | 1                 | 2 | 3 | 4                 | 5 | 6 | 1              | 2 | 3 |
| <b>CO1</b> | 3                 | 3 | 2 | 2                 | 3 | 3 | 3              | 2 | 3 |
| <b>CO2</b> | 3                 | 3 | 3 | 2                 | 2 | 3 | 2              | 2 | 3 |
| <b>CO3</b> | 3                 | 3 | 2 | 2                 | 2 | 3 | 2              | 2 | 3 |
| <b>CO4</b> | 3                 | 3 | 3 | 3                 | 3 | 3 | 3              | 2 | 3 |
| <b>CO5</b> | 3                 | 3 | 2 | 2                 | 3 | 3 | 3              | 2 | 3 |
|            | <b>Strong - 3</b> |   |   | <b>Medium – 2</b> |   |   | <b>Low - 1</b> |   |   |

**M.Com., Computer Applications****Second Year****Core – XII****Semester IV****HUMAN RESOURCE ANALYTICS**

| Course Code | Title of the Course             | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|---------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                                 |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>HUMAN RESOURCE ANALYTICS</b> |          | 6 | - | - | - | 5       | 6           | 25    | 75       | 100   |

|   | <b>Learning Objectives</b>                                                          |
|---|-------------------------------------------------------------------------------------|
| 1 | To understand the concept and framework of human resource analytics                 |
| 2 | To evaluate the process of human resource analytics and the relevant research tools |
| 3 | To illustrate the evolution, types and design of HR metrics                         |
| 4 | To deal with data collection and transformation                                     |
| 5 | To adopt tools and techniques for predictive modelling                              |

## Course Units

|                                                                                                                                                                                                                                                                                                     |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT I</b>                                                                                                                                                                                                                                                                                       | <b>(18 hrs)</b> |
| <b>Introduction to Human Resource Analytics</b>                                                                                                                                                                                                                                                     |                 |
| Human Resource Analytics: Introduction –Concept – Evolution - Importance – Benefits – Challenges - Types of HR Analytics – HR Analytics Framework and Models.                                                                                                                                       |                 |
| <b>UNIT II</b>                                                                                                                                                                                                                                                                                      | <b>(18 hrs)</b> |
| <b>Business Process and HR Analytics</b>                                                                                                                                                                                                                                                            |                 |
| Business Process and HR Analytics: Introduction – Data Driven Decision Making in HR - Data Issues – Data Validity – Data Reliability - HR Research tools and techniques – Statistics and Statistics Modelling for HR Research                                                                       |                 |
| <b>UNIT III</b>                                                                                                                                                                                                                                                                                     | <b>(18 hrs)</b> |
| <b>Introduction to HR Metrics</b>                                                                                                                                                                                                                                                                   |                 |
| HR Metrics: Introduction - Historical Evolution of HR metrics- Importance – Types of HR Metrics – Types of data - HR Metrics Design Principles — HR Scorecard – HR Dashboards.                                                                                                                      |                 |
| <b>UNIT IV</b>                                                                                                                                                                                                                                                                                      | <b>(18 hrs)</b> |
| <b>HR Analytics and Data</b>                                                                                                                                                                                                                                                                        |                 |
| HR Analytics and Data:Introduction – HR Data Collection – Data quality – Big data for Human Resources – Process of data collection for HR Analytics – Transforming data into HR information – HR Reporting – Data Visualization – Root cause analysis.                                              |                 |
| <b>UNIT V</b>                                                                                                                                                                                                                                                                                       | <b>(18 hrs)</b> |
| <b>HR Analytics and Predictive Modelling</b>                                                                                                                                                                                                                                                        |                 |
| HR Analytics and Predictive Modelling: Introduction – HR Predictive Modelling – Different phases – Predictive analytic tools and techniques – Information for Predictive analysis - Software solutions - Predictive Analytic Models for Quantitative Data - Steps involved in predictive analytics. |                 |

## Course Outcomes

Students will be able to:

|             |                                                                     |
|-------------|---------------------------------------------------------------------|
| <b>CO 1</b> | Examine the concept of human resource analytics                     |
| <b>CO 2</b> | Apply the HR tools and techniques in decision making                |
| <b>CO 3</b> | Examine the different types of HR metrics and their relative merits |



|             |                                                    |
|-------------|----------------------------------------------------|
| <b>CO 4</b> | Collect and transform data leading to HR reporting |
| <b>CO 5</b> | Build models for predictive analysis               |

**Books for study:**

1. NishantUppal (2020), Human Resource Analytics Strategic Decision Making, 1st Edition, Pearson Education Pvt. Ltd., Chennai
2. Sarojkumar and Vikrant Verma (2022), HR analytics, Thakur Publication Pvt. Ltd, Lucknow.
3. Dipak Kumar Bhattacharyya (2017), HR analytics: understanding theories and applications, 1<sup>st</sup> Edition, Sage Publications India Private Limited, New Delhi

**Books for reference:**

1. Ramesh Soundararajan and Kuldeep Singh (2019), Winning on HR analytics, Sage publishing, New Delhi
2. Anshul Saxena (2021), HR analytics: quantifying the intangible, 1st Edition, Blue Rose publishers, New Delhi
3. Michael J. Walsh (2021), “HR analytics essentials you always wanted to know”, 7<sup>th</sup> Edition, Vibrant publishers, Mumbai.

**Web references:**

1. <https://hbr.org/webinar/2017/06/leveraging-hr-analytics-in-strategic-decisions>
2. <https://www.mbaknol.com/human-resource-management/human-resource-metrics/>
3. <https://www.managementstudyguide.com/hr-metrics-and-workforce-analysis.htm>

Note: Latest edition of the books may be used

**Mapping of course outcomes with POs and PSOs**

|                   | POs |   |                   |   |   |                | PSOs |   |   |
|-------------------|-----|---|-------------------|---|---|----------------|------|---|---|
|                   | 1   | 2 | 3                 | 4 | 5 | 6              | 1    | 2 | 3 |
| <b>CO1</b>        | 3   | 2 | 2                 | 3 | 3 | 3              | 3    | 3 | 3 |
| <b>CO2</b>        | 3   | 3 | 2                 | 3 | 3 | 3              | 3    | 3 | 3 |
| <b>CO3</b>        | 3   | 3 | 2                 | 3 | 3 | 3              | 3    | 3 | 3 |
| <b>CO4</b>        | 3   | 3 | 2                 | 3 | 3 | 3              | 3    | 3 | 3 |
| <b>CO5</b>        | 3   | 3 | 2                 | 3 | 3 | 3              | 3    | 3 | 3 |
| <b>Strong - 3</b> |     |   | <b>Medium – 2</b> |   |   | <b>Low – 1</b> |      |   |   |

**4.3 Project with viva voce****Credit =7****Hours=10****M.Com., Computer Applications****Second Year****Elective – VI A****Semester IV****CYBER AND DATA SECURITY**

| Course Code | Title of the Course                                        | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|------------------------------------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                                                            |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>CYBER AND DATA SECURITY</b>                             |          | 4 | - | - | - | 3       | 4           | 25    | 75       | 100   |
|             | <b>Learning Objectives</b>                                 |          |   |   |   |   |         |             |       |          |       |
| 1.          | To understand threats and risks in cybersecurity landscape |          |   |   |   |   |         |             |       |          |       |
| 2.          | To interpret cybersecurity framework and regulations       |          |   |   |   |   |         |             |       |          |       |
| 3.          | To examine data security and integrity regulations         |          |   |   |   |   |         |             |       |          |       |
| 4.          | To discuss network security management                     |          |   |   |   |   |         |             |       |          |       |
| 5.          | To recall cybersecurity disasters                          |          |   |   |   |   |         |             |       |          |       |

**Course Units****UNIT I****(12 hrs)****Cybersecurity Landscape**

Cybersecurity Landscape: Threats that are related to current and emerging trends, cyber security awareness, high profile cybercrime statistics and methods, the importance and functions of Governance, Risk Management, and Compliance in Cyber security program management, best practices in risk management including the domains of risk assessment and risk treatment, the structure and content of Cybersecurity-related strategy, plans, and planning. types of vulnerabilities and frauds in different domains eg. Financial and Banking, Ecommerce, Telecom, GDPR.

**UNIT II****(12 hrs)****Cybersecurity Frameworks**

Cybersecurity Frameworks: International and industry-specific cybersecurity regulations,

challenges to organisation, multiple security regulations, Define key concepts and terminology in Cyber security, threats to cyber security, strategies to identify and remediate vulnerabilities in information assets, the systemic components (including personnel) necessary for an effective cyber security program, NIST Framework.

**Unit III (12 hrs)**

**Data Security**

Data Security: Data Integrity and Security, digital security, Data volume and velocity, Bigdata, multiple data sources, data diversity, Data (dis)organization, Unique data storage requirements, Security tools, Inflexible reporting and query systems.

**Unit IV (12 hrs)**

**Managing Network Security**

Managing Network Security: The threats to data from information communication technology (ICT), the issues and practices associated with managing network security, Identify the practices, tools, and methodologies associated with assessing network security, the components of an effective network security program. Phishing attacks on sites, digital advertising spoofing, Search indexing

**Unit V (12 hrs)**

**Cyber security Incidents and Disasters**

Cyber security Incidents and Disasters: Hacking attempts, web site defacement, denial of service attacks, information disclosures, natural and man-made cyber security disasters, the components of a cyber security contingency planning program, contingency strategies including data backup and recovery and continuity of cyber security operations, the components and structure of an effective cyber security disaster recovery program, the components and structure of an effective cyber security incident response program. Digital ecosystem, Cloud computing.

**Course Outcomes**

Students will be able to:

|      |                                                               |
|------|---------------------------------------------------------------|
| CO 1 | Develop plans to mitigate risks and threats to cyber security |
| CO 2 | Solve vulnerabilities in cyber security frameworks            |
| CO 3 | Solve issues in integrity issues in cyber security            |
| CO 4 | Implement radical changes in cyber security management        |
| CO 5 | Formulate strategies to overcome cyber security disasters     |

**Books for study:**

1. Nina Godbole, SunitBelapure(2016), "Cyber Security", Wiley India, New Delhi.
2. AvantikaYadav (2017), "Cyber security", Narosa Publishing House Pvt Ltd. New Delhi.
3. Tim Mather, SubraKumaraswamy, ShahedLatif (2010), "Cloud Security and Privacy", OREILLY Media, USA.

**Books for reference:**

1. Nina Godbole, "Information Systems Security", Wiley India, New Delhi.
2. Kennetch J. Knapp, "Cyber Security & Global Information Assurance", Information Science Publishing.
3. Thomas J Mowbray (2016), "Cyber Security Managing Systems, Conducting Testing and Investigating Intrusions", Wiley India Pvt. Ltd, New Delhi.

**Web references:**

1. [https://mrcet.com/pdf/Lab%20Manuals/IT/CYBER%20SECURITY%20\(R18A0521\).pdf](https://mrcet.com/pdf/Lab%20Manuals/IT/CYBER%20SECURITY%20(R18A0521).pdf)
2. <http://www.uptti.ac.in/classroom-content/data/cyber%20security%20unit-3.pdf>

Note: Latest edition of the books may be used.

**Mapping of course outcomes with POs and PSOs**

|            | POs               |   |   |                   |   |   | PSOs           |   |   |
|------------|-------------------|---|---|-------------------|---|---|----------------|---|---|
|            | 1                 | 2 | 3 | 4                 | 5 | 6 | 1              | 2 | 3 |
| <b>CO1</b> | 3                 | 3 | 3 | 3                 | 2 | 2 | 2              | 3 | 2 |
| <b>CO2</b> | 3                 | 3 | 3 | 3                 | 2 | 2 | 2              | 2 | 3 |
| <b>CO3</b> | 3                 | 3 | 3 | 3                 | 2 | 2 | 2              | 2 | 3 |
| <b>CO4</b> | 3                 | 3 | 2 | 3                 | 2 | 2 | 2              | 2 | 2 |
| <b>CO5</b> | 3                 | 3 | 2 | 3                 | 2 | 2 | 2              | 3 | 3 |
|            | <b>Strong - 3</b> |   |   | <b>Medium – 2</b> |   |   | <b>Low - 1</b> |   |   |

Second Year

Elective – VI B

Semester IV

**E-COMMERCE**

| Course Code | Title of the Course | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|---------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                     |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>E-COMMERCE</b>   |          | 4 | - | - | - | 3       | 4           | 25    | 75       | 100   |

| LEARNING OBJECTIVES |                                                                          |
|---------------------|--------------------------------------------------------------------------|
| 1.                  | To explain use of Information technology and e-commerce for entrepreneur |
| 2.                  | To apply the functions of Windows operating system                       |
| 3.                  | To apply the advance functions of MS word                                |
| 4.                  | To apply the functions of MS excel                                       |
| 5.                  | To understand the concept of E-Commerce and Electronic payments          |

**Course Units****UNIT I (12 hrs)****E-Commerce and Electronic Payment Systems**

What is Electronic Commerce - Brief history of Electronic Commerce - Advantages and Limitations of Electronic Commerce - Types of Electronic commerce - Integrating Electronic Commerce - Key questions for management - Overview of the Electronic payment technology- Requirements for Internet based payments - Electronic payment medium – Electronic Commerce and Banking.

**UNIT II (12 hrs)****Electronic Data Interchange**

Benefits of EDI, EDI technology, EDI standards, EDI communications, EDI Implementation, EDI Agreements, EDI Security. Electronic Payment Systems, Need of Electronic Payment System: Study and examine the use of Electronic Payment system and the protocols used, Study Electronic Fund Transfer and secure electronic transaction

protocol for credit card payment. Digital economy: Identify the methods of payments on the net – Electronic Cash, cheques and credit cards on the Internet.

**UNIT III (12 hrs)**

**Consumer Oriented E Commerce:**

E-Retailing: Traditional retailing and e retailing, Benefits of e retailing, Key success factors, Models of e retailing, Features of e retailing. E services: Categories of e-services, Web-enabled services, matchmaking services, Information-selling on the web, e entertainment, Auctions and other specialized services. Business to Business Electronic Commerce

**Unit IV (12 hrs)**

**E-security and Web based business**

Security in the cyberspace - Designing for security -Virus -Security Protection and Recovery - Encryption - Business-to-Business Electronic Commerce - Intranets and Extranets - Intranets and Supply Chain Management - Legal and Ethical issues - Case studies.

**Unit V (12 hrs)**

**Issues in E Commerce**

Understanding Ethical, Social and Political issues in E-Commerce: A model for Organizing the issues, Basic Ethical Concepts, Analyzing Ethical Dilemmas, Candidate Ethical principles Privacy and Information Rights: Information collected at E-Commerce Websites, The Concept of Privacy, Legal protections Intellectual Property Rights: Types of Intellectual Property protection, Governance.

**Course Outcomes**

Students will be able to:

|             |                                                              |
|-------------|--------------------------------------------------------------|
| <b>CO 1</b> | Understand the hardware and software of a system             |
| <b>CO 2</b> | Apply the functions of Windows operating system              |
| <b>CO 3</b> | Apply the advance functions of MS word                       |
| <b>CO 4</b> | Apply the functions of MS excel                              |
| <b>CO 5</b> | Understand the concept of E-Commerce and Electronic payments |

**Books for study:**

1. Ravi Kalkota and Andrew B Whinston, "Frontiers of Electronic Commerce", Pearson, Noida.
2. Henry Chan, Raymond Lee, Tharam Dillon, Elizabeth Chang, "E-Commerce Fundamentals and Applications, Wiley Publishers, New Delhi.
3. Senn, "Information Technology: Principles, Practices and Opportunities James", Prentice Hall, New Delhi.
4. Richard Hammer (1998), "Enterprise Resource Planning",

**Books for reference:**

1. Efraim Turban, Jae Lee, David King ,H. Michael Chung (2001), "Electronic Commerce - A Managerial Perspective", Addison-Wesley, USA.
2. Anita Agrawal, Rahul Kotian, Tushar Agarwal and Vijalakshmi Kannan, (2016), "E Commerce and Digital Marketing", Himalaya Publishing House, Mumbai.

**Web references:**

1. <https://www.slideshare.net/kamalgulati7/full-notes-on-ecommerce-study-material-for-ecommerce>
2. <https://www.techtarget.com/searchcio/definition/e-commerce?amp=1>

**Mapping of course outcomes with POs and PSOs**

|            | POs               |   |   |                   |   |   | PSOs           |   |   |
|------------|-------------------|---|---|-------------------|---|---|----------------|---|---|
|            | 1                 | 2 | 3 | 4                 | 5 | 6 | 1              | 2 | 3 |
| <b>CO1</b> | 2                 | 2 | 1 | 2                 | 2 | 2 | 2              | 2 | 2 |
| <b>CO2</b> | 2                 | 2 | 2 | 2                 | 2 | 2 | 2              | 2 | 2 |
| <b>CO3</b> | 3                 | 3 | 3 | 3                 | 3 | 3 | 3              | 3 | 3 |
| <b>CO4</b> | 3                 | 3 | 3 | 3                 | 3 | 3 | 3              | 3 | 3 |
| <b>CO5</b> | 3                 | 3 | 3 | 3                 | 3 | 3 | 3              | 3 | 3 |
|            | <b>Strong - 3</b> |   |   | <b>Medium – 2</b> |   |   | <b>Low - 1</b> |   |   |

**M.Com., Computer Applications****First Year****NME – I****Semester II****ACCOUNTING FOR MANAGERS - I**

| Course Code | Title of the Course                | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|------------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                                    |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>ACCOUNTING FOR MANAGERS – I</b> |          | 4 | - | - | - | 2       | 4           | 25    | 75       | 100   |

|    | <b>LEARNING OBJECTIVES</b>                                                  |
|----|-----------------------------------------------------------------------------|
| 1. | To impart knowledge about basic concepts of accounting and its applications |
| 2. | To understand double entry system of book keeping                           |
| 3. | To prepare subsidiary books and cash book                                   |
| 4. | To prepare bank reconciliation statement and rectification of errors        |
| 5. | To prepare final accounts                                                   |

**Course Units**

|                                                                                                                                                                            |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT I</b>                                                                                                                                                              | <b>(12 hrs)</b> |
| <b>Introduction for Accounting:</b><br><br>Meaning and scope of Accounting, Basic Accounting concepts and conventions – Objectives of Accounting – Accounting transactions |                 |
| <b>UNIT II</b>                                                                                                                                                             | <b>(12 hrs)</b> |
| <b>Double Entry Book Keeping:</b><br><br>Double Entry Book Keeping – Journal, Ledger, Preparation of Trial Balance.                                                        |                 |
| <b>UNIT III</b>                                                                                                                                                            | <b>(12 hrs)</b> |
| <b>Subsidiary Books:</b><br><br>Subsidiary book – Preparation of cash book – single column, double column and triple columns cash book.                                    |                 |



|                                                                                                                                                                                        |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>Unit IV</b>                                                                                                                                                                         | <b>(12 hrs)</b> |
| <b>Bank Reconciliation and rectification of errors:</b>                                                                                                                                |                 |
| Bank reconciliation statement – Errors – Types – Errors disclosed and not disclosed by trial balance - Rectification of errors – Suspense account                                      |                 |
| <b>Unit V</b>                                                                                                                                                                          | <b>(12 hrs)</b> |
| <b>Final Account:</b>                                                                                                                                                                  |                 |
| Preparation of Final Accounts – Adjustments – Closing stock, Outstanding, Prepaid and accrued, depreciation, bad and doubtful debts., provision and discount on debtors and creditors. |                 |

**Course Outcomes**

Students will be able to:

|             |                                                                    |
|-------------|--------------------------------------------------------------------|
| <b>CO 1</b> | Learn Accounting concepts, conventions and Accounting transactions |
| <b>CO 2</b> | Prepare Journal, Ledger and Trial Balance                          |
| <b>CO 3</b> | Prepare subsidiary books                                           |
| <b>CO 4</b> | Classify errors, making rectification entries and prepare BRS      |
| <b>CO 5</b> | Prepare Final Accounts with adjustments                            |

**M.Com., Computer Applications****Second Year****NME – II****Semester III****ACCOUNTING FOR MANAGERS - II**

| Course Code | Title of the Course                 | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|-------------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                                     |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>ACCOUNTING FOR MANAGERS – II</b> |          | 3 | - | - | - | 2       | 3           | 25    | 75       | 100   |

|    | <b>LEARNING OBJECTIVES</b>                         |
|----|----------------------------------------------------|
| 1. | To impart knowledge about Cost Accounting          |
| 2. | To understand Cost concepts and prepare Cost sheet |
| 3. | To impart knowledge about Management Accounting    |
| 4. | To analyse and interpret Financial Statements      |
| 5. | To prepare ratios from Profit and Loss Account     |

**Course Units**

|                                                                                                                                                                                          |                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>UNIT I</b>                                                                                                                                                                            | <b>(9 hrs)</b> |
| <b>Introduction to Cost Accounting:</b>                                                                                                                                                  |                |
| Cost Accounting – meaning – nature, scope, functions, need, importance and limitations.                                                                                                  |                |
| <b>UNIT II</b>                                                                                                                                                                           | <b>(9 hrs)</b> |
| <b>Cost concept and Preparation of Cost Sheets:</b>                                                                                                                                      |                |
| Cost concepts – meaning and classification of Cost – elements of Cost - Preparation of Cost Sheets.                                                                                      |                |
| <b>UNIT III</b>                                                                                                                                                                          | <b>(9 hrs)</b> |
| <b>Introduction to Management Accounting:</b>                                                                                                                                            |                |
| Management Accounting – meaning, nature, scope and functions, need importance and limitations – Management Accounting Vs Cost Accounting, Management Accounting Vs Financial Accounting. |                |

|                                                                                                                                                       |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Unit IV</b>                                                                                                                                        | <b>(9 hrs)</b> |
| <b>Analysis and Interpretation of Financial Statements:</b>                                                                                           |                |
| Analysis and Interpretation of Financial Statements – nature, objectives, methods – comparative statements, common size statement and Trend analysis. |                |
| <b>Unit V</b>                                                                                                                                         | <b>(9 hrs)</b> |
| <b>Ratio Analysis:</b>                                                                                                                                |                |
| Ratio Analysis – meaning – Interpretation, benefits and limitations – Preparation of ratios from Profit and Loss Account (Simple problem)             |                |

**Course Outcomes**

Students will be able to:

|             |                                                                |
|-------------|----------------------------------------------------------------|
| <b>CO 1</b> | Learn concepts of Cost Accounting                              |
| <b>CO 2</b> | Able to prepare Cost Sheet                                     |
| <b>CO 3</b> | Learn concept of Management Account                            |
| <b>CO 4</b> | Prepare comparative, common size statements and trend analysis |
| <b>CO 5</b> | Prepare ratios from Profit and Loss Account                    |

**M.Com., Computer Applications****Second Year    Skill Enhancement course / Professional Competency Skill    Semester IV****ADVANCED MS-EXCEL**

| Course Code | Title of the Course      | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|--------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                          |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>ADVANCED MS-EXCEL</b> |          | 2 | - | 2 | - | 2       | 4           | 25    | 75       | 100   |

|    | <b>LEARNING OBJECTIVES</b>                 |
|----|--------------------------------------------|
| 1. | To use worksheet and work book             |
| 2. | To import external data and creating table |
| 3. | To create chart and pivot table            |
| 4. | To create custom auto filter               |
| 5. | To prepare various financial statements    |

**Course Units****UNIT I (12 hrs)****Features of MS-Excel, work sheet and work book:**

Labeling and Naming Worksheets and Workbooks, Adding, Deleting and Saving Worksheets and Workbooks, Reposition Worksheets, Inserting, Deleting, and Renaming Worksheets, Copy Worksheets, Printing a Workbook, Formatting a Worksheet, Adding Elements to a Workbook, Protecting Worksheet and Workbook.

**UNIT II (12 hrs)****Import external data and creating table:**

Import external data, Creating a Table, Sorting Data into a Table, Data Validation, Consolidation. Defining Names in MS Excel, Macros: View Macros, Record Macros, Formulas and Functions: Creating a formula, Formula Auditing, Meaning and advantages of functions, Insert functions, Use relative References, Mathematical Functions, Statistical

Advantages Functions, Date of functions, & Time Functions.

**UNIT III (12 hrs)**

**Creating charts:**

Charts: Chart elements: Titles, legend, data labels, creating a New Chart, Formatting the Chart, Types charts, Using Chart Templates.

PivotTables: PivotTables, Creating a Pivot Table, Filtering and Sorting a PivotTable, Using Slicers to manipulate Pivot Tables, Creating a Pivot Chart

**Unit IV (12 hrs)**

**Filtering Data:**

Creating a Custom AutoFilter, Using an Advanced Filter, Data sorting.

Data outline: Group, Ungroup and Subtotals.

What if Analysis: Scenario manager, Goal seek, Data table.

**Unit V (12 hrs)**

**Preparation and presentation of Financial statement:**

Introduction to Financial Modeling, Representation of Financial Statement: Profit & Loss Account, Balance sheet, Cash Flow Statement. Ratio Analysis: Short Term, Long Term, Activity Ratios, Profitability Ratios. Financial Statement Analysis: Comparative, Common size statements and trend Analysis.

**Course Outcomes**

Students will be able to:

|             |                                                        |
|-------------|--------------------------------------------------------|
| <b>CO 1</b> | Learn to use worksheet and workbook                    |
| <b>CO 2</b> | Understand to import external data and to create table |
| <b>CO 3</b> | Able to create chart and pivot table                   |
| <b>CO 4</b> | Learn custom auto filter                               |
| <b>CO 5</b> | Prepare various financial statements                   |

Clarification regarding the syllabus contents of PG Commerce degree programme.

| S.No | Correction required                                                                                                                                                                                                                                                                 | Remarks and Instructions                                                                                                                                                                                                                                                                     |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.   | NME- 1 and NME - 11 allotted in the 11 and III semesters respectively are removed from the syllabus as per the letter of the office of the Registrar no. BI/Bos/M.Com/2023 dt.30.01.2024. Kindly let us know how the hours allotted for them should be distributed to other papers. | In the second semester the credit of the elective paper III and IV should be taken as 4(Four) and the No of hours to be taken as 6 hours (Six).<br><br>In the third semester the credit of the elective paper V should be taken as 5 (five) and the No of hours to be taken as 6 hours (Six) |
| 2.   | The Process of evaluation of Internship/ Industrial Activity should be given                                                                                                                                                                                                        | The report submitted by the students should be evaluated by the respective department faculty members or staff in-charge and the marks should be sent to the University                                                                                                                      |
| 3.   | In the III Semester, the core paper titled "Computer Applications in Business" is given as 100% practical and 2 hours are allotted for lecture and 4 hours for practical. If it is a 100% practical then list of programs to be taught in lab is not given                          | List of Programme enclosed the mark is allotted as 40% Internal and 60% External. The University should appoint external examiner to conduct the external Practical examination.                                                                                                             |
| 4.   | In the IV semester for the course :MS Excel" 2 hours are allotted for L and 2 hours for P as given in the syllabus. Should we handle that paper as practical course and if, so the list of programs to be taught in lab is not given.                                               | List of Programme enclosed the mark is allotted as 40% Internal and 60% External. The University should appoint external examiner to conduct the external Practical examination.                                                                                                             |
| 5.   | In the IV semester, one hour is allotted for Extension Activity. The process of conducting and evaluating the activities are not mentioned. This is applicable to all PG Programs.                                                                                                  | The staff in-charge of the YRC, RRC and Physical Education should evaluate the activity and put the marks.                                                                                                                                                                                   |
| 6.   | In semester II, for the course entitled Setting up of Business Entities 6 hours are allotted. Is it correct and the letters g d and "H" given in the classification of hours is misleading.                                                                                         | g - Category d - Credits H Inst. Hours                                                                                                                                                                                                                                                       |

### List of Programmes for Computer Application in Business Practical

Counts and Percents

Means and standard Deviations

Histograms

Counts by Group

Means by group

Chart preparation

Box plots

Correlation

T- tests

Chi — Square test

ANOVA tables and test

Regression

Company Creation

Ledger creation

Group creation

Voucher preparation

### List of Programmes for Advanced MS-Excel Practical

Create a worksheet using simple Arithmetic operation.

Create a worksheet using Macros .

Create a worksheet using statistical functions.

Create a worksheet using Mathematical functions.

Create a worksheet using Date and Time functions.

Create a worksheet using chart preparation.

Create Pivot table using filter and shot.

Using Auto filter method.

Create Data outline using Group.

Create Data table using Analysis.



# MADURAI KAMARAJ UNIVERSITY

(University with Potential for Excellence)

Re-accredited by NAAC with 'A++' Grade in the 4<sup>th</sup> Cycle

**Prof. Dr. M. Ramakrishnan, M.E., Ph.D., Ph.D.** Palkalai Nagar, Madurai – 625 021,  
**Registrar (i/c)** Tamil Nadu, India.

Ref:B1/ BoS/PG/Commerce/2024

Date: 05-04-2024

## ERRATA

To

All the Principals of the Non-Autonomous colleges  
affiliated to Madurai Kamaraj University  
(offereing M.Com degree programme)

Sir/Madam,

Sub: Skill Enhancement Courses - syllabus contents for M.Com degree  
programme offered by the non-autonomous colleges affiliated to this  
university implemented from the academic year 2023-2024 onwards  
– approved by the Acadmic Council on 15-11-2023 and by the Senate  
on 21-11-2023 respectively – intimated – reg

Ref: Email received from Dr. S.A.N. Shazuli Ibrahim, Chairman, Board of  
Studies in Commerce (PG), MKU, Madurai on 03-04-2024

With reference to the email cited, I am by direction to inform you that the  
syllabus contents for the Skill Enhancement Courses for II and III Semesters are appended  
herewith.

This may be informed to all the students of your college, accordingly.

Yours faithfully,

REGISTRAR i/c

Encl.: As above

Copy to :

The VC's Office  
The Registrar's Office  
The Dean-in-charge, College Development Council  
The Controller of Examinations-in-charge  
The Assistant Registrar/Deputy Registrar/Sr. Deputy Registrar - Strong Room  
The Assistant Registrar/Deputy Registrar/Sr. Deputy Registrar - Confidential Section  
The Assistant Registrar/Deputy Registrar/Sr. Deputy Registrar - PG Programmes  
The Superintendent/Sr. Superintendent - PG. Semester Section  
The Superintendent/Sr. Superintendent - Confidential Section  
The EDP Section



ERRATA

**M.Com (Computer Application)**

**First Year**

**Skill Enhancement Course – I**

**Semester II**

**EXPORT – IMPORT PROCEDURES AND DOCUMENTATIONS**

| Course Code | Title of the Course                                              | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|------------------------------------------------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                                                                  |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>EXPORT – IMPORT PROCEDURES AND DOCUMENTATIONS</b>             |          | 4 | - | - | - | 2       | 4           | 25    | 75       | 100   |
|             | <b>LEARNING OBJECTIVES</b>                                       |          |   |   |   |   |         |             |       |          |       |
| 1.          | To impart knowledge about basic concepts of export-import policy |          |   |   |   |   |         |             |       |          |       |
| 2.          | To understand export procedures                                  |          |   |   |   |   |         |             |       |          |       |
| 3.          | To prepare export documents                                      |          |   |   |   |   |         |             |       |          |       |
| 4.          | To understand import procedures                                  |          |   |   |   |   |         |             |       |          |       |
| 5.          | To prepare import documents                                      |          |   |   |   |   |         |             |       |          |       |

**Course Units**

|                                                                                                                                        |                 |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>UNIT I</b>                                                                                                                          | <b>(12 hrs)</b> |
| Export – Import policy – New Export – Import policy –Aims – Schemes – Highlights.                                                      |                 |
| <b>UNIT II</b>                                                                                                                         | <b>(12 hrs)</b> |
| Export procedures – Export an order – Consignment – Receiving an order – Packing and Marketing – Shipping order – Customs formalities. |                 |
| <b>UNIT III</b>                                                                                                                        | <b>(12 hrs)</b> |
| Export documentation – Documentation – Letter of credit –Credit documentation – Insurance documents and other documents.               |                 |
| <b>Unit IV</b>                                                                                                                         | <b>(12 hrs)</b> |
| Import procedures – Importing through Indent house – Obtaining import licenses – Terms used in mentioning prices.                      |                 |

**Unit V****(12 hrs)**

Import documentation – Documentation – Documents for Port and Customs Clearances – Insurance documents – Finance documents and all other documents.

**Course Outcomes**

Students will be able to:

|             |                                |
|-------------|--------------------------------|
| <b>CO 1</b> | Learn Export – Import policies |
| <b>CO 2</b> | Understand Export procedures   |
| <b>CO 3</b> | Prepare Export documentation   |
| <b>CO 4</b> | Understand Import procedures   |
| <b>CO 5</b> | Prepare Import documentation   |

**M.Com(Computre Application)****Second Year****Skill Enhancement Course – II****Semester III****RETAIL MARKETING**

| Course Code | Title of the Course     | Category | L | T | P | O | Credits | Inst. Hours | Marks |          |       |
|-------------|-------------------------|----------|---|---|---|---|---------|-------------|-------|----------|-------|
|             |                         |          |   |   |   |   |         |             | CIA   | External | Total |
|             | <b>RETAIL MARKETING</b> |          | 3 | - | - | - | 2       | 3           | 25    | 75       | 100   |

|    | <b>LEARNING OBJECTIVES</b>                                     |
|----|----------------------------------------------------------------|
| 1. | To impart knowledge about Retailing                            |
| 2. | To understand Management of service and quality in retailing   |
| 3. | To impart knowledge about Retail pricing and Retail promotion  |
| 4. | To understand Methods and approaches to retail market planning |
| 5. | To impart knowledge about Consumerism and ethics in retailing  |

**Course Units**

|                                                                                                           |                |
|-----------------------------------------------------------------------------------------------------------|----------------|
| <b>UNIT I</b>                                                                                             | <b>(9 hrs)</b> |
| Introduction – Retailing as an activity – Retail Marketing – Consumer behaviour and retail operations.    |                |
| <b>UNIT II</b>                                                                                            | <b>(9 hrs)</b> |
| Management of service and quality in retailing – Retail marketing mix and product Merchandise Management. |                |
| <b>UNIT III</b>                                                                                           | <b>(9 hrs)</b> |
| Retail pricing – Retail promotion – Retail logistics and distribution.                                    |                |
| <b>Unit IV</b>                                                                                            | <b>(9 hrs)</b> |

Methods and approaches to retail marketing planning – Retail location strategies and decisions – Management of a retail brand and its applications.

**Unit V**

**(9 hrs)**

Consumerism and ethics in retailing – International retailing – Future of retailing

**Course Outcomes**

Students will be able to:

|             |                                                             |
|-------------|-------------------------------------------------------------|
| <b>CO 1</b> | Learn concepts of Retail marketing                          |
| <b>CO 2</b> | Learn management services and quality in retailing          |
| <b>CO 3</b> | Learn concept of Retail pricing and Retail Promotion        |
| <b>CO 4</b> | Understand Methods and approaches to retail market planning |
| <b>CO 5</b> | Understand Consumerism and ethics in retailing              |



**MADURAI KAMARAJ UNIVERSITY**

*(University with Potential for Excellence)*

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**Prof. Dr. M. Ramakrishnan, M.E., Ph.D., Ph.D.** Palkalai Nagar, Madurai – 625 021,  
**Registrar (i/c)** Tamil Nadu, India.

Ref:B1/ BoS/PG/Commerce/2024

Date: 15-07-2024

**ERRATA**

To

All the Principals of the Non-Autonomous colleges  
affiliated to Madurai Kamaraj University  
(offering M.Com degree programme)

Sir/Madam,

Sub: Clarification regarding the syllabus contents of M.Com. C.A. degree  
programme offered by the non-autonomous colleges affiliated to this  
university implemented from the academic year 2023-2024 onwards  
vide Appendix - CC approved by the Academic Council on 15-11-2023  
and by the Senate on 21-11-2023 respectively – intimated –reg

Ref: Email received from Dr. S.A.N. Shazuli Ibrahim, Chairman, Board of  
Studies in Commerce (PG), MKU, Madurai dated 09-07-2024

With reference to the letter cited, I am by direction to inform you that the  
following the Elective Papers - V A - Applied Data Analytics and Machine Learning and  
V B - Python and R for Data Analytics in Second Year - THIRD Semester of M.Com. Computer  
Applications degree programme offered by the non-autonomous colleges affiliated to this  
university implemented from the academic year 2023-2024 onwards are PRACTICAL PAPERS  
and marks as Internal – 40 ; External – 60 and Max Marks – 100.

This may be informed to all the students of your college, accordingly.

Yours faithfully

REGISTRAR i/c

Encl.: As above

Copy to :

The VC's Office  
The Registrar's Office  
The Dean-in-charge, College Development Council  
The Controller of Examinations-in-charge  
The Assistant Registrar/Deputy Registrar/Sr. Deputy Registrar - Strong Room  
The Assistant Registrar/Deputy Registrar/Sr. Deputy Registrar - Confidential Section  
The Assistant Registrar/Deputy Registrar/Sr. Deputy Registrar - PG Programmes  
The Superintendent/Sr. Superintendent - PG Semester Section  
The Superintendent/Sr. Superintendent - Confidential Section  
The EDP Section



# MADURAI KAMARAJ UNIVERSITY

(University with Potential for Excellence)

Re-accredited by NAAC with 'A++' Grade in the 4<sup>th</sup> Cycle



**Prof. Dr. M. Ramakrishnan, M.E., Ph.D., Ph.D.** Palkalai Nagar, Madurai – 625 021,  
**Registrar (i/c)** Tamil Nadu, India.

Ref:B1/ BoS/PG/Commerce/2025

Date: 30-01-2025

## ERRATA

To

All the Principals of the Non-Autonomous colleges  
affiliated to Madurai Kamaraj University  
(offereing M.Com and M.Com. (CA) degree programmes)

Sir/Madam,

**Sub:** Skill Enhancement Courses - syllabus contents for M.Com degree  
programme offered by the non-autonomous colleges affiliated to this  
university implemented from the academic year 2023-2024 onwards  
– vide Appencies CB and CC respectively approved by the Acadmic  
Council on 15-11-2023 and by the Senate on 21-11-2023 respectively  
– intimated – reg

**Ref:** Email received from Dr. P.Ponramu, Chairman, Board of Studies in  
Commerce (UG), MKU, Madurai dated 28-01-2025

With reference to the email cited, I am by direction to inform you that the  
Skill Enhancement Paper - Advanced MS-Excel in IV Semester of M.Com and M.Com (CA) is a  
practical paper with the total duration of 36 hours/Semester and it is required to maintain a  
Practical Note throughout the semester.

This may be informed to all the students of your college, accordingly.

Yours faithfully,

REGISTRAR i/c

*Smm*  
30/01/25

### Copy to :

The VC's Office  
The Registrar's Office  
The Dean-in-charge, College Development Council  
The Controller of Examinations-in-charge  
The Assistant Registrar/Deputy Registrar/Sr. Deputy Registrar - Strong Room  
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