SARVAJANIK UNIVERSITY
Sarvajanik College of Engineering and Technology
Masters of Technology
Town & Country Planning

M. Tech. – I Semester - II

Subject Name: Smart Metropolitan Planning **Subject Code:** MTTC14201

Type of course: PE - III
Prerequisite: Basic understanding of concept of smart city and metropolitan city planning terminology.
Rationale: The course helps develop an understanding of smart city and metropolitan planning concepts and its problems and issues for the same.

Teaching and Examination Scheme:

TEACHING SCHEME				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	150
3	0	2	4	60	25	15	30	20	

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	**Urban Growth and System of Smart Cities** Growth of smart cities, complexity and its impact on national development, cities as engines of growth, cities as ecosystems, cities towards smart development.	12	20%
2	**City – Region Linkages** City, fringe and the periphery - physical and functional linkages, peri-urban development	12	25%
3	**Metro and Smart Cities** Problems and Issues, Growth trends and processes, characteristics, problems, concepts and concerns of urban sustainability, issues related to diversity and unintended growth, economic, social and environmental sustainability, quality of life, inclusivity and equity, climate change, transit oriented development, participatory planning. Inner city – issues and problems, approach to development	12	25%
4	**Human Settlement Planning, Urban Policies and Programmes for smarter development** Concepts, approaches, strategies and tools; Policies and programmes at various levels, impact on metro and smart city development.	12	20%

Suggested Specification table with Marks (Theory/Practical):

% Distribution of Marks					
R Level	U Level	A Level	N Level	E Level	C Level

PE – III: Program Elective - III

20%	20%	15%	15%	15%	15%

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	Smart Metropolitan Regional Development: Economic and Spatial Design Strategies (Advances in 21st Century Human Settlements)	T.M. Vinod Kumar	Springer (ISBN: 978-9811085871)	2018	1st
2	What is Metropolitan Planning?	Brendan Gleeson, Toni Darbas, Laurel Johnsan and Suzaanne Lawson	Griffith University	2004	1st
3	Metropolitan Planning	Ishwar Book	Ishwar Book	2018	1st
4	Metropolitan Regions, Planning and Governance	Daniel Galland, John Harrison, Karsten Zimmermann	Springer International Publishing (ISBN: 9783030256326, 3030256324)	2019	1st
5	Planning Metropolitan Australia	Robert Freestone, Stephen Hamnett	Taylor & Francis (ISBN: 9781315281353, 131528135X)	24 October 2017	1st

Course Outcome:

Sr. No.	CO Statement After learning this subject, students will be able to	Marks % weightage
CO-1	Understand the concepts of Smart City and its fundamentals. (R,U,A – Cognitive Level)	15%
CO-2	Basic concept of Metropolitan Planning (R,U,A – Cognitive Level)	20%
CO-3	Basic understanding on problems and issues pertaining to smart and metropolitan planning shall be addressed (U,A,N,E – Cognitive Level)	25%
CO-4	Explore various policy and programms based on smart development. (R,U,A – Cognitive Level)	25%

PE – III: Program Elective - III

CO-5	Understand the urban growth and its problem. ((R,U– Cognitive Level)	15%

LIST OF PRACTICALS: (Minimum ------ performed.)

1. Smart city concept inception in the form of report
2. Smart city listings and working on one smart city case study in poster format
3. Evaluate transportation alternatives, scaled to the size and complexity of the region, to the nature of its transportation issues, and to the realistically available options (For any potential smart city In India)

List of Open Source/learning website:

- http://smartcities.gov.in
  - Basic concept and policy on smart city
- https://www.youtube.com/watch?time_continue=5&v=N-DsEUbz2Jc&feature=emb_logo
  - Basic understanding on city and metropolitan planning
- https://swayam.gov.in/nd2_cec20_ar01/preview
  - Metropolitan planning

List of Open Source Software

- CAD Drafting tools; word processing tools, calculation sheets
- Google Earth
- Google SketchUp Pro
- ESRI City Engine