

1.	Course Code	<b>RDT 301/401/601</b>
2.	Title of the Course	<b>Design Thinking for Rural Applications</b>
3.	Credit Structure	1-1-2 (3 credits)
4.	Name of the Concerned Department	Centre for Rural Development and Technology
5.	Pre-requisite, if any	NIL
6.	Course Objective	Scope of the Course: Classroom component and Field work towards the overall process of technology-based product development for rural community.
7.	Course Syllabus	<ol style="list-style-type: none"> <li>1. <u>Rural Community requirements</u>: Data gathering and analysis for rural community indicators, determinants, and challenges; Concept testing through field survey and stakeholder experiences of rural community; Analysis of existing products and product market fit; Minimum Viable Product; Case studies on technologies implemented in rural communities</li> <li>2. <u>Product Conception and Prototype Development for Rural Community</u>: Design methodology and design philosophy; Establishing product function; Concept Generation and evaluation; Embodiment design; Value Engineering; Productconception; Prototype development</li> <li>3. <u>Product Development and Assessment for Rural Community</u>: Product development ; Field testing; Scaling up; Packaging; Cost estimate of business case study</li> <li>4. <u>Implementation of New Technology in Rural Community</u>: Technology transfer; Product marketing; Technology impact assessment; Field application of developed prototype/product and stakeholder feedback</li> <li>5. Government schemes supporting rural technology development and transfer; Self-help group and co-operative society for major technological interventions</li> </ol> <p>Based on their interest, students can take Field Based Project in agriculture, health care, water conservation, housing, automation/mechanization/engineering and other areas.</p>
8.	Suggested Books	<p><b>Text Books</b></p> <ol style="list-style-type: none"> <li>1. Karl T. Ulrich and Steven D. Eppinger,” Product Design and Development”, 2007 Tata McGraw Hill, ISBN10: 1260043657</li> <li>2. Singh, K. “Rural development: principles, policies and management” 2009, SAGE Publications India, ISBN10: 9789351509981</li> <li>3. Shukla, J. P. (Ed).. “Technologies for sustainable rural development: having potential of socio-economic upliftment (TSRD–2014) (Vol. 1)” 2014, Allied Publications India . ISBN- 978818424862-3</li> <li>4. R. Chambers “Rural Development: Putting the last first”, 1983, Routledge-Taylor and Francis group. ISBN 9780367474560.</li> </ol> <p><b>Reference Books</b></p> <ol style="list-style-type: none"> <li>5. McCalla, A. F., &amp; Ayres, W. S. “Rural development: From vision to action.” 1997, The World Bank.</li> <li>6. Campbell, M. J., &amp; Campbell, M. J. (Eds.), “New technology and rural development: the social impact”, 1990, Routledge, ISBN 041500911-1</li> <li>7. Kevin Otto and Kristin Wood, “Product design”, 2013, Pearson, ISBN-10 : 0131742795</li> </ol>
9	Instructor	Dr. Debayan Sarkar*
10	Alternate Instructor	Prof. Pavan Kumar Kankar*
*There will be multiple instructors additionally		