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SARVAJANIK UNIVERSITY
Sarvajanik College of Engineering and Technology
Bachelor of Technology
Civil Engineering

B. Tech. - IV Semester VII

Subject Name : Sustainability and Urban Planning **Subject Code:** BTCL14705

Type of course : PEC - IV
Prerequisite : Sustainable Rural Development (BTCL14504).
Rationale : To implement sustainability in planning process at different spatial scales.

Teaching and Examination Scheme:

TEACHING SCHEME				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	100
3	0	0	3	60	25	15	-	-	

CA1: Continuous Assessment (assignments/projects/open book tests/closed book tests **CA2:** Sincerity in attending classes/class tests/ timely submissions of assignments/self-learning attitude/solving advanced problems **TEE:** Term End Examination **TEP:** Term End Practical Exam (Performance and viva on practical skills learned in course) **CA3:** Regular submission of Lab work/Quality of work submitted/Active participation in lab sessions/viva on practical skills learned in course.

Content:

Sr. No.	Topics	Teaching Hrs.	Module Weightage
1.	**Introduction:** Introduction to Course, Introduction to Sustainable Development Concepts and Theory, current urban problems and opportunities, History, definitions, and perspectives on Sustainability Theory and Background to Sustainability Planning, The Three E's: Environment, Economics, ethics, and ecology of sustainable development,	11	25%
2.	**Planning for Sustainability:** Planning for Sustainability at Different Scales, Regional Planning and Sustainability, Municipal Planning and Sustainability, Implementing sustainability, Sustainable Transportation Planning, Tools for Sustainability Planning: indicators, ecological footprint, other mechanisms, Concept of New Urbanism and Smart Growth,	12	30%
3.	**Neighborhood Planning and Sustainability** Neighborhood Planning and Sustainability, Ecological Site Design and Architecture, Sustainable building, Green building concept, assessment, Industrial Ecology and Green Development,	12	30%
4.	**International development on Sustainability in Planning** Background, International Institutions; Sustainability Planning in western world, Sustainability Planning in Developing Countries	10	15%

Suggested Specification table with Marks (Theory/Practical):

% Distribution of Marks					
R Level	U Level	A Level	N Level	E Level	C Level
30	25	20	10	10	5

Legends: R: Remembrance, **U:** Understanding; **A:** Application, **N:** Analyze, **E:** Evaluate **C:** Create and above Levels **(Revised Bloom's Taxonomy)**

Note: This specification table shall be treated as a general guideline for students and teachers. The actual

distribution of marks in the question paper may vary slightly from above table.

Reference Text Books:

Sr. No.	Title of book /article	Author(s)	Publisher and details like ISBN	Year of publication	Publication Edition
1	The Ecology of Place: Planning for Environment, Economy, and Community.	Beatley, Timothy and Kristy Manning	Washington, D.C. Island Press (ISBN: 978-1559634786)	1997	2nd
2	Sustainable Cities in developing Countries.	Cedric Pugh.	London, UK. Earthscan (ISBN: 9781315071404)	2013	1st
3	Regenerative design for Sustainable Development,	John Tillman Lyle	New York, John Willy & Sons (ISBN: 978-0-471-17843-9)	1994	2nd
4	City-Region 2020	Joe Ravetz	London, UK, Earthscan (ISBN: 9781315541372)	2000	1st
5	Sustainable Urban Development Reader	Stephen M. Wheeler, Timothy Beatley	Taylor & Francis (ISBN: 9781317672166, 131767216X)	2014	2nd
6	Planning Sustainable Cities Policy Directions : Global Report on Human Settlements 2009	United Nations Human Settlements Programme	Earthscan (ISBN: 9789211320039, 9211320038)	2009	1st

Course Outcome:

Sr. No.	CO Statement After learning this subject, students will be able to	Marks % weightage
CO-1	Explore the principles and practice of sustainable development, within the context of planning. *(R, U....cognitive level)*	20%
CO-2	Learn different tools of sustainability planning. *(R, U, A....cognitive level)*	20%
CO-3	Learn how to implement sustainability in planning process at different spatial scales. *(R, U, A, N, E, C....cognitive level)*	20%
CO-4	Explore the different concept of neighbourhood planning. *(R, U, A, C....cognitive level)*	30%
CO-5	Discover the different development on sustainable planning through case studies. *(R, U....cognitive level)*	10%

Mapping with POs:

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO-1	1	-	1	-	-	1	2	1	1	1	-	1	1	2	3
CO-2	1	2	2	1	2	1	2	2	2	1	1	1	2	2	2
CO-3	1	-	2	2	2	1	1	2	2	1	1	1	3	3	2
CO-4	2	2	2	1	2	1	2	2	2	1	1	2	2	2	2
CO-5	1	2	2	-	1	1	1	2	2	1	-	2	1	2	2
Rationale *	**6**	**6**	**9**	**4**	**7**	**5**	**6**	**9**	**9**	**5**	**3**	**7**	**9**	**11**	**11**

Rationale*: After learning the theories of sustainability and planning students will be able to learn the planning criteria based on sustainable development and neighbourhood planning.

List of Open Source/learning website:

- **https://sustainabledevelopment.un.org/milestones/unced**
  - Sustainable development
- **https://www.un.org/en/conferences/environment/rio1992**
  - Concept of sustainable development
- **https://sdgs.un.org/goals**
  - Sustainable development goals