

# **ACADEMIC CURRICULA**

**Mandatory Courses**

**Regulations - 2018**



**SRM**  
INSTITUTE OF SCIENCE & TECHNOLOGY  
(Deemed to be University u/s 3 of UGC Act, 1956)

**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY**

**(Deemed to be University u/s 3 of UGC Act, 1956)**

Kattankulathur, Kancheepuram, Tamil Nadu, India

Course Code	18PDM201L	Course Name	COMPETENCIES IN SOCIAL SKILLS	Course Category	M	Mandatory	L	T	P	C
							0	0	2	0

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	Career Development Centre	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:	Learning	Program Learning Outcomes (PLO)
CLR-1 :	enable students understand subtle meanings of words used in academic texts	1 2 3	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
CLR-2 :	determine the grammatical, syntactical, and logical accuracy of sentences	Level of Thinking (Bloom)	Engineering Knowledge
CLR-3 :	comprehend an argument's line of reasoning	Expected Proficiency (%)	Problem Analysis
CLR-4 :	understand the structure, organization, tone, and main idea behind the passage	Expected Attainment (%)	Design & Development
CLR-5 :	recognize the logical coherence of ideas in a text		Analysis, Design, Research
CLR-6 :	give the right knowledge, skill and aptitude to face any competitive examination		Modern Tool Usage
			Society & Culture
			Environment & Sustainability
			Ethics
			Individual & Team Work
			Communication
			Project Mgt. & Finance
			Life Long Learning
			PSO - 1
			PSO - 2
			PSO - 3
Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:		
CLO-1 :	build vocabulary through methodical approaches and nurture passion for enriching vocabulary	3 80 75	L H - M - - - - M H - H - - -
CLO-2 :	detect and correct any grammatical, syntactical, and logical fallacies	2 80 75	L H - M - - - - M H - H - - -
CLO-3 :	hone critical thinking skills by analyzing arguments with explicit and implicit premises to validate the author's point of view	3 80 75	L H - M - - - - M H - H - - -
CLO-4 :	analyze and evaluate texts critically in multifarious ways	3 80 75	L H - M - - - - M H - H - - -
CLO-5 :	identification of relationships between sentences based on their function, usage and characteristics	2 80 75	L H - M - - - - M H - H - - -
CLO-6 :	ace competitive examinations	2 80 75	L H - M - - - - M H - H - - -

Duration (hour)	6	6	6	6	6
S-1	SLO-1 Synonyms in Isolation and Context	Spotting Errors – Level I	Critical Reasoning – Weakening	Reading Comprehension – Main Idea	Para Jumble-Type I
	SLO-2 Practice	Practice	Practice	Practice	Practice
S-2	SLO-1 Antonyms in Isolation and Context	Spotting Errors – Level II	Critical Reasoning – Inference	Reading Comprehension – Tone	Para Jumble-Type II
	SLO-2 Practice	Practice	Practice	Practice	Practice
S-3	SLO-1 Common Confusables	Spotting Errors – Level II	Critical Reasoning – Conclusion	Reading Comprehension – Inference	Para Jumble-Type III
	SLO-2 Practice	Practice	Practice	Practice	Practice
S-4	SLO-1 Cloze Passage	Sentence Correction-Type I & II	Critical Reasoning - Explain the paradox	Reading Comprehension – Summary	Para Completion
	SLO-2 Practice	Practice	Practice	Practice	Practice
S-5	SLO-1 Word Analogy	Sentence Correction-Type III & IV	Critical Reasoning – Miscellaneous	Reading Comprehension – Conclusion	Para Completion
	SLO-2 Practice	Practice	Practice	Practice	Practice

S-6	SLO-1	Sentence Completion	Sentence Correction-Type V & VI	Critical Reasoning – Miscellaneous	Reading Comprehension – Miscellaneous	Para Summary
	SLO-2	Practice	Practice	Practice	Practice	Practice

Learning Resources	<ol style="list-style-type: none"> <li>Charles Harrington Elstor, <i>Verbal Advantage: Ten Easy Steps to a Powerful Vocabulary</i>, Random House Reference, 2002</li> <li>Merriam Webster's <i>Vocabulary Builder</i>, Merriam Webster Mass Market, 2010</li> <li>Norman Lewis, <i>How to Read Better and Faster</i>, Goyal, 4<sup>th</sup> Edition</li> <li>Franklin GRE Word List, 3861 GRE Words, Franklin Vocab System, 2014</li> <li>Wiley's <i>GMAT Reading Comprehension Grail</i>, Wiley, 2016</li> </ol>	<ol style="list-style-type: none"> <li>Manhattan Prep GRE : <i>Reading Comprehension and Essays</i>, 5<sup>th</sup> Edition</li> <li>Martin Hewings, <i>Advanced Grammar in Use</i>, Cambridge University Press, 2013</li> <li>Manhattan GMAT – <i>Critical Reasoning</i>, GMAT Strategy Guide, 12<sup>th</sup> Edition</li> <li>Joern Meissner, Manhattan Review, <i>GRE Analytical Writing Guide</i>, Manhattan Review Inc, 2011</li> <li>GRE Analytical Writing, <i>Solutions to the Real Essay Topics (Test Prep. Series)</i>, Vibrant Publishers, 2011</li> </ol>

Learning Assessment											
	Bloom's Level of Thinking	Continuous Learning Assessment (100% weightage)								Final Examination	
		CLA – 1 (20%)		CLA – 2 (30%)		CLA – 3 (30%)		CLA – 4 (20%)#			
		Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	-	40%	-	30%	-	30%	-	30%	-	-
	Understand	-	40%	-	30%	-	30%	-	30%	-	-
Level 2	Apply	-	40%	-	40%	-	40%	-	40%	-	-
	Analyze	-	40%	-	40%	-	40%	-	40%	-	-
Level 3	Evaluate	-	20%	-	30%	-	30%	-	30%	-	-
	Create	-	20%	-	30%	-	30%	-	30%	-	-
	Total	100 %		100 %		100 %		100 %		-	

# CLA – 4 can be from any combination of these: Assignments, Seminars, Tech Talks, Mini-Projects, Case-Studies, Self-Study, MOOCs, Certifications, Conf. Paper etc.,

Course Designers			
Experts from Industry		Experts from Higher Technical Institutions	
1. Mr. Vijay Nayar, Director, Education Matters, vijayn@edumat.com		1. Dr. Dinesh Khattar, Delhi University, dinesh.khattar31@gmail.com	
2. Mr. Ajay Zenner, Career Launcher, ajay.z@careerlauncher.com		2. Mr. Nishith Sinha, due North India Academics LLP, nsinha.alexander@gmail.com	
		Internal Experts	
		1. Dr. M. Snehalatha, SRMIST	3. Dr. P. Madhusoodhanan, SRMIST
		2. Mr Jayapragash J., SRMIST	4. Mr. Clement A, SRMIST

Course Code	18PDM202L	Course Name	CRITICAL AND CREATIVE THINKING SKILLS	Course Category	M	Mandatory	L	T	P	C
							0	0	2	0

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	Career Development Centre	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:	Learning	Program Learning Outcomes (PLO)
CLR-1 :	identify problems	1 2 3	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
CLR-2 :	recognize the logical coherence of ideas	Level of Thinking (Bloom)	Engineering Knowledge
CLR-3 :	understand the structure and principles of writing	Expected Proficiency (%)	Problem Analysis
CLR-4 :	interpret the structure, organization, tone, and main idea of the content	Expected Attainment (%)	Design & Development
CLR-5 :	hone comprehension skills		Analysis, Design, Research
CLR-6 :	give the right knowledge, skill and aptitude to face any competitive examination		Modern Tool Usage
			Society & Culture
			Environment & Sustainability
			Ethics
			Individual & Team Work
			Communication
			Project Mgt. & Finance
			Life Long Learning
			PSO - 1
			PSO - 2
			PSO - 3
Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:		
CLO-1 :	solve problems	3 80 75	L H - M - - - - M L - H - - -
CLO-2 :	grasp the approaches and strategies to find solutions	2 80 75	L H - M - - - - M L - H - - -
CLO-3 :	organize and articulate ideas clearly	2 80 75	L H - M - - - - M L - H - - -
CLO-4 :	analyze and evaluate contents critically in multifarious ways	2 80 75	L H - M - - - - M L - H - - -
CLO-5 :	understand, comprehend and provide logical conclusions	2 80 75	L H - M - - - - M H - H - - -
CLO-6 :	gain appropriate skills to succeed in preliminary selection process for recruitment	3 80 75	L H - M - - - - M H - H - - -

Duration (hour)	6	6	6	6	6
S-1	SLO-1 Ages	Permutations-Types	Probability-Intro	Logical Reasoning – Blood relations, Directions	Information Ordering - Analogy
	SLO-2 Solving Problems	Solving Problems	Solving Problems	Series completion	Math operations
S-2	SLO-1 Case Study	Statement Completion	Principles of Writing	Reading Comprehension – Bold Faced	Para Completion
	SLO-2 Discussion	Practice	Practice	Practice	Practice
S-3	SLO-1 Quadratic Equations	Combination-Concepts	Probability theory -Applications	Logical Reasoning- Cubes	Analytical Reasoning-Intro
	SLO-2 In-equations	Solving Problems	Solving Problems	Logical Reasoning-syllogism	Analytical Reasoning - Level I
S-4	SLO-1 Case Study	Statement Completion	Principles of Writing	Reading Comprehension – Bold Faced	Para Completion
	SLO-2 Discussion	Practice	Practice	Practice	Practice
S-5	SLO-1 Permutations-Concepts	Combination- Miscellaneous	Logical Reasoning – Coding and Decoding	Information Ordering - Arrangements	Analytical Reasoning-Level II
	SLO-2 Solving Problems	Solving Problems	Practice	Practice	Analytical Reasoning - Level III

S-6	SLO-1	Case Study	Statement Completion	Principles of Writing	Reading Comprehension – Miscellaneous	Para Completion
	SLO-2	Discussion	Practice	Practice	Practice	Practice

Learning Resources	1. Dinesh Khattar-The Pearson Guide to Quantitative Aptitude for competitive examinations 2. Hari Mohan Prasad, Verbal Ability for Competitive Examinations, Tata McGraw Hill Publications 3. Edgar Thrope, Test of Reasoning for Competitive Examinations, Tata McGraw Hill, 4th Edition, 2012 4. Norman Lewis, Word Power Made Easy, W.R. Goyal Publications, 2011	5. Ellet William, The Case Study Handbook: How to read, discuss, and write persuasively about cases 6. Manhattan GMAT – Critical Reasoning, GMAT Strategy Guide, 12 <sup>th</sup> Edition 7. Wiley's GMAT Reading Comprehension Grail, Wiley, 2016 8. Manhattan Prep GRE : Reading Comprehension and Essays, 5th Edition

Learning Assessment											
	Bloom's Level of Thinking	Continuous Learning Assessment (100% weightage)								Final Examination	
		CLA – 1 (20%)		CLA – 2 (30%)		CLA – 3 (30%)		CLA – 4 (20%)#			
		Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	-	40%	-	30%	-	30%	-	30%	-	-
	Understand	-	40%	-	30%	-	30%	-	30%	-	-
Level 2	Apply	-	40%	-	40%	-	40%	-	40%	-	-
	Analyze	-	40%	-	40%	-	40%	-	40%	-	-
Level 3	Evaluate	-	20%	-	30%	-	30%	-	30%	-	-
	Create	-	20%	-	30%	-	30%	-	30%	-	-
	Total	100 %		100 %		100 %		100 %		-	

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		2. Mr Jayapragash J., SRMIST	4. Mr. Clement A, SRMIST

Course Code	18PDM203L	Course Name	ENTREPRENEURIAL SKILL DEVELOPMENT	Course Category	M	Mandatory	L	T	P	C
							0	0	2	0

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	Career Development Centre	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:	Learning	Program Learning Outcomes (PLO)
CLR-1 :	gain knowledge about Entrepreneurship	1 2 3	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
CLR-2 :	study mindsets of Entrepreneur	Level of Thinking (Bloom)	Engineering Knowledge
CLR-3 :	assimilate skills and behavioral aspects of entrepreneurship	Expected Proficiency (%)	Problem Analysis
CLR-4 :	generate creative and innovative ideas	Expected Attainment (%)	Design & Development
CLR-5 :	acquire knowledge about the entrepreneurial processes		Analysis, Design, Research
CLR-6 :	develop entrepreneurial skills		Modern Tool Usage
			Society & Culture
			Environment & Sustainability
			Ethics
			Individual & Team Work
			Communication
			Project Mgt. & Finance
			Life Long Learning
			PSO - 1
			PSO - 2
			PSO - 3
Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:		
CLO-1 :	Understand the concept of Entrepreneurship and Entrepreneur	2 80 75	L H - M - - - - M L - H - - -
CLO-2 :	Comprehend the mindset of Entrepreneurs	2 80 75	L H - M - - - - M L - H - - -
CLO-3 :	Understand the skills and behavioral aspects required in Entrepreneurs	3 80 75	L H - M - - - - M L - H - - -
CLO-4 :	Analyze the role of Creativity and Innovation in their Entrepreneurial journey	3 80 75	L H - M - - - - M L - H - - -
CLO-5 :	Create and present their Business Model	3 80 75	L H - M - - - - M H - H - - -
CLO-6 :	Acquire entrepreneurial skills	1 80 75	L H - M - - - - M H - H - - -

Duration (hour)	6	6	6	6	6
S-1	SLO-1 Introduction	Motivation	Self Analysis	Negotiating skill	Business Model Canvas
	SLO-2 Benefits of entrepreneurship	External and internal	SWOT	People Management	Business Model Canvas
S-2	SLO-1 Origin of Entrepreneurship	Theories of Entrepreneurship	Communication	Creativity	Business Opportunity Identification
	SLO-2 Evolution of Entrepreneurship	Theories of Entrepreneurship	Networking	Idea Generation	Business Opportunity Identification
S-3	SLO-1 Social and Economic factors Influencing Entrepreneurship	Success Stories – Case Study Analysis	Interpersonal skills	Problem Solving	Business Model canvas presentation
	SLO-2 Environment and Psychological factors Influencing Entrepreneurship	Success Stories – Case Study Solution	Collaborative skills	Problem solving	Business Model canvas presentation
S-4	SLO-1 Myths about entrepreneurship	Success Stories – Case Study Analysis	Team management skills	Decision Making	Business Model canvas presentation
	SLO-2 Myths about entrepreneurship	Success Stories – Case Study Solution	Team management skills	Six Thinking hats	Business Model canvas presentation
S-5	SLO-1 Entrepreneurship Failures	Risk-taking Behavior	Leadership	Inventions	Business model presentation

	SLO-2	Entrepreneurship Failures	Resilience	Shared leadership	Inventions	Business model presentation
S-6	SLO-1	Entrepreneurship in India – A Preview	Global Markets for Entrepreneurs	Time Management	Innovations	Business model presentation
	SLO-2	Indian Entrepreneurships	Understanding the cross cultural behaviors and differences	Prioritisation	Innovations	Business model presentation

Learning Resources	<ol style="list-style-type: none"> <li>1. Elon Musk – Ashley Vance- Virgin Books-2015</li> <li>2. Think and Grow Rich – Napoleon Hill - The Ralston Society – 1937</li> <li>3. The Lean Startup – Eric Ries - Crown Publishing Group (USA) – 2011</li> <li>4. The \$100 Startup – Chris Gullibeau - Crown Business- 2012</li> <li>5. Creativity, Innovation, and Entrepreneurship: The Only Way to Renew Your Organization - H. James Harrington - Productivity Press- December 2018</li> </ol>	<ol style="list-style-type: none"> <li>6. www.wfnen.org; National Entrepreneurship Network – Wadhvani Foundation</li> <li>7. <a href="https://www.forbes.com/sites/.../2017/.../top-entrepreneur-stories-to-inspire-you-in-2017/">https://www.forbes.com/sites/.../2017/.../top-entrepreneur-stories-to-inspire-you-in-2017/</a></li> <li>8. <a href="https://biztor.com/in/successful-indian-entrepreneurs-stories">https://biztor.com/in/successful-indian-entrepreneurs-stories</a></li> <li>9. <a href="https://www.entrepreneur.com/article/299214">https://www.entrepreneur.com/article/299214</a></li> <li>10. <a href="https://www.fundera.com/blog/young-entrepreneurs">https://www.fundera.com/blog/young-entrepreneurs</a></li> <li>11. The Entrepreneurs: Success and Sacrifice - by Kip Marlow <a href="http://cbseacademic.nic.in/web material/Curriculum19/Main.../20_Entrepreneurship.pdf">cbseacademic.nic.in/web material/Curriculum19/Main.../20_Entrepreneurship.pdf</a></li> </ol>
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Learning Assessment											
	Bloom's Level of Thinking	Continuous Learning Assessment (100% weightage)								Final Examination	
		CLA – 1 (20%)		CLA – 2 (30%)		CLA – 3 (30%)		CLA – 4 (20%)#			
		Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	-	40%	-	30%	-	30%	-	30%	-	-
	Understand										
Level 2	Apply	-	40%	-	40%	-	40%	-	40%	-	-
	Analyze										
Level 3	Evaluate	-	20%	-	30%	-	30%	-	30%	-	-
	Create										
	Total	100 %		100 %		100 %		100 %		-	

# CLA – 4 can be from any combination of these: Assignments, Seminars, Tech Talks, Mini-Projects, Case-Studies, Self-Study, MOOCs, Certifications, Conf. Paper etc.,

Course Designers			
Experts from Industry		Experts from Higher Technical Institutions	
1. Mr. Vijay Nayar, Director, Education Matters, vijayn@edumat.com		1. Mr. Ashok Kumar V, NITTE School of Management Entrepreneurship Development, ashokkumarvv2007@gmail.com	
2. Mr. Ajay Zenner, Career Launcher, ajay.z@careerlauncher.com		2. Dr. A.K. Sheik Manzoor, Anna University, sheikmanzoor@annauniv.edu	
		Internal Experts	
		1. Dr. Shantanu Patil, SRMIST	3. Dr. W. Richard Thilagaraj, SRMIST
		2. Mr. Ananth Kumar, SRMIST	4. Mrs. Deepa Narayanan. SRMIST

Course Code	18PDM204L	Course Name	BUSINESS BASICS FOR ENTREPRENEURS	Course Category	M	Mandatory	L	T	P	C
							0	0	2	0

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	Career Development Centre	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:	Learning	Program Learning Outcomes (PLO)
CLR-1 :	Provides a base of Managerial application skills that enable students to understand practical managerial concepts	1 2 3	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
CLR-2 :	Comprehend business models	Level of Thinking (Bloom)	Engineering Knowledge
CLR-3 :	Understand different accounting concepts	Expected Proficiency (%)	Problem Analysis
CLR-4 :	Understand the taxation and tax laws	Expected Attainment (%)	Design & Development
CLR-5 :	Understand the process of design thinking		Analysis, Design, Research
CLR-6 :	Acquire knowledge on business skills		Modern Tool Usage
			Society & Culture
			Environment & Sustainability
			Ethics
			Individual & Team Work
			Communication
			Project Mgt. & Finance
			Life Long Learning
			PSO - 1
			PSO - 2
			PSO - 3
Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:		
CLO-1 :	Explain the nature and purpose of marketing; understand the fundamentals of each of the most important marketing tasks	1 80 75	L H - M - - - - M L - H - - - -
CLO-2 :	Use the Business Models in their startups	1 80 75	L H - M - - - - M L - H - - - -
CLO-3 :	Identify and appreciate the strong linkages between finance and globalization	2 80 75	L H - M - - - - M L - H - - - -
CLO-4 :	Implement tax process	2 80 75	L H - M - - - - M L - H - - - -
CLO-5 :	Acquire Design Thinking concepts to implement in the startup	1 80 75	L H - M - - - - M H - H - - - -
CLO-6 :	Implement the essential business basics	3 80 75	L H - M - - - - M H - H - - - -

	Marketing Management	Business Models	Financial Management	Costing and Taxation	Design Thinking
Duration (hour)	6	6	6	6	6
S-1	SLO-1 Introduction to Marketing Management	Business Models for startups	Introduction to Finance Management	Pricing Strategies	Design Thinking
	SLO-2 Understand the market	Introduction to SAAS	Effective and efficient management of money	Pricing for market penetration	Developing design concepts
S-2	SLO-1 6 P's of Marketing	Business model	Accounting Process	Types of Pricing	Five stages of design concepts
	SLO-2 5 P's of Marketing	Introduction to PAAS	Four steps in business transactions	Pricing strategies	Super charging with design thinking
S-3	SLO-1 Introduction to Consumer Behavior	Revenue Models	Basic Accounting Procedures	Introduction to MIS	Creating concepts
	SLO-2 Create value proposition	Application of revenue models	Basic book keeping for financial transactions	Data Analysis	Creating concepts
S-4	SLO-1 Types of Marketing	Outsourcing Models	Financial Statements	Taxation	Hackathon / Challenge Labs
	SLO-2 Business marketing concepts	Partnership Models	Profit and Loss account, Balance sheet Statement of cash flow	Taxation	Hackathon / Challenge Labs

S-5	SLO-1	Market Segmentation	Profitability	Working Capital Management	Tax laws	Hackathon / Challenge Labs
	SLO-2	Market Positioning	Business Metrics	Utilizing current assets and current liabilities for efficient operation	Tax laws	Hackathon / Challenge Labs
S-6	SLO-1	Branding	Business Model Analysis	Financial Ratios	Case studies and Problem Solving	Hackathon / Challenge Labs
	SLO-2	Creating USP	Practical Implementation	Profitability, Liquidity, Operating, Leverage	Case studies and Problem Solving	Hackathon / Challenge Labs

Learning Resources	<ol style="list-style-type: none"> <li>1. <i>Elon Musk</i> – Ashley Vance- Virgin Books-2015</li> <li>2. <i>Think and Grow Rich</i> – Napoleon Hill - The Ralston Society – 1937</li> <li>3. <i>The Lean Startup</i> – Eric Ries - Crown Publishing Group (USA) – 2011</li> <li>4. <i>The \$100 Startup</i> – Chris Gullibeau - Crown Business- 2012</li> <li>5. <i>Creativity, Innovation, and Entrepreneurship: The Only Way to Renew Your Organization</i> - H. James Harrington - Productivity Press- December 2018</li> </ol>	<ol style="list-style-type: none"> <li>6. <a href="http://www.wfhen.org">www.wfhen.org</a>; National Entrepreneurship Network – Wadhvani Foundation</li> <li>7. <a href="https://www.forbes.com/sites/.../2017/.../top-entrepreneur-stories-to-inspire-you-in-2017/">https://www.forbes.com/sites/.../2017/.../top-entrepreneur-stories-to-inspire-you-in-2017/</a></li> <li>8. <a href="https://bizztor.com/in/successful-indian-entrepreneurs-stories">https://bizztor.com/in/successful-indian-entrepreneurs-stories</a></li> <li>9. <a href="https://www.entrepreneur.com/article/299214">https://www.entrepreneur.com/article/299214</a></li> <li>10. <a href="https://www.fundera.com/blog/young-entrepreneurs">https://www.fundera.com/blog/young-entrepreneurs</a></li> <li>11. <i>The Entrepreneurs: Success and Sacrifice</i> - by Kip Marlow</li> </ol>
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Learning Assessment											
	Bloom's Level of Thinking	Continuous Learning Assessment (100% weightage)								Final Examination	
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	Analyze	-	40%	-	40%	-	40%	-	40%	-	-
Level 3	Evaluate	-	20%	-	30%	-	30%	-	30%	-	-
	Create	-	20%	-	30%	-	30%	-	30%	-	-
	Total	100 %		100 %		100 %		100 %		-	

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		Internal Experts	
		1. Dr. Shantanu Patil, SRMIST	3. Dr. Revathi Venkataraman, SRMIST
		2. Mr. Ananth Kumar, SRMIST	4. Mrs. Kavitha Srisarann, SRMIST

Course Code	18CYM101T	Course Name	ENVIRONMENTAL SCIENCE	Course Category	M	Mandatory	L	T	P	C
							1	0	0	0

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	Chemistry	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:	Learning	Program Learning Outcomes (PLO)
CLR-1 :	Acquire knowledge on various causes, effects and control measures of environmental air and water pollution	1 2 3	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
CLR-2 :	Analyze causes, effects and control measures of soil, thermal and radiation pollution	Level of Thinking (Bloom)	Engineering Knowledge
CLR-3 :	Utilize processes involved in waste water treatment and study the cause of a local polluted site	Expected Proficiency (%)	Problem Analysis
CLR-4 :	Analyze impacts, disposal methods and treatments involved in solid waste management	Expected Attainment (%)	Design & Development
CLR-5 :	Identify impacts, disposal methods, treatments involved in biomedical waste management		Analysis, Design, Research
CLR-6 :	Analyze the environmental issues and identify appropriate solutions		Modern Tool Usage
			Society & Culture
			Environment & Sustainability
			Ethics
			Individual & Team Work
			Communication
			Project Mgt. & Finance
			Life Long Learning
			PSO - 1
			PSO - 2
			PSO - 3
Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:		
CLO-1 :	Analyze the sources, effects and control measures of environmental air pollution	1 80 70	H H H H - - H - - - - - - - -
CLO-2 :	Acquire knowledge on the treatment of soil, thermal and radiation management	1 75 65	H H H H - - H - - - - - - - -
CLO-3 :	Acquire knowledge on various process involved in the treatment of wastewater	1 80 70	H H H H - - H - - - - - - - -
CLO-4 :	Identify sources, disposal and treatment methods of solid waste management	1 80 75	H H H H - - H - - - - - - - -
CLO-5 :	Identify sources, disposal and treatment methods of biomedical waste management	1 75 65	H H H H - - H - - - - - - - -
CLO-6 :	Utilize the concepts learnt in protecting the environment towards sustainable development	1 80 70	H H H H - - H - - - - - - - -

Duration (hour)	3	3	3	3	3
S-1	SLO-1 Environmental segments Structure of atmosphere	Determination of BOD, COD	Waste water treatment- Introduction	Solid waste management: Types	Biomedical Waste Management Definition and Effects
	SLO-2 Composition of atmosphere	Determination of TDS and trace metals	Primary treatment	Effects Process of waste management	Categories of biomedical waste
S-2	SLO-1 Air Pollution Sources	Sources, effects and control measures of Soil pollution	Secondary treatment	Disposal methods, Open dumping Engineered land filling	Process of biomedical waste management
	SLO-2 Effects – acid rain, ozone layer depletion and greenhouse effect	Sources, effects and control measures of Thermal pollution	Tertiary treatment	Composting Incineration	Treatment and disposal methods
S-3	SLO-1 Control measures of air pollution	Sources and effects of: Radiation pollution	Activity: Visit to a local polluted site- Urban/Rural/Industrial/Agricultural	Activity: Monitoring solid waste management in local areas	Activity: Visit a hospital to understand the biomedical waste management
	SLO-2 Sources, Effects and control measures of Water pollution	Control measures of Radiation pollution	Activity: Visit to a local polluted site- Urban/Rural/Industrial/Agricultural	Activity: Monitoring solid waste management in local areas	Activity: Visit a hospital to understand the biomedical waste management

Learning Resources	1. Erach Bharucha, Textbook of Environmental Studies for Undergraduate Courses, 2 <sup>nd</sup> ed., UGC 2. Kamaraj. P, Arthanareeswari. M, Environmental Science–Challenges and Changes, 6 <sup>th</sup> ed., Sudhandhira Publications, 2013	3. R. Jeyalakshmi, Principles of Environmental Science, 2 <sup>nd</sup> ed., Devi publications, 2008 4. Helen P Kavitha, Principles of Environmental Science, 1 <sup>st</sup> ed., Shine Publications and Distributors, 2013
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Learning Assessment											
	Bloom's Level of Thinking	Continuous Learning Assessment (100% weightage)								Final Examination	
		CLA – 1 (20%)		CLA – 2 (30%)		CLA – 3 (30%)		CLA – 4 (20%)#			
		Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	40%	-	30%	-	30%	-	30%	-	-	-
	Understand										
Level 2	Apply	40%	-	40%	-	40%	-	40%	-	-	-
	Analyze										
Level 3	Evaluate	20%	-	30%	-	30%	-	30%	-	-	-
	Create										
	Total	100 %		100 %		100 %		100 %		-	

# CLA – 4 can be from any combination of these: Assignments, Seminars, Tech Talks, Mini-Projects, Case-Studies, Self-Study, MOOCs, Certifications, Conf. Paper etc.,

Course Designers		
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