ME336 Creativity and Innovation Management										
L	**T**	**P**	Credit	Area		**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
3/4	0	2/0	4	DCC		15/25	25/0	20/25	40/50	-

Objective: To enable the students to formulate and analyze the need and applications of creativity. . Students will be able apply the Scientific *Procedure of Problem Solving for the domestic and industrial problems.*

ME336 Creativity and Innovation Management		**Contact Hours**
Unit-1	Historical journey of human and social development. Need for Creativity and Innovation, Creativity in Lifestyle-Comfort and Luxury Examples and case studies Problem solving principles, Scientific Procedure of Problem Solving, Specifications of Design, objectives and constraints.	**8**
Unit-2	Biomimicry, Nature inspired innovations, case studies such as Green Building, Bullet train, Nike Clothing, Velcro, Adhesive Tape, Self-healing plastic, Friction reducing swimming suit, Automated robot, screen display etc.	**6**
Unit-3	Idea Generation Tools: Brain storming, Mind mapping, SWOC Analysis, Fishbone Diagram, Edward De Bono six thinking hats, Borrowing Brilliance, Da Vinci's seven principles, Provocation and Movement. JUGAAD Innovation: Jugaad tactics, Seek Opportunities in Adversity, Case studies	**6**
Unit-4	Analysis of Innovations: MEDICI EFFECT Introduction, Intersection, Creating Medici effect, Making intersectional ideas happen, Case studies, TRIZ Innovation: Introduction, Ideality, Resources, Contradictions, Pattern of Innovation, Case studies	**8**
Unit-5	Ergonomics Concept; Man-machine-environment interaction system and user-friendly design practice; Human compatibility, comfort and adaptability; Fundamentals of ergonomics, environmental factors influencing human performance; Occupational stress; safety and health issues; Design process involving ergonomics check and ergonomic design evaluation and Participatory ergonomics aspects.	**8**
Unit-6	IPR and Patents: Introduction to IPR; Overview; Importance; PR in India and IPR abroad; Patents; their definition; granting; infringement; Copyrights; their definition; granting; infringement. Trademarks, role in commerce, importance, protection, registration; domain names; Industrial Designs and processes; difference between Designs and process Patents', scope; protection; filing and infringement; Geographical indicators, legal issues, enforcement; Case studies.	**6**
	Total	**42**

Reference Books:	
1	*Benyus, J. M. (1997). "Biomimicry: Innovation Inspired by Nature" Pubisher-Harper Perenial New York (ISBN 978-1-59017-133-2)*
2	*Altshuller, G., and Shulyak, L ,Technical Innovation Center, "Keys to Technical Innovation" Inc, USA. (1997) '40 Principles: TRIZ. (ISBN: 978-0-387-75455-0)*
3	*Edward De Bono, "Lateral thinking be more creative and productive",Publisher-penguin India (ISBN -10: 0141033088)*
4	*Renault Nissan, Jugad innovation- (ISBN-13: 978-1118249741).*
5	*Edward De Bono, "six thinking hats" (ISBN-13: 978-0141033051)*
6.	*Navi Radjou Jaideep Prabhu and Simone Ahuja, Jugad innovation (ISBN-13: 978-1118249741)*

Course Outcomes

CO1	To understand the need for creativity and innovations.
CO2	To be familiar with the nature inspired innovations
CO3	To analyze and steady the idea generation tools for problem solving
CO4	To analyze the innovation ideas using historical studies and tools.
CO5	To understand the ergonomic concepts and their applications in innovations
CO6	To understand the importance and process of patents and IPR.

CO-PO/PSOMatrix

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	2	2	0	0	0	0	0	0	2	2	1
CO2	3	3	2	3	1	0	0	0	0	0	0	1	2	1
CO3	3	3	3	3	1	0	0	0	0	0	0	2	3	3
CO4	3	3	3	3	1	0	0	0	0	0	0	1	3	3
CO5	2	2	2	2	2	0	0	0	0	0	0	1	2	2