

**J.J. COLLEGE OF ARTS AND SCIENCE**  
**(AUTONOMOUS)**

**(Re –accredited by NAAC with B<sup>++</sup> – 4<sup>th</sup> Cycle)**  
**(Affiliated to Bharathidasan University, Trichy)**  
**JJ Nagar, Sivapuram,**  
**PUDUKKOTTAI – 622 422**

**DEPARTMENT OF COMMERCE WITH COMPUTER APPLICATIONS**



**M.Com. - Computer Applications**

**Syllabus based on**



**TANSICHE Regulations on Learning Outcomes - Based  
Curriculum Frame Work for Under Graduate Education**

**[Those who are admitted 2023 - 2024 Onwards]**

## **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 readiness qualities:**

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",

**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:**

	<b>PO 1</b>	<b>PO 2</b>	<b>PO 3</b>	<b>PO 4</b>	<b>PO 5</b>	<b>PO 6</b>	<b>PS0 1</b>	<b>PSO 2</b>	<b>PSO 3</b>
<b>CO 1</b>									
<b>CO 2</b>									
<b>CO 3</b>									
<b>CO 4</b>									
<b>CO 5</b>									

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

**M.Com. Computer Applications**

Part	Course Code	Course	Credit	Hrs	Ex.Hrs	Marks		
						CIA	Ext	Total
<b>First Year</b>								
<b>Semester I</b>								
I	P1R3CMCC1	Core I - Business Finance	5	7	3	25	75	100
	P1R3CMCC2	Core II - Digital Marketing	5	7	3	25	75	100
	P1R3CMCC3	Core III - Banking and Insurance	4	6	3	25	75	100
	P1R3CMDSE1:1	Elective I- Introduction to Industry 4.0	3	5	3	25	75	100
	P1R3CMDSE1:2	Elective I - Big Data Analytics						
	P1R3CMDSE1:3	Elective I - Business Intelligence						
	P1R3CMDSE2:1	Elective II – Enterprise Resource Planning	3	5	3	25	75	100
	P1R3CMDSE2:2	Elective II - Database Management System						
			<b>20</b>	<b>30</b>	-	-	-	<b>500</b>

\* Internship during Summer Vacation: The credits shall be awarded in semester III Statement of Marks

**FIRST YEAR SEMESTER - I****BUSINESS FINANCE****Course Code: P1R3CMCC1**

Category	L	T	P	O	Credits	Inst. Hours	Marks		
							CIA	External	Total
<b>Core I</b>	6	-	-	-	4	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 start up financing								
4	To examine cash and inventory management techniques								
5	To appraise capital budgeting techniques for MNCs								
<b>Course Units</b>							<b>Entrepreneurship</b>		
<b>UNIT I (18 hrs)</b>									
<b>Introduction to Business Finance and Time value of money</b>									
Business Finance: Meaning, Objectives, Scope - <b>Time Value of money</b> : Meaning, Causes – Compounding – Discounting – <b>Sinking Fund Deposit Factor</b> – <b>Capital Recovery</b> Factor – <b>Multiple Compounding</b> – Effective rate of interest – Doubling period (Rule of 69 and Rule of 72) – Practical problems.									
<b>UNIT II (18 hrs)</b>									
<b>Risk Management</b>									
Risk and Uncertainty: Meaning – Sources of Risk – <b>Measures of Risk</b> – Measurement of Return – General pattern of Risk and Return – <b>Criteria for evaluating proposals to minimise Risk</b> (Single Asset and Portfolio) – <b>Methods of Risk Management</b> – Hedging currency risk.									
<b>UNIT III (18 hrs)</b>									
<b>Startup Financing and Leasing</b>									
Startup Financing: Meaning, Sources, Modes (Bootstrapping, Angel investors, Venture capital fund) - Leasing: Meaning – <b>Types of Lease Agreements</b> – Advantages and Disadvantages of Leasing – <b>Financial evaluation from the perspective of Lessor and Lessee.</b>									
<b>UNIT IV (18 hrs)</b>									
<b>Cash, Receivable and Inventory Management</b>									
Cash Management: Meaning, Objectives and Importance – <b>Cash Cycle</b> – Minimum Operating Cash – <b>Safety level of cash</b> – <b>Optimum cash balance</b> - Receivable Management: Meaning – <b>Credit policy</b> – Controlling receivables: Debt collection period, Ageing schedule, Factoring – Evaluating investment in accounts receivable - Inventory Management: Meaning and Objectives – <b>EOQ with price breaks</b> – <b>ABC Analysis.</b>									
<b>UNIT V (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.

**Question pattern: Theory 40%; Problems: 60%**

### 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” 8<sup>th</sup> Edition, Tata McGraw Hill, New Delhi.

### 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**

## FIRST YEAR SEMESTER I

**DIGITAL MARKETING****Course Code: P1R3CMCC2**

Category	L	T	P	O	Credits	Inst. Hours	Marks		
							CIA	External	Total
<b>Core II</b>	6	-	-	-	4	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								
<b>Course Units</b>						<b>Employability</b>			
<b>UNIT I</b>							<b>(18 hrs)</b>		
<b>Introduction to Digital Marketing</b>									
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.									
<b>UNIT II</b>							<b>(18 hrs)</b>		
<b>Online marketing mix</b>									
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.									
<b>UNIT III</b>							<b>(18 hrs)</b>		
<b>Digital media channels</b>									
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.									
<b>UNIT IV</b>							<b>(18 hrs)</b>		
<b>Online consumer behavior</b>									
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.									
<b>UNIT V</b>							<b>(18 hrs)</b>		

## **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 Charles worth, (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
<b>CO1</b>	3	3	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	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**

**FIRST YEAR SEMESTER I**  
**BANKING AND INSURANCE**

**Course Code: P1R3CMCC3**

Category	L	T	P	O	Credits	Inst. Hours	Marks		
							CIA	External	Total
<b>Core III</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								
<b>Course Units</b>							<b>Employability</b>		
<b>UNIT I</b> <span style="float: right;"><b>(18 hrs)</b></span>									
<b>Introduction to Banking</b>									
Banking: <b>Brief History of Banking</b> - Rapid Transformation in Banking: <b>Customer Shift</b> - Fintech Overview - <b>Fintech Outlook</b> - The Financial Disruptors - <b>Digital Financial Revolution</b> - <b>New Era of Banking. Digital Banking</b> – Electronic Payment Systems–Electronic Fund Transfer System – Electronic Credit and Debit Clearing – <b>NEFT – RTGS –VSAT–SFMS–SWIFT.</b>									
<b>UNIT II</b> <span style="float: right;"><b>(18 hrs)</b></span>									
<b>Contemporary Developments in Banking</b>									
Distributed Ledger Technology – <b>Blockchain</b> : Meaning - <b>Structure of Block Chain</b> - <b>Types of Block Chain</b> - Differences between DLT and Blockchain - <b>Benefits of Blockchain and DLT</b> - Unlocking the potential of Blockchain – <b>Crypto currencies</b> , Central Bank Digital Currency (CBDC) - Role of DLT in financial services - AI in Banking: <b>Future of AI in Banking</b> - Applications of AI in Banking - <b>Importance of AI in banking</b> - Banking reimaged with AI. Cloud banking - Meaning - <b>Benefits in switching to Cloud Banking.</b>									
<b>UNIT III</b> <span style="float: right;"><b>(18 hrs)</b></span>									
<b>Indian Insurance Market</b>									
History of Insurance in India – Definition and Functions of Insurance – <b>Insurance Contract</b> – Indian Insurance Market – <b>Reforms in Insurance Sector</b> – <b>Insurance Organisation</b> – Insurance organisation structure. <b>Insurance Intermediaries: Insurance Broker</b> – Insurance Agent - Surveyors and Loss Assessors - Third Party Administrators (Health Services) – <b>Procedures - Code of Conduct.</b>									
<b>UNIT IV</b> <span style="float: right;"><b>(18 hrs)</b></span>									
<b>Customer Services in Insurance</b>									
Customer Service in Insurance – <b>Quality of Service</b> - Role of Insurance Agents in Customer Service- Agent’s Communication and Customer Service – <b>Ethical Behaviour in Insurance</b> – <b>Grievance Redressal System in Insurance Sector</b> –Integrated Grievance Management System- Insurance Ombudsman -									

<b>Insurance Regulatory and Development Authority of India Act (IRDA) – Regulations and Guidelines.</b>									
<b>UNIT V (18 hrs)</b>									
<b>Risk Management</b>									
Risk Management and Control in banking and insurance industries – Methods of Risk Management – Risk Management by Individuals and Corporations – Tools for Controlling Risk.									
<b>Course Outcomes</b>									
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								
<b>Books for study:</b>									
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, Pierangelo Rosati, Mark Cummins (2018), Disrupting Finance: FinTech and Strategy in the 21st Century (Palgrave Studies in Digital Business & Enabling Technologies), Macmillan Publishers, NewYork (US)									
<b>Books for reference:</b>									
1. Sundharam KPM & 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.									
<b>Web references:</b>									
1. <a href="https://corporatefinanceinstitute.com/resources/knowledge/finance/fintech-financial-technology">https://corporatefinanceinstitute.com/resources/knowledge/finance/fintech-financial-technology</a>									
2. <a href="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</a>									
3. <a href="https://www.irdai.gov.in/ADMINCMS/cms/frmGeneral_Layout.aspx?page=PageNo108&amp;flag=1">https://www.irdai.gov.in/ADMINCMS/cms/frmGeneral_Layout.aspx?page=PageNo108&amp;flag=1</a>									

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
CO4	3	2	2	1	2	2	2	3	2
CO5	3	3	1	3	3	3	3	3	3

Strong - 3                      Medium – 2                      Low - 1

**FIRST YEAR SEMESTER I**  
**INTRODUCTION TO INDUSTRY 4.0**  
**ELECTIVE – I**

**Course Code: PIR3CMDSE1:1**

Category	L	T	P	O	Credits	Inst. Hours	Marks		
							CIA	External	Total
Ele. I	4	-	-	-	3	4	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								
<b>Course Units</b>							<b>Entrepreneurship</b>		
<b>UNIT I</b>							<b>(12 hrs)</b>		
<b>Introduction</b>									
Industry: Meaning, Types - <b>Industrial Revolution: Industrial Revolution 1.0 to 4.0</b> : Meaning, Goals and Design Principles - <b>Technologies of Industry 4.0</b> - Big Data – <b>Artificial Intelligence</b> (AI) – Industrial Internet of Things - <b>Cyber Security</b> – <b>Cloud</b> – <b>Augmented Reality</b> .									
<b>UNIT II</b>							<b>(12 hrs)</b>		
<b>Artificial Intelligence</b>									
Artificial Intelligence (AI): Need, History and Foundations -The AI - <b>environment</b> - <b>Societal Influences of AI</b> – <b>Application Domains and Tools</b> - <b>Associated Technologies of AI</b> - Future prospects of AI – <b>Challenges of AI</b> .									
<b>UNIT III</b>							<b>(12 hrs)</b>		
<b>Big Data</b>									
Evolution - <b>Data Evolution</b> - Data : <b>Terminologies</b> - <b>Essential of Big Data in Industry 4.0</b> - Big Data Merits and Limitations - Big Data Components : Big Data Characteristics - Big Data Processing Frameworks - Big Data Tools - <b>Big Data Applications</b> - Big Data Domain Stack : <b>Big Data in Data Science</b> – <b>Big Data in IoT</b> - Big Data in Machine Learning - Big Data in Databases - Big Data Usecases: Big Data in Social Causes - <b>Big Data for Industry</b> -Big Data Roles - Learning Platforms; Internet of Things (IoT) : Introduction to IoT – Architecture of IoT Technologies for IoT - <b>Developing IoT Applications</b> - Applications of IoT - Security in IoT.									
<b>UNIT IV</b>							<b>(12 hrs)</b>		
<b>Applications of IoT</b>									

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>									
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.									
<b>Course Outcomes</b>									
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								
<b>Books for study:</b>									
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									
<b>Books for reference:</b>									
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.									
<b>Web references:</b>									
1. <a href="https://sist.sathyabama.ac.in/sist_coursematerial/uploads/SEEA1403.pdf">https://sist.sathyabama.ac.in/sist_coursematerial/uploads/SEEA1403.pdf</a>									
2. <a href="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</a>									
3. <a href="https://www.vssut.ac.in/lecture_notes/lecture1428643004.pdf">https://www.vssut.ac.in/lecture_notes/lecture1428643004.pdf</a>									

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

## FIRST YEAR SEMESTER I

**BIG DATA ANALYTICS**

## ELECTIVE – I

Course Code: PIR3CMDSE1:2

Category	L	T	P	O	Credits	Inst. Hours	Marks		
							CIA	External	Total
Ele. I	4	-	-	-	3	4	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								
<b>Course Units</b>						<b>Skill Development</b>			
<b>UNIT I</b>							<b>(12 hrs)</b>		
<b>Introduction to Data Science</b>									
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>									
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.									

<b>Course Outcomes</b>	
Students will be able to	
CO 1	Describe the Big Data landscape including examples of real world 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	Explain Hadoop technology
<b>Books for study:</b>	
<ol style="list-style-type: none"> <li>1. Peter Guerra and Kirk Borne (2016), "Ten Signs of Data Science Maturity", O'Reilly Media Pvt Ltd, USA</li> <li>2. Tom White (2012), "Hadoop: The Definitive Guide" Third Edition, O'Reilly Media, USA.</li> <li>3. Seema Acharya (2015), Subhasini Chellappan, "Big Data Analytics", Wiley, USA</li> </ol>	
<b>Books for reference:</b>	
<ol style="list-style-type: none"> <li>1. Howard Wen, Big Ethics for Big Data, O'Reilly Media, USA.</li> <li>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 .</li> <li>3. Judith S.Hurwitz, Alan Nugent, Fern Halper, Marcia Kaufman (2015), "Big Data for Dummies", John Wiley &amp; Sons, Inc., USA.</li> </ol>	
<b>Web references:</b>	
<ol style="list-style-type: none"> <li>1. <a href="https://www.coursera.org/learn/big-data-introduction/home/welcome">https://www.coursera.org/learn/big-data-introduction/home/welcome</a></li> <li>2. <a href="https://www.coursera.org/learn/bioconductor?action=enroll&amp;authMode=login">https://www.coursera.org/learn/bioconductor?action=enroll&amp;authMode=login</a></li> </ol>	

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

Strong - 3

Medium – 2

Low - 1

**FIRST YEAR SEMESTER I**  
**BUSINESS INTELLIGENCE**

**ELECTIVE – I**

**Course Code: P1R3CMDSE1:3**

Category	L	T	P	O	Credits	Inst. Hours	Marks			
							CIA	External	Total	
Ele. I	4				3	4	25	75	100	
<b>Learning Objectives</b>										
1	To provide basic knowledge of business intelligence system.									
2	To understand the modelling aspects behind Business Intelligence.									
3	To acquire the knowledge of data warehousing architectures.									
4	To develop the applications of data mining concepts.									
5	To impart the skills of decision support system modelling.									
<b>Course Units</b>						<b>Entrepreneurship</b>				
<b>UNIT I</b>		<b>Introduction to Business Intelligence</b>					<b>14 Hours</b>			
What is Business Intelligence?- Changing business environments and computerized decision support - Managerial decision making - Information Systems Support for Decision Making - Early Framework for Computerized Decision Support - Decision Support Systems - Framework for Business Intelligence (BI) - Business Analytics Overview.										
<b>UNIT II</b>		<b>Foundations and Technologies for Decision Making</b>					<b>15 Hours</b>			
Foundations and Technologies for Decision Making: Introduction - Phases of the Decision-Making Process-Intelligence phase – Design Phase – Choice phase – Implementation Phase – Components of Decision Support Systems (DSS).										
<b>UNIT III</b>		<b>Data Warehousing &amp; Business Reporting</b>					<b>15 Hours</b>			
Data Warehousing: Concepts - Process Overview - Data Warehousing Architectures - Data Integration and the Extraction, Transformation, and Load (ETL) Processes. Business Reporting: Components - Data and Information Visualization – Different types of charts and graphs.										
<b>UNIT IV</b>		<b>Online-line Analytical processing (OLAP)</b>					<b>14 Hours</b>			
What is OLAP? OLAP and OLTP-operational data stores-OLAP applications and functionality. Data Mining: Concepts and Applications - Data Mining Process - Data Mining Methods – Classification - Accuracy of Classification Models - Cluster Analysis - Association Rule Mining.										
<b>UNIT V</b>		<b>Decision Support Systems Modeling</b>					<b>14 Hours</b>			
Decision Support Systems Modeling - Structure of Mathematical Models for Decision Support - Certainty, Uncertainty, and Risk - Decision Modeling with Spreadsheets - Multiple Goals,										

<b>Sensitivity Analysis, What-If Analysis, and Goal Seeking</b> - Decision Analysis with Decision Tables and Decision Trees - <b>Automated Decision Systems.</b>		
<b>(Theory 75 Marks)</b>		<b>72</b>
<b>Book for Study</b>		
1. Efraim Turban, Ramesh Sharda, DursunDelen, “Decision Support and Business Intelligence Systems”, Ninth Edition, Pearson 2013		
<b>Books for Reference</b>		
1. Larissa T. Moss, S. Atre, “Business Intelligence Roadmap: The Complete Project Lifecycle of Decision Making”, Addison Wesley, 2003.		
2. Carlo Vercellis, “Business Intelligence: Data Mining and Optimization for Decision Making”, Wiley Publications, 2009.		
3. David Loshin Morgan, Kaufman, “Business Intelligence: The Savvy Manager’s Guide”, Second Edition, 2012.		
4. CindiHowson, “Successful Business Intelligence: Secrets to Making BI a Killer App”, McGraw-Hill, 2007.		
5. Ralph Kimball , Margy Ross , Warren Thornthwaite, Joy Mundy, Bob Becker, “The Data Warehouse Lifecycle Toolkit”, Wiley Publication Inc.,2007		
<b>Web Resources</b>		
1. <a href="https://wciconsulting.com/tdwi-business-intelligence-ebook/">https://wciconsulting.com/tdwi-business-intelligence-ebook/</a>		
2. <a href="https://www.ebooks.com/en-us/book/316905/business-intelligence/david-loshin/">https://www.ebooks.com/en-us/book/316905/business-intelligence/david-loshin/</a>		
3. <a href="https://www.smartdatacollective.com/free-ebooks-on-big-data-business-intelligence/">https://www.smartdatacollective.com/free-ebooks-on-big-data-business-intelligence/</a>		
<b>Course Outcomes</b>		<b>K Level</b>
<b>After completion of the course the student will be able to</b>		
CO1	Acquire the knowledge of business intelligence system.	K2
CO2	Understand the modelling aspects behind Business Intelligence.	K3
CO3	Identify the modern uses of data warehousing architectures.	K5
CO4	Learn the data mining concepts.	K3
CO5	Facilitate the ideas and concept of decision support system modelling.	K5

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

	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
<b>CO1</b>	3	2	2	3	2	3	3	2	3	3
<b>CO2</b>	3	2	3	3	3	3	3	2	3	2
<b>CO3</b>	3	2	2	3	3	3	2	2	3	2
<b>CO4</b>	3	2	3	3	2	2	3	2	2	2
<b>CO5</b>	3	2	2	3	2	3	3	3	3	2

Strong - 3

Medium – 2

Low - 1

**FIRST YEAR SEMESTER I**  
**ENTERPRISE RESOURCE PLANNING**  
**ELECTIVE – II**

**Course Code: PIR3CMDSE2:1**

Category	L	T	P	O	Credits	Inst. Hours	Marks		
							CIA	External	Total
Ele. II	4	-	-	-	3	4	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								
<b>Course Units</b>						<b>Employability</b>			
<b>UNIT I (12 hrs)</b>									
<b>Enterprise an Overview</b>									
Business Functions and Business Processes - <b>Integrated Management Information</b> - Business Modelling - <b>Integrated Data Model</b> . Business Processes: <b>Major Business Processes</b> . Introduction to ERP: Common ERP Myths - <b>A Brief History of ERP</b> - Reasons for the Growth of ERP Market - <b>Advantages of ERP</b> .									
<b>UNIT II (12 hrs)</b>									
<b>Risk of ERP</b>									
People Issues - <b>Process Risks</b> - Technological Risks - <b>Implementation Issues-Operation and Maintenance Issues</b> - Unique Risks of ERP Projects - <b>Managing Risks on ERP Projects</b> . <b>Benefits of ERP</b> : Information Integration - Reduction of Lead Time - On-Time Shipment - Reduction in Cycle Time - <b>Improved Resource Utilization</b> - Better Customer Satisfaction - Improved Supplier Performance - Increased Flexibility - <b>Reduced Quality Costs</b> - Better Analysis and Planning Capabilities - Improved Information Accuracy and Decision-Making Capability - <b>Use of Latest Technology</b> .									
<b>UNIT III (12 hrs)</b>									
<b>ERP and Related Technologies</b>									
Business Process Reengineering (BPR) - <b>Business Intelligence (BI)</b> - <b>Business Analytics (BA)</b> - Data Warehousing- Data Mining - On - <b>Line Analytical Processing (OLAP)</b> - <b>Product Life Cycle Management (PLM)</b> - Supply Chain Management - <b>Customer Relationship Management</b> - Geographic Information Systems - <b>Intranets and Extranets</b> . Advanced Technology and ERP Security: <b>Technological Advancements</b> - Computer Crimes - ERP and Security - <b>Computer Security</b> - Crime and Security.									
<b>UNIT IV (12 hrs)</b>									
<b>ERP Market Place and Market Place Dynamics</b>									

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. Mahadeo Jaiswal 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

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

**FIRST YEAR SEMESTER I**  
**DATABASE MANAGEMENT SYSTEM**  
**ELECTIVE – II**

**Course Code: PIR3CMDSE2:2**

Category	L	T	P	O	Credits	Inst. Hours	Marks		
							CIA	External	Total
Ele. II	4	-	-	-	3	4	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								
<b>Course Units</b>						<b>Employability</b>			
<b>UNIT I</b>							<b>(12 hrs)</b>		
<b>Introduction to Database Systems and Linux</b>									
Introduction to File and Database systems <b>Database System Structure</b> - Data Models Introduction to Network Models: <b>ER Model, Relational Model</b> - Introduction to Linux Operating System - Properties of Linux - Desktop Environment - Linux basics commands - <b>Working with Files - Text Editors - I/O Redirections</b> - Pipes, Filters, and Wildcards - Changing Access Rights.									
<b>UNIT II</b>							<b>(12 hrs)</b>		
<b>SQL Definition and Normalization</b>									
<b>SQL</b> – Data Definition - <b>Queries in SQL - Updates - Views - Integrity and Security</b> . Relational Database design – <b>Functional dependences and Normalization for relational databases (up to BCNF) - Query Forms</b> .									
<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 - <b>Heap File - Sorted Files</b> - Hashing Techniques - <b>Index Structure for Files</b> - Different Types of Indexes - B-Tree - B+Tree - <b>Query Processing</b> - 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 - <b>Transaction Control</b> - <b>Data Control Language Grant - Revoke Privilege Command</b> - <b>Set Operators - Joins- Kinds of Joins</b> - 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.									
<b>Course outcomes</b>									
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								
<b>Books for study:</b>									
1. Ramakrishnan Raghu and Gehrke Johannes, “Database Management Systems”, McGraw–Hill, USA.									
2. Rajendra Prasad Mahapatra and Govind Verma, “Database Management System”, Khanna Publications, New Delhi.									
<b>Books for reference:</b>									
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.									
<b>Web references:</b>									
1. <a href="http://education-portal.com/academy/lesson/what-is-a-database-management-systempurpose-and-function.html">http://education-portal.com/academy/lesson/what-is-a-database-management-systempurpose-and-function.html</a> .									
2. <a href="http://www.comptechdoc.org/os/linux/usersguide/linux_ugbasics.html">http://www.comptechdoc.org/os/linux/usersguide/linux_ugbasics.html</a> .									
3. <a href="http://www.dummies.com/how-to/content/common-linux-commands.html">http://www.dummies.com/how-to/content/common-linux-commands.html</a> .									

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. with Computer Applications - Semester II**

Sl. No.	Course Code	Course	Overall Credits	Total Contact Hours/ Week	Marks		
					CIA	ESE	Total
<b>Semester II</b>							
1	P2R3CMCC4	Strategic Cost Management	5	6	25	75	100
2	P2R3CMCC5	Corporate Accounting	5	6	25	75	100
3	P2R3CMCC6	Setting up of Business Entities	4	6	25	75	100
4	P2R3CMDSE3:1	Data Mining and Data Warehousing	3	4	25	75	100
	P2R3CMDSE3:2	Technology in Banking					
5	P2R3CMDSE4:1	Financial Analytics (Practical)	3	4	40	60	100
	P2R3CMDSE4:2	Management Information System			25	75	100
6	P2R3CMSEC1:1	Capital Markets	2	4	25	75	100
	P2R3CMSEC1:2	Corporate Governance					
<b>Total</b>			<b>22</b>	<b>30</b>			<b>600</b>

**FIRST YEAR SEMESTER II**  
**STRATEGIC COST MANAGEMENT**  
**CORE – IV**

**Course Code: P2R3CMCC4**

Category	L	T	P	O	Credits	Inst. Hours	Marks		
							CIA	External	Total
<b>CORE IV</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								
<b>Course Units</b>						<b>Employability</b>			
<b>UNIT I</b> (18 hrs)									
<b>Introduction to Strategic Cost Management</b>									
Introduction to <b>Strategic Cost Management</b> (SCM) – Need for SCM – Differences between SCM and <b>Traditional Cost Management</b> - Value Chain Analysis: <b>Meaning and steps</b> - Quality Cost Management: Meaning of Quality and <b>Quality Management</b> – <b>Cost of Quality</b> – Indian Cost Accounting Standard 21 on Quality Control - Introduction to Lean System – Benefits of Lean System – Just in Time (JIT) – <b>Kaizen Costing</b> .									
<b>UNIT II Cost Control and Reduction</b> (18 hrs)									
Cost Management Techniques: <b>Cost Control</b> : Meaning and Prerequisites - <b>Cost Reduction</b> : Meaning and Scope – <b>Differences between Cost control and cost reduction</b> - Pareto Analysis: Meaning, importance and applications - <b>Target Costing</b> : Meaning, steps and Principles – <b>Life Cycle Costing</b> : Meaning, <b>Strategies for each stage of product life cycle, Benefits</b> – Learning Curve: Meaning, Learning curve ratio and applications.									
<b>UNIT III Activity Based Cost Management</b> (18 hrs)									
Activity Based <b>Cost Management</b> : <b>Concept, Purpose, Stages, Benefits</b> , Relevance in <b>Decision making</b> and its Application in <b>Budgeting</b> – Practical problems.									
<b>UNIT IV Transfer Pricing</b> (18 hrs)									
Transfer <b>Pricing</b> : Meaning, <b>Benefits</b> , Methods: <b>Pricing based on cost</b> , Market price on transfer price, <b>Negotiated pricing</b> and Pricing based on <b>opportunity costs</b> – Practical Problems.									
<b>UNIT V</b> (18 hrs)									
<b>Cost Management in Agriculture and IT sector</b>									
Agriculture Sector: Features, <b>Cost Structure</b> , Cost Management, <b>Tools to measure the performance</b> , <b>Minimum Support Price</b> and International Perspective – <b>Information Technology Sector</b> : Features, Cost Structure, <b>Cost Management</b> and International Perspective.									
<b>Course Outcomes</b>									
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								
<b>Books for study:</b>									
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. Jawahar Lal, (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
CO 1	3	3	3	3	3	3	3	3	3
CO 2	3	3	2	3	3	3	3	3	3
CO 3	3	3	2	3	3	3	3	3	3
CO 4	3	3	2	3	3	3	3	2	3
CO 5	3	3	1	3	3	3	3	3	3

**Strong - 3**

**Medium – 2**

**Low - 1**

**FIRST YEAR SEMESTER II**  
**CORPORATE ACCOUNTING**

**CORE – V**

**Course Code: P2R3CMCC5**

Category	L	T	P	O	Credits	Inst. Hours	Marks		
							CIA	External	Total
<b>CORE V</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								
<b>Course Units</b>						<b>Employability</b>			
<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</b>							<b>(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.									
<b>Question pattern: Theory: 20%; Problems: 80%</b>									
<b>Course Outcomes</b>									
Students will be able to									
CO 1	Prepare Financial Statements of companies as per schedule III of Companies Act, 2013								
CO 2	Apply the provisions of IRDA Regulations, 2002 in the preparation of final accounts of Life Insurance and General Insurance Companies.								
CO 3	Prepare Consolidated Financial Statements of Holding Companies in accordance with AS 21.								
CO 4	Assess contemporary accounting methods								

CO 5	Examine Financial Reporting based on appropriate Accounting Standards and provisions of Companies Act 2013 with respect to Corporate Social Responsibility
<b>Books for study:</b>	
<ol style="list-style-type: none"> <li>Gupta R. L. &amp; Radhaswamy M. (2021), “Corporate Accounting – Volume I &amp; II”, 14<sup>th</sup> Edition, Sultan Chand &amp; Sons, New Delhi.</li> <li>Maheshwari S. N., Sharad K. Maheshwari &amp; Suneel K. Maheshwari, (2022), “Advanced Accountancy - Volume I &amp; II”, 11<sup>th</sup> Edition, Vikas Publishing House Pvt. Ltd., New Delhi.</li> <li>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.</li> <li>Reddy T. S. &amp; Murthy A., (2022), “Corporate Accounting – Volume I &amp; II”, 17<sup>th</sup> Edition, Margham Publications, Chennai.</li> </ol>	
<b>Books for reference:</b>	
<ol style="list-style-type: none"> <li>Arulanandam M.A &amp; Raman K.S., (2021), “Advanced Accounting (Corporate Accounting – II)”, 8<sup>th</sup> Edition, Himalaya Publishing House Pvt Ltd, Mumbai.</li> <li>Shukla M C, Grewal T S and Gupta S C, (2022), “Advanced Accounts Volume II”, 19<sup>th</sup> Edition, Sultan Chand &amp; Sons, New Delhi.</li> <li>Gupta R. L., (2022), “Problems and Solutions in Company Accounts”, 2<sup>nd</sup> Edition, Sultan Chand &amp; Sons, New Delhi.</li> </ol>	
<b>Web references:</b>	
<ol style="list-style-type: none"> <li><a href="https://resource.cdn.icai.org/66550bos53754-p1-cp9.pdf">https://resource.cdn.icai.org/66550bos53754-p1-cp9.pdf</a></li> <li><a href="https://resource.cdn.icai.org/66545bos53754-p1-cp4.pdf">https://resource.cdn.icai.org/66545bos53754-p1-cp4.pdf</a></li> <li><a href="https://resource.cdn.icai.org/66638bos53803-cp1.pdf">https://resource.cdn.icai.org/66638bos53803-cp1.pdf</a></li> <li><a href="http://ppup.ac.in/download/econtent/pdf/MBA%201st%20sem%20Lecture%20note%20on%20forensic%20accounting%20by%20Anjali.pdf">http://ppup.ac.in/download/econtent/pdf/MBA%201st%20sem%20Lecture%20note%20on%20forensic%20accounting%20by%20Anjali.pdf</a></li> </ol>	

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>	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**

## FIRST YEAR SEMESTER II

## SETTING UP OF BUSINESS ENTITIES

## CORE – VI

Course Code: P2R3CMCC6

Category	L	T	P	O	Credits	Inst. Hours	Marks		
							CIA	External	Total
<b>CORE VI</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								
<b>Course Units</b>						<b>Entrepreneurship</b>			
<b>UNIT I</b>							<b>(18 hrs)</b>		
<b>Startups in India</b>									
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.									
<b>UNIT II</b>							<b>(18 hrs)</b>		
<b>Not-for-Profit Organisations</b>									
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>									
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.									
<b>UNIT IV</b>							<b>(18 hrs)</b>		
<b>Registration and Licenses</b>									
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.									
<b>UNIT V</b>							<b>(18 hrs)</b>		
<b>Environmental Legislations in India</b>									
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.									

<b>Course Outcomes</b>	
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
<b>Books for study:</b>	
<ol style="list-style-type: none"> <li>1. Kailash Thakur, (2007) “Environment Protection Law and Policy in India”, 2<sup>nd</sup> Edition, Deep &amp; Deep Publication Pvt. Ltd., New Delhi.</li> <li>2. Avtar Singh, (2015), “Intellectual Property Law”, Eastern Book Company, Bangalore</li> <li>3. Zad N.S and Divya Bajpai, (2022) “Setting up of Business Entities and Closure” (SUBEC), Taxmann, Chennai</li> <li>4. Amit Vohra &amp; Rachit Dhingra (2022) “Setting Up Of Business Entities &amp; Closure”, 6<sup>th</sup> Edition, Bharath Law House, New Delhi</li> </ol>	
<b>Books for reference:</b>	
<ol style="list-style-type: none"> <li>1. Setting up of Business Entities and Closure (2021), Module 1, Paper 3, The Institute of Company Secretaries of India, MP Printers, Noida</li> <li>2. The Air (Prevention and Control of Pollution) Act, 1981, Bare Act, 2022 Edition, Universal/LexisNexis, Noida</li> <li>3. The Water (Prevention and Control of Pollution) Act, 1974, Bare Act, 2022 Edition, Universal/LexisNexis, Noida</li> <li>4. Cliff Ennico, (2005) “Small Business Survival Guide Starting Protecting and Securing your Business for Long-Term Success”, Adams Media, USA</li> <li>5. Daniel Sitarz, (2011) “Sole Proprietorship: Small Business Start-up Kit”, 3<sup>rd</sup> Edition, Nova Publishing, USA</li> </ol>	
<b>Web references:</b>	
<ol style="list-style-type: none"> <li>1. <a href="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</a></li> <li>2. <a href="https://www.mca.gov.in/MinistryV2/incorporation_company.html">https://www.mca.gov.in/MinistryV2/incorporation_company.html</a> 3)</li> <li>3. <a href="https://legislative.gov.in/sites/default/files/The%20Limited%20Liability%20Partnership%20Act,%202008.pdf">https://legislative.gov.in/sites/default/files/The%20Limited%20Liability%20Partnership%20Act,%202008.pdf</a></li> <li>4. <a href="https://legislative.gov.in/sites/default/files/A1999-48.pdf">https://legislative.gov.in/sites/default/files/A1999-48.pdf</a></li> <li>5. <a href="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</a></li> </ol>	

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	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

## FIRST YEAR SEMESTER II

## DATA MINING AND DATA WAREHOUSING

Course Code: P2R3CMDSE3:1

Category	L	T	P	O	Credits	Inst. Hours	Marks		
							CIA	External	Total
Elec. III	4				3	4	25	75	100
<b>Learning Objectives</b>									
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								
<b>Course Units</b>						<b>Entrepreneurship</b>			
<b>UNIT I (12 hrs)</b>									
<b>Data Warehouse</b>									
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 (12 hrs)</b>									
<b>Data Warehouse Architecture</b>									
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 - necessary of metadata in data warehouses - types of metadata- metadata repository - benefits of metadata repository.									
<b>UNIT III (12 hrs)</b>									
<b>Data Mart</b>									
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.									
<b>UNIT IV (12 hrs)</b>									
<b>Data Mining</b>									
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.									
<b>UNIT V (12hrs)</b>									
<b>Data Mining Tools &amp; Techniques</b>									
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.									
<b>Course Outcomes</b>									
Students will be able to:									
CO 1	Explain the basic concepts, principles and need of data warehousing								
CO 2	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
<b>Books for study:</b>	
<ol style="list-style-type: none"> <li>1. Jiawei Han, Micheline Kamber (2011), Data Mining, Concepts and Techniques, Morgan Kauffman Publishers, California.</li> <li>2. Pang Ning Tan, Michael Steinbach, Vipin Kumar (2005), Introduction to Data Mining, Addison Wesley, USA.</li> <li>3. K. P. Soman, Shyam Diwakar, V. Ajay (2006), Insight into Data Mining: Theory &amp; Practice, Prentice Hall of India, New Delhi.</li> </ol>	
<b>Books for reference:</b>	
<ol style="list-style-type: none"> <li>1. BPB Editorial Board (2004), "Data Mining", BPB publications, Noida.</li> <li>2. Ian H. Witten &amp; Eibe Frank (2011), "Data Mining, Practical Machine Learning Tools and Techniques", Morgan Kaufmann series.</li> <li>3. Ramesh Sharda, Dursun Delen, Efraim Turban (2018), "Business Intelligence", Pearson Education Services Pvt Ltd, Noida.</li> </ol>	
<b>Web references:</b>	
<ol style="list-style-type: none"> <li>1. <a href="https://mrcet.com/downloads/digital_notes/ME/III%20year/ERP%20Complete%20Digital%20notes.pdf">https://mrcet.com/downloads/digital_notes/ME/III%20 year/ERP%20 Complete%20Digital%20notes.pdf</a></li> <li>2. <a href="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</a></li> </ol>	

### 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**

## FIRST YEAR SEMESTER II

## TECHNOLOGY IN BANKING

Course Code: P2R3CMDSE3:2

Category	L	T	P	O	Credits	Inst. Hours	Marks		
							CIA	External	Total
Elec. III	4	-	-	-	3	4	25	75	100
<b>Learning Objectives</b>									
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								
<b>Course Units</b>						<b>Employability</b>			
<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, Benefit sand 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>							<b>(12 hrs)</b>		
<b>Electronic Fund Transfer and Its Transitions</b>									
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>UNIT IV</b>							<b>(12 hrs)</b>		
<b>Trends in Banking Technology</b>									
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>UNIT V</b>							<b>(12 hrs)</b>		
<b>Information Security System</b>									
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>Course Outcomes</b>									
<b>Students will be able to</b>									
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 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 Morris and 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., Agrim Uppal (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)  
<https://eprocure.gov.in/cppp/rulesandprocs/kbadqkdlcswfjdelrquehwuxcfmijmuidngudufgbuubgubfugbububjxcgfvvsbdihbgfGhdgFHtyhRtMjk4NzY=#:~: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
CO1	2	3	2	3	3	2	3	2	2
CO2	2	3	2	3	3	3	3	3	3
CO3	1	2	3	3	3	3	3	3	3
CO4	2	2	2	3	3	3	3	3	3
CO5	1	2	3	2	2	3	2	3	3

Strong - 3
Medium – 2
Low - 1

**FIRST YEAR SEMESTER II**  
**FINANCIAL ANALYTICS (PRACTICALS)**

**Course Code: P2R3CMDSE4:1**

Category	L	T	P	O	Credits	Inst. Hours	Marks		
							CIA	External	Total
Elec. IV	4	-	-	-	3	4	40	60	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								
<b>Course Units</b>						<b>Skill development</b>			
<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.									
<b>Course Outcomes</b>									
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								
<b>Books for study:</b>									
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.									
<b>Books for reference:</b>									
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.									
<b>Web references:</b>									
1. <a href="https://personal.ntu.edu.sg/nprivault/MH8331/financial_risk_analytics.pdf">https://personal.ntu.edu.sg/nprivault/MH8331/financial_risk_analytics.pdf</a>									
2. <a href="https://dynamics.microsoft.com/en-us/finance/what-is-financial-analytics/">https://dynamics.microsoft.com/en-us/finance/what-is-financial-analytics/</a>									

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	1	3	3	2	3	2	2
<b>CO2</b>	3	3	1	3	3	2	3	2	2
<b>CO3</b>	3	3	1	3	3	2	3	2	2
<b>CO4</b>	3	3	1	3	3	2	3	2	2
<b>CO5</b>	3	3	1	3	3	2	3	2	2
	<b>Strong - 3</b>			<b>Medium – 2</b>			<b>Low - 1</b>		

## FIRST YEAR SEMESTER II

## MANAGEMENT INFORMATION SYSTEM

Course Code: P2R3CMDSE4:2

Category	L	T	P	O	Credits	Inst. Hours	Marks		
							CIA	External	Total
Elec. IV	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								
<b>Course Units</b>						<b>Entrepreneurship</b>			
<b>UNIT I</b>							<b>(12 hrs)</b>		
<b>Information System</b>									
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>									
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>									
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>									
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.									
<b>UNIT V</b>							<b>(12 hrs)</b>		
<b>Enterprise Resource Planning</b>									
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									
<b>Course Outcomes</b>									
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								
<b>Books for study:</b>									
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**

	POs						PSOs		
	1	2	3	4	5	6	1	2	3
<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

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

**FIRST YEAR SEMESTER II**  
**SKILL ENHANCEMENT COURSE 1**

**CAPITAL MARKETS**

**Course Code: P2R3CMSEC1:1**

Category	L	T	P	O	Credits	Inst. Hours	Marks			
							CIA	External	Total	
<b>Elec. IV</b>	4				2	4	25	75	100	
<b>Learning Objectives</b>										
1	To introduce the students concept of financial markets									
2	To teach the various aspects of regulation of Indian capital market									
3	To teach the working mechanism of primary market									
4	To enable the students to learn the working mechanism of Stock exchanges									
5	To enable the students to learn the concept of underwriting and IPO									
<b>Course Units</b>						<b>Entrepreneurship</b>				
<b>UNIT I</b>		<b>Introduction</b>					<b>12 Hours</b>			
Financial markets - Definition - Role - functions - Constituents - Financial Instruments - Indian Financial Market - Global Financial Market - Capital Market - Evolution and growth - Constituents - Capital Market Instruments - Types - Preference shares- Equity Shares - Non - voting equity shares - Company fixed deposits - Warrants - Debentures and Bonds										
<b>UNIT II</b>		<b>Regulation of Indian Capital Market</b>					<b>12 Hours</b>			
Regulatory Framework - Committees on Regulatory Framework - SEBI - Objectives - Management - Powers and functions - Regulatory role - Investor Protection - Insider Trading - Rationale - Insiders - Insider information - Connected persons.										
<b>UNIT III</b>		<b>Primary Market</b>					<b>12 Hours</b>			
Meaning - NIM Vs Secondary Market - Methods of New Issue - Intermediaries in the new issues market - SEBI Guidelines on Primary Market - Listing - Agreement - Benefits - Consequences of Non-listing										
<b>UNIT IV</b>		<b>Stock Exchange</b>					<b>12 Hours</b>			
History - Meaning - Functions - Stock Exchange Vs Commodity Exchange - Stock Exchange Traders - Regulation of Stock Exchanges - Steps in Stock Trading - BSE and NSE - World Stock Exchanges - New York, London, Hong Kong and Tokyo Stock Exchanges.										
<b>UNIT V</b>		<b>Underwriting and IPO</b>					<b>12 Hours</b>			
Underwriting - Definition - Types - Mechanics - Benefits - Book Building - Concept - Characteristics - Process - IPO including e-IPO - Reverse book – building – Depository services - Demat Account - Electronic Settlement of Trade - Role of CDSL and NSDL - Online Stock Trading.										
<b>(Theory 75 Marks)</b>						<b>Total Hours 60</b>				
<b>Book for Study</b>										
The Capital Markets by Gary Strumeyer, Sarah Swammy, Released January 2017 Publisher(s): Wiley Publishers ISBN: 9781119220541										

<b>Course Outcomes</b>			<b>K Level</b>
<b>Books for Reference</b>			
1. Frank J, Fabozzi, Franco Modigliani, (2000), “Capital Markets Institutions and Instruments”, Prentice Hall, New Delhi			
2. Gurusamy, (2014), “Capital Markets”, Vijay Nicole Imprints, Chennai.			
3. Moorad Choudhry, (2000), “Capital Market Instruments, Analysis and Valuation”, FT Press, New York.			
4. Mahesh Kulkarni & Dr. Suhas Kulkarni, (2001), “Capital Markets and Financial Services”, Nirala Publications, Mumbai.			
5. Rajesh Chakraborty, Sankar D.E, (2011), “Capital Markets in India”, Sage Publications, New Delhi			
<b>Web Resources</b>			
1) <a href="https://www.pdfdrive.com/capital-markets-financial-management-and-investment-management-e33414495.html">https://www.pdfdrive.com/capital-markets-financial-management-and-investment-management-e33414495.html</a>			
2) <a href="https://www.yumpu.com/en/document/view/64138725/e-book-download-capital-markets-fifth-edition-institutions-instruments-and-risk-management-the-mit-press-full-books">https://www.yumpu.com/en/document/view/64138725/e-book-download-capital-markets-fifth-edition-institutions-instruments-and-risk-management-the-mit-press-full-books</a>			
3) <a href="https://ns.mstatic.in/LS/The_Capital_Market.pdf">https://ns.mstatic.in/LS/The_Capital_Market.pdf</a>			
4) <a href="http://www.columbia.edu/~sgd2002/pdf/Inside_the_Book.pdf">http://www.columbia.edu/~sgd2002/pdf/Inside_the_Book.pdf</a>			
5) <a href="https://vinodkothari.com/wp-content/uploads/2014/01/Notes-on-Indian-Financial-Markets-final_np_.pdf">https://vinodkothari.com/wp-content/uploads/2014/01/Notes-on-Indian-Financial-Markets-final_np_.pdf</a>			
<b>After completion of the course the student will be able to</b>			
CO1	Understand the role and importance of the Indian financial market		K2
CO2	Apply and analyze the Concepts relevant to Indian financial markets and financial institutions.		K4
CO3	Understand and analyze the mechanics and regulation of financial instruments and determine how the value of stocks, bonds, and securities are calculated.		K5
CO4	Evaluate empirical evidence of the market performance and accordingly the role of regulatory authorities to develop the financial market.		K6
CO5	Research and analyze specific problems or issues related to financial markets and institutions.		K4

<b>Title of the Course: Capital Markets</b>						<b>Course Code: P2R3CMSEC1:1</b>					
<b>Course Outcomes (COs)</b>	<b>Programme Outcomes (POs)</b>					<b>Programme Specific Outcomes (PSOs)</b>					<b>Mean Score of COs</b>
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PSO1</b>	<b>PSO2</b>	<b>PSO3</b>	<b>PSO4</b>	<b>PSO5</b>	
<b>CO1</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>2.5</b>
<b>CO2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>2.6</b>
<b>CO3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2.6</b>
<b>CO4</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2.5</b>
<b>CO5</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>2.3</b>
	<b>Mean Overall Score</b>										<b>2.5</b>
	<b>Result</b>										<b>High</b>

**FIRST YEAR SEMESTER II**  
**CORPORATE GOVERNANCE**  
**SKILL ENHANCEMENT COURSE 2**

**Course Code: P2R3CMSEC1:2**

Category	L	T	P	O	Credits	Inst. Hours	Marks		
							CIA	External	Total
Elec. IV	4				2	4	25	75	100
<b>Learning Objectives</b>									
1	To develop better and most efficient management of business organization								
2	To develop more applicable criteria towards performing the task								
3	Holding balance between social and economic goals.								
4	To encourage the efficient use of scarce resources.								
5	To ensure perspective work place management								
<b>Course Units</b>							<b>Entrepreneurship</b>		
<b>UNIT I</b>			<b>Introduction of Corporate Governance</b>				<b>12 Hours</b>		
Corporate Governance-Introduction, need, scope, and issues; Evolution of Corporate Governance; Genesis of Corporate Governance, Key features of Corporate Governance in the companies.									
<b>UNIT II</b>			<b>Theories of corporate Governance</b>				<b>12 Hours</b>		
Agency Theory, stewardship Theory, The Stakeholder Theory, Political Theory; Models of Corporate Governance: Regional Models: Indian Models: Principles of Corporate Governance and Organization for Economic Co-operation and Development (OECD) Principles.									
<b>UNIT III</b>			<b>Personal &amp; Politics Action</b>				<b>12 Hours</b>		
Personal Action-Politics-Action Politics in Firm-Time Management; Corporate governance and the stakeholders - The business scene; Profit , Bottom line-Corporate styles; Leadership styles; essential components of leadership, understanding team work and leadership.									
<b>UNIT IV</b>			<b>Poor Corporate Governance</b>				<b>12 Hours</b>		
Meaning, consequences, effects and impact of poor Corporate Governance, Ways to improve Corporate Governance.									
<b>UNIT V</b>			<b>Evaluation &amp; Reporting</b>				<b>12 Hours</b>		
Corporate Governance - Accountability issues - Board objective –Training and Development of directors-Performance evaluation of board –Corporate scandals, Whistle Blowing, Insider trading-Administering &Reporting of Corporate Governance.									
<b>(Theory 75 Marks)</b>							<b>Total Hours 60</b>		
<b>Book for Study</b> Corporate Social responsibility: Philip Kotler, Wiley India Pvt, Ltd.									
<b>Books for Reference</b> 1. Corporate Governance-Company Secretary of India, Taxman, New Delhi 2. Business Ethics and Corporate Governance-S.K.Bhatia-Deep and Deep publications New Delhi.									
<b>Web Resources</b> <a href="https://esource.dbs.ie/handle/10788/4196">https://esource.dbs.ie/handle/10788/4196</a>									
<b>Course Outcomes</b>								<b>K Level</b>	
<b>After completion of the course the student will be able to</b>									
<b>CO1</b>	Adopt the appropriate mechanism for effective governance							K2	
<b>CO2</b>	Value the shareholders and stakeholder rights and responsibilities							K1	
<b>CO3</b>	Adhere to sound principles of direction and management							K3	

<b>CO4</b>	Understand the significance of audit committee, its composition and responsibilities	K2
<b>CO5</b>	Implement best practices on corporate management	K6

<b>Title of the Course: Corporate Governance</b>						<b>Course Code: P2R3CMSEC1:2</b>					
	<b>Programme Outcomes (POs)</b>					<b>Programme Specific Outcomes (PSOs)</b>					<b>Mean Score of COs</b>
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PSO1</b>	<b>PSO2</b>	<b>PSO3</b>	<b>PSO4</b>	<b>PSO5</b>	
<b>CO1</b>	3	3	2	2	3	3	3	2	2	2	2.5
<b>CO2</b>	3	2	2	2	2	3	2	2	2	3	2.3
<b>CO3</b>	3	3	3	3	2	3	2	3	2	2	2.6
<b>CO4</b>	3	3	3	2	2	3	3	2	2	2	2.5
<b>CO5</b>	3	3	2	2	3	3	2	3	2	2	2.5
<b>Mean Overall Score</b>											<b>2.48</b>
<b>Result</b>											<b>High</b>