

**RAJALAKSHMI ENGINEERING COLLEGE,  
THANDALAM**  
(An Autonomous Institution and Affiliated to Anna University)  
**DEPARTMENT OF MECHANICAL ENGINEERING**  
**B.E/B.TECH Minor Degree**  
**in**  
**Financial Technology and Entrepreneurship Development**  
**(FINTECH & ED)**

<b>S.No.</b>	<b>Course Code</b>	<b>Course Name</b>	<b>Contact Periods</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>1</b>	<b>MME1901</b>	<b>Managing Banks And Financial Institutions</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>
<b>2</b>	<b>MME1902</b>	<b>Fundamentals Of Fintech</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>
<b>3</b>	<b>MME1903</b>	<b>Cyber Security And Payment Gateways In Fintech</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>
<b>4</b>	<b>MME1904</b>	<b>Introduction To Entrepreneurship</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>3</b>
<b>5</b>	<b>MME1905</b>	<b>Business Opportunity Identification</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>3</b>
<b>6</b>	<b>MME1906</b>	<b>Start Up And New Venture Management</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>

Subject Code	Subject Name (Theory course)	Category	L	T	P	C
MME1901	Managing Banks And Financial Institutions		3	0	0	3

Objectives:	
7	Grasp how banks raise their sources and understand e-banking and the threats that go with it.
7	Understand the insurance and its significance.

<b>UNIT-I</b>	<b>Overview Of Indian Banking System:</b> Overview of Indian financial and banking System – Functions of banks, key Acts governing the functioning of Indian banking system – RBI Act 1934, Negotiable Instruments Act 1881, Banking Regulations Act 1948 – Rights and obligations of a banker – new entities in Indian banking system- small finance banks- payment banks.	9
<b>UNIT-II</b>	<b>Sources And Application Of Bank Funds :</b> Capital adequacy, Deposits and non-deposit sources- pricing of deposit services, application of bank funds – Investments and Lending functions, Types of lending– Fund based, non-fund based, asset based –types of loans and features, Pricing of loans – credit delivery and administration-Credit monitoring- financial distress prediction models- NPAs and ALM.	9
<b>UNIT-III</b>	<b>High Tech E-Banking:</b> Payment system in India – Paper based e-payments – Electronic banking– advantages – Plastic money, E-money Security threats in e-banking and RBI’s initiatives –introduction to Crypto currency.	9
<b>UNIT-IV</b>	<b>Financial Institutions:</b> Private Equity-Underwriting-Alternative Investment Funds-Investment Advisory Services- Real Estate Investment Trusts (REITs)- Credit Rating-Housing Finance.	9
<b>UNIT-V</b>	<b>Insurance :</b> Insurance- Definition, Purpose & need of Insurance, Insurance as risk transfer & risksharing mechanism, Benefits & Cost of insurance to society, Types of insurance- Life and non-life insurance - in typical operational structure of an Insurance Company, Role of Actuarial Profession – recent developments in Indian insurance industry.	9
		<b>Total Contact Hours : 45</b>

<b>Course Outcomes:</b>	
–	Price various types of loans proposed by banks to various prospective borrowers with different risk profiles and evaluate the performance of banks.
–	Students would be familiar with application of bank funds and its importance in the economy.
–	Students will have thorough knowledge on credit monitoring system and risk management followed in banks.
–	Able to critically evaluate the performance analysis of the banks and electronic bank.
–	Understands the concepts in life and non-life insurance.
<b>Text Book (s):</b>	
1	Padmalatha Suresh and Justin Paul, “Management of Banking and Financial Services, Pearson, Delhi, 2012.
2	P.K.Gupta, “Insurance and Risk Management”, Himalaya Publishing House, 2011.
<b>Reference Books(s) / Web links:</b>	
1	Meera Sharma, “Management of Financial Institutions – with emphasis on Bank and Risk Management”, PHI Learning Pvt. Ltd., New Delhi 2010.
2	Sethi Jyotsna, “Elements of Banking and Insurance”, PHI Learning, 2 <sup>nd</sup> Edition, 2012.

Subject Code	Subject Name (Theory course)	Category	L	T	P	C
MME1902	FUNDAMENTALS OF FINTECH	CC	3	0	0	3

**Objectives:**

–	To understand the basic concepts of FinTech
–	To get an overall knowledge on the technology driving disruption in FinTech

<b>UNIT-I</b>	Evolution of the Global Financial Services Industry : Banks, Wealth, and Insurance Industry, Emerging FinTech, The rise of FinTech, Digital transformation, Definition of FinTech, History, stages, FinTech models and classifications, FinTech Innovation – models and examples and introduction to InsurTech.	9
<b>UNIT-II</b>	Reshaping the Financial Services Industry: Fintech in Payments – Digital wallets, POS system, lending- Informal and formal lending, P2P, POS, Online, Microfinance, crowdfunding, FinTech in wealth management- Equity research FinTech, Automated Investment, Insurance industry- P2PInsurance, On-demand Insurance, Technology reshaping the Insurance Industry.	9
<b>UNIT-III</b>	Technology Disruptions: FinTech opportunities owing to 4G and 5G Networks, FinTech Transforming Customer Experiences – mobile apps and smartphones, influence of social media, cloud computing service and deployment models, FinTech through API-fication, recent developments of IOT, Big Data, Analytics, Blockchain and AI in FinTech, Blockchain and cryptocurrency.	9
<b>UNIT-IV</b>	Present and Future of FinTech: Global view of FinTech, Emerging technologies, future of financial service, the rise in Banking Tech, impact on Retail banking, API economy, Building a FinTech Ecosystem. FinTech-based Case studies, Success stories, pitfalls and limitations of FinTech.	9
<b>UNIT-V</b>	FinTech Regulations – Introduction, Role of regulators, Regulations and global financial crisis, Robotic Process Automation (RPA), Regulatory risks involved, RegTech and sandboxes, Regulating Blockchains and Anti-money laundering.	9
		<b>Total Contact Hours</b> : <b>45</b>

<b>Course Outcomes:</b> After completing the course, the Learners should be able to :	
7	Understand Fintech Models
7	Understand how Fintech disrupts financial services industry
7	Identify different technologies involved in Fintech
7	Understand the future of Fintech
7	Understand the Fintech Regulations.

<b>Text Book (s):</b>	
1	FinTech in a Flash, Financial Technology Made Easy, Agustin Rubini, Banking Innovations 2 <sup>nd</sup> edition 2017.
2	Inclusive FinTech: Blockchain, Cryptocurrency and ICO, David Lee Chuen and Linda Low, WorldScientific Publishing, 2018.

<b>Reference Books(s) / Web links:</b>	
1	Chishti, Susanne, and Janos Barberis. The Fintech book: The financial technology handbook for investors, entrepreneurs and visionaries. John Wiley & Sons, 2016
2	Arjunwadkar, Parag Y. FinTech: The technology driving disruption in the financial services industry. Auerbach Publications, 2018.
3	Pedersen, Niels. Financial Technology: Case Studies in FinTech Innovation. Kogan Page Publishers, 2020.

Subject Code	Subject Name (Theory course)	Category	L	T	P	C
MME1903	CYBER SECURITY AND PAYMENT GATEWAYS IN FINTECH		3	0	0	3

Objectives:	
7	To provide a broad introduction to the field of FinTech and Blockchain and its application in the field of Financial sector.
7	To get a thorough knowledge on topics related to various digital payment gateway technologies

<b>UNIT-I</b>	Threats in Fintech - Threat categories, structural approaches of threat, Threat categories for Fintech, Threat modelling, Threat modelling for Fintech-STRIDE, Trike. Vulnerabilities in Fintech- General and Specific vulnerabilities, Assessment, mitigation of vulnerabilities. Cybercrime-Cyber security categories and players.	9	
<b>UNIT-II</b>	Defensive Mechanism: cybersecurity policy in Fintech -Access control, Basic Access control types, Authentication and remote access control, Fintech policy and prevention system Cybersecurity framework for Fintech-General framework – standard framework – NIST CSF, FFIEC	9	
<b>UNIT-III</b>	E-commerce: Definition, framework, applications, merits, and demerits. eBusiness Model: B2B, B2C, C2C, C2B. Electronic Payment System: Digital token-based system, smart cards, micropayments, e-cash, designing e-payments system. E-Commerce Security Tools: Firewalls, PKI, digital signature	9	
<b>UNIT-IV</b>	Open Banking & API: Overview of Open Banking, Strategies and challenges, Data virtualization -Continuous Data Curation - Risk impact Analysis, Building blocks of Open Banking – API Strategy for Open Banking and FinTech: Motivation, Layered architecture, API Lifecycle, API Risk Management, Case studies using Open Bank AP	9	
<b>UNIT-V</b>	Distributed ledger for identification-Identification for Unbanked-Unique identification system in India-Using biometrics as Identification . Risk in Fintech-Risk life cycle, Risk Assessment, Risk analysis, Risk mitigation, Risk monitoring and challenges in Fintech Risk Management	9	
		<b>Total Contact Hours</b>	<b>: 45</b>

<b>Course Outcomes:On completion of course, students will be able to:</b>	
–	Understand the categories of cyber security threats .
–	Apply the concept of cybersecurity policy in Fintech as defensive mechanism.
	Apply the concepts of e-commerce and digital payment systems models
	Understand the concepts of Open banking API Models
–	Acquire basic knowledge on Fintech Risk Management
<b>Text Book (s):</b>	
<b>1</b>	Gurdip Kaur, Ziba Habibi Lashkari, Arash Habibi Lashkari, Understanding Cybersecurity Management in Fintech, Springer, 2021
<b>2</b>	Erdal Ozkaya, Milad Aslaner, Hands-on Cybersecurity for Finance, Packt publishing, 2019
<b>3</b>	Chishti, Susanne, et al., eds. The PAYTECH Book: The Payment Technology Handbook for Investors, Entrepreneurs, and FinTech Visionaries. John Wiley & Sons, 2020.

## **Preface of Minor in Entrepreneurship Development**

Entrepreneurs now play a key role in driving our economy by enhancing employment opportunities, driving savings and per capita income, and generating additional revenue for the government. The Minor in Entrepreneurship Development is focuses on training individuals whoare interested in commencing their venture and on encouraging innovation and evaluating the growth potential of an enterprise.

The main objective of this course is to develop entrepreneurial abilities by providing background information about support systems, skill sets, financial and risk covering institutions and otherfor building an enterprise so that future budding entrepreneurs can make right decisions for starting and running a venture. This minor program will cover the key principles of entrepreneurship alongside the concepts, strategies, and tools needed to succeed as a small business owner, franchisee, founder, or other entrepreneurial professional.

The Minor consists of courses 1. Introduction to Entrepreneurship, 2. Business Opportunity Identification, 3. Start Up and New Venture Management.

The courses and project are distributed in semester----- There is no need of any special pre-requisites for opting this minor, however, it is preferred that the students should have basic understanding of Management concepts.

The students will develop their management skills and entrepreneurship skills needed to succeed in professional career. The minor course will also help students to identify entrepreneurial opportunities and also to understand the processes and practices in business and their applications.

### **Objectives:**

This program aims to:

- 1 To develop entrepreneurship awareness
- 1 To inculcate entrepreneurial mind-set into the minds of young professionals
- 1 To leverage managerial and leadership skills for founding, leading & managing Startups
- 1 To learn & understand the processes and practices in business and their applications

### **Outcomes:**

At the successful completion of this Minor program, students will be able to:

- 1 Develop traits and factors influencing development of entrepreneurship as a profession
- 1 Discover skill sets required for successful Entrepreneurship
- 1 Determine Business Opportunities Identification
- 1 Develop different skills for founding, leading & managing startups
- 1 Make use of key concepts of management
- 1 Discover different ways for new venture development.



## Entrepreneurship Development

<b>Course Code</b>	<b>Course Name</b>	<b>L</b>	<b>P</b>	<b>T</b>	<b>H</b>	<b>Total Credits</b>
<b>MME1904</b>	<b>Introduction to Entrepreneurship</b>	4	-	-	4	3
<b>MME1905</b>	<b>Business Opportunity Identification</b>	4	-	-	4	3
<b>MME1906</b>	<b>Start up and New Venture Management</b>	3	-	-	3	3

Course Code	Course Name						
MME1904	INTRODUCTION TO ENTREPRENEURSHIP			L	T	P	C
			4	-	-		3
<b>Prior knowledge of</b>							
-No any Prior knowledge required.							
<b>Objectives:</b>							
<ol style="list-style-type: none"> <li>To develop entrepreneurship awareness</li> <li>To inculcate entrepreneurial mind-set into the minds of young professionals</li> <li>To identify entrepreneurial opportunities</li> <li>To leverage skills for founding, leading &amp; managing Startups</li> </ol>							
<b>Outcomes:</b>							
At the end of course, student will be able to:							
<ol style="list-style-type: none"> <li>Develop traits and factors influencing development of entrepreneurship as a profession</li> <li>Discover skill sets required for successful Entrepreneurship</li> <li>Make use of Business Laws in India to start Business</li> <li>Examine essentials to avoid failure in Entrepreneurship.</li> </ol>							
Unit	Description						Duration (H)
1	<b>Introduction to Entrepreneurship</b> - Meaning, Definition and concept of Enterprise, Entrepreneurship Development, Evolution of Entrepreneurship, Motivation theories- McClelland's Need Achievement Theory, Concepts of Entrepreneurship, Entrepreneur v/s Entrepreneur, Entrepreneur Vs. Manager, Role of Entrepreneurship in Economic Development, Factors affecting Entrepreneurship, Problems of Entrepreneurship <b>Case Study of Indian Entrepreneurs in Pre-Independence Era and Post-Independence Era</b>						8
2	<b>The Entrepreneur:</b> Why to become entrepreneur ,Types of Entrepreneur , Concept of Social Enterprise and Social Entrepreneurship, Social Entrepreneurs, Rural Entrepreneurship, Family Business Entrepreneurship, The entrepreneurial decision process, <b>Case Study of Entrepreneurship in different Sectors</b>						7
3	<b>Women Entrepreneurs:</b> Significance of women entrepreneurship , Factors contributing to women Entrepreneurship, Characteristics – Challenges faced by Women Entrepreneurs , Growth of women Entrepreneurship Achievements of Woman Entrepreneurs, Role Models of Woman Entrepreneur. <b>Case Study of First Generation Women Entrepreneurs in India</b>						8
4	<b>Skills for Successful Entrepreneurs:</b> Communication Skills, Creativity and Problem solving, Innovation, Negotiation Skills, Risk management <b>Case Study of Successful Entrepreneurs- Cases of Tata, Birlas, Kirloskar and newgeneration entrepreneurs in India</b>						7
5	<b>Business Organizations and Business Laws:</b> Types of Business Organizations -Sole Proprietorship, Joint Hindu Family Business,Partnership, Limited Liability Partnership (LLP),						8

	Corporate Governance, Franchising, Business Laws in India to start Business	
<b>6</b>	<b>Concepts of Entrepreneurship Failure:</b> Issues of Entrepreneurial failure, Reasons of Entrepreneurial Failure, Essentials to Avoid failure in Entrepreneurship. <b>Case Study of failure in Entrepreneurship</b>	<b>7</b>
	<b>Total</b>	<b>45</b>

**Activities (Suggested but not limited to):**

1. Interview with First Generation Entrepreneurs
2. Case Study of Successful Entrepreneurs
3. Alumni Talk on Entrepreneurship by Successful Entrepreneur (Alumni)
4. Training program for developing soft skills for Entrepreneurs (Communication Skills, Creativity and Problemsolving, Innovation, Negotiation Skills, Risk management)
5. Study Visit to Incubation Centre
6. Participation in Entrepreneurship Awareness Camp (EAC)

**Reference books:**

1. Dynamics of Entrepreneurship Development – Vasant Desai.
2. Entrepreneurship: New Venture Creation – David H. Holt
3. Entrepreneurship Development New Venture Creation – Satish Taneja, S.L.Gupta

<b>Course :</b>	<b>BUSINESS OPPORTUNITY IDENTIFICATION</b>					<b>Code : MME1905</b>		
<b>Teaching Scheme/week</b>								
<b>Lecture</b>	<b>Tutorial</b>	<b>Credit</b>	<b>Hours</b>					
4		4	4					
<b>Prior knowledge of:</b> Introduction to Entrepreneurship								
<b>Objectives:</b>								
<ol style="list-style-type: none"> <li>1. To develop entrepreneurship awareness</li> <li>2. To inculcate entrepreneurial mind-set into the minds of young professionals</li> <li>3. To identify entrepreneurial opportunities</li> <li>4. To learn &amp; understand the processes and practices in business and their applications</li> <li>5. To create successful Entrepreneurs</li> </ol>								
<b>Outcomes:</b>								
<ol style="list-style-type: none"> <li>1. At the end of course, student will be able to:</li> <li>2. Determine Business Opportunities Identification</li> <li>3. Make use of the different Government initiatives and different support organizations in encouraging and supporting Entrepreneurship</li> <li>4. Make use of the Intellectual Property Rights</li> </ol>								
<b>Detailed Syllabus</b>								
<b>Unit</b>	<b>Descripti on</b>							<b>Durati on (H)</b>
<b>1</b>	<b>Business Opportunity Identification</b> Concept of Business Opportunity, What is a Business idea, How to generate Business Ideas? Business Opportunities Identification Process, Business Value Chain, different sections of the business value chain for potential opportunities							<b>7</b>
<b>2</b>	<b>Business opportunity Identification Techniques,</b> Business Opportunities in India, Different Business Models, Identifying the right Business Model Canvas, Opportunities in different industries / Sectors Opportunities arising out of digitization							<b>8</b>
<b>3</b>	<b>Startup opportunities</b> Meaning of Startup, The Rise of The startup Economy Startup Policy, Startup opportunities, Registration and Legal Process of Startups. The Startup Ecosystem - Entrepreneurship in India.							<b>7</b>
<b>4</b>	<b>Government Initiatives:</b> Role of Government in promoting Entrepreneurship in India, Startup India, Atmanirbhar Bharat, Make in India Assistance to an Entrepreneur Industrial Park , Special Economic Zone , MSME Act , MSME policy in India Financial assistance to MSME , Various Government schemes - PMEGP, CGTMSE, PMKVY, Mudra loan Case studies of Start ups							<b>8</b>

<b>5</b>	<p><b>Role of Institutional Support</b>  Agencies for Policy Formulation and Implementation: District Industries Centres (DIC), Small Industries Service Institute (SISI), Entrepreneurship Development Institute of India (EDII), National Institute of Entrepreneurship &amp; Small Business Development (NIESBUD)  Concept of Incubation, Role of Incubation Centres, Support from Incubation centres  Role of Mentors , Role of consultancy organizations in promoting Entrepreneurs</p>	<b>8</b>
<b>6</b>	<p><b>Intellectual Property Rights and Entrepreneurship:</b>  Concept of Intellectual Property Rights, Role of IPR in Entrepreneurship, IP strategy for start-up and MSME  Patent, Trademark, Copyright, Industrial Design Act</p>	<b>7</b>
<b>Total</b>		<b>45</b>

**Activities (Suggested but not limited to):**

1. Interview with First Generation Entrepreneurs
2. Case Studies
3. Alumni Talk on Entrepreneurship by Successful Entrepreneur (Alumni)
4. Study Visit to Incubation Centre, Accelerator, MSME, Government office
5. Participation and completion certificate of EAC/EDP/WEDP
6. Business Presentations

**Reference books:**

1. Dynamics of Entrepreneurship Development – Vasant Desai.
2. Entrepreneurship: New Venture Creation – David H. Holt
3. Entrepreneurship Development New Venture Creation – Satish Taneja, S.L.Gupta
4. Entrepreneurship Development and small business management – Poornima M. Charantimath

<b>Program:</b>						<b>Semester :</b>	
<b>Course :</b>	<b>START UP AND NEW VENTURE MANAGEMENT</b>					<b>Code : MME1906</b>	
<b>Teaching Scheme/week</b>							
				<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
				3	-	-	3
<b>Prior knowledge of</b> - Introduction to Entrepreneurship ,Business Opportunity Identification							
<b>Objectives:</b> <ol style="list-style-type: none"> <li>To develop entrepreneurship awareness</li> <li>To inculcate entrepreneurial mind-set into the minds of young professionals</li> <li>To learn &amp; understand the processes and practices in business and their applications</li> <li>To create successful Entrepreneurs</li> </ol>							
<b>Outcomes:</b> At the end of course, student will be able to: <ol style="list-style-type: none"> <li>Assess Business plan, business pitch as an entrepreneurial tool</li> <li>Make use of concepts of Business Management</li> <li>Identify Financial Support System for Business Management</li> <li>Select Market Survey techniques for business</li> <li>Discover different ways for new venture development</li> </ol>							
<b>Unit</b>	<b>Description</b>						<b>Duration (H)</b>
<b>1</b>	<b>Business Plan</b> <b>The Business plan as an</b> entrepreneurial tool, Elements of Business plan, Market Analysis, Technical Analysis, Financial Analysis, Economical Analysis, SWOT analysis, Internal and External Environment Analysis						<b>7</b>
<b>2</b>	<b>Business Management</b> Business model for venture, Value Proposition, Customer Segments, Channels and Partners, Revenue Model and Streams, Key Resources Manage a Team, Concept of Costs, Profits, and Losses, Project Manager, Project Life Cycle						<b>8</b>
<b>3</b>	<b>The Financial Road Map:</b> Financial Support System: Forms of Financial support, Long term and Short term financial support, Sources of Financial support, Planning/Budgeting, Developing a financial roadmap, How to budget for startup success, sources of funding, Informal capital– Friends & Family, MPDA, SFURTI. Crowd funding, Venture capital, Private Equity, Financing Mix Role of Commercial Banks - SIDBI, NABARD, EXIM Bank and Other Agencies; Institutional Assistance for Small Enterprises						<b>7</b>
<b>4</b>	<b>Market Survey and Research:</b> What is a market survey? Process of conducting a market survey, Primary and secondary sources of information, Market survey tools, Preparation of schedule, Techniques of data collection Questionnaire						<b>8</b>

<b>5</b>	<p><b>New Venture Development:</b> Enterprise growth, expansion &amp; diversification New venture Expansion Strategies and Issues Features and evaluation of joint ventures, acquisitions, merges, franchising. Public issues, rights issues, bonus issues and stock splits. Critical risk contingencies of the proposal</p>	<b>8</b>
<b>6</b>	<p><b>Business Pitch:</b> The Business Pitch, Preparing for your investor presentation, Elements of the perfect investment pitch How to Deliver an investor pitch to a panel of investors</p>	<b>7</b>

**Activities (Suggested but not limited to):**

1. Case Studies
2. Management Skill Enhancement Workshops
3. Participation and completion certificate of EAC/EDP/WEDP
4. Business Plan Presentations
5. Interaction with CAs, Bank Managers.
6. Participation in National Level competitions- Start-ups /hackathon / business plan / Business pitch event.
7. Participation in Government of India / Government of Maharashtra initiative related Startup activity
8. Study Visits

**Reference books:**

1. Dynamics of Entrepreneurship Development – Vasant Desai.
2. Entrepreneurship: New Venture Creation – David H. Holt
3. Entrepreneurship Development New Venture Creation – Satish Taneja, S.L.Gupta
4. Entrepreneurship Development and small business management – Poornima M. Charantimath
5. Project management – K. Nagarajan.
6. Innovation and Entrepreneurship – Peter F. Drucker

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