

S. No.	Course Code	Course Name	Course Type	C d	L	T	P	Marks		
								Sessional	Final Exam	Total
3	CE-801(C)	Urban planning and Smart Cities	PEC	3	2	1	0	50	100	150

Course Outcomes:

At the end of the course the students will be able to	
CO1	Articulate the fundamental concepts of smart and sustainable cities.
CO2	Explain the component of smart cities and dwell into their technological advancement.
CO3	Describe the involvement of stake holders in the design and implementation of responsive smart cities.
CO4	Write the importance of different linkages among government, urban planners, universities, city developers and communities
CO5	Identify and recognize the role of ICT and data analytics in addressing the urban challenges and key issues

Detailed Syllabus**Section-A**

UNIT 1: INTRODUCTION Understanding – Dimensions – Global experience, Global standards and performance benchmarks, Practice codes. India 100 smart cities policy and mission, Smart city planning and development, financing smart cities development, Governance of smart cities.

(9 Hrs.)

UNIT 2: GREEN BUILDING CONCEPTS AND SUSTAINABLE DEVELOPMENT Green projects in smart cities, sustainability – green building – Rating system – Energy efficient building – energy saving systems.

(9 Hrs.)

UNIT 3: SMART URBAN TRANSPORT SYSTEMS: Elements of Infrastructure; Data required for provision and planning of urban networks; Resource analysis. Role of transport, types of transport systems, transport problems and mobility issues. Urban form and Transport patterns, land use – transport cycle, concept of accessibility. Hierarchy, capacity and geometric design elements of roads and intersections. Urban transport planning process –Transport, environment, and safety issues. Principles and approaches of Traffic Management.

(11 Hrs.)**Section B**

UNIT 4: WATER SUPPLY AND DRAINAGE Water –Treatment and storage, networks, distribution losses, recycling and reuse. Sanitation – points of generation, collection, treatment, disposal, norms and standards, DEWATS, institutional arrangements, planning provisions and management issues. Municipal and other wastes –generation, typology, quantity, collection, storage, transportation, treatment, disposal, recycling and reuse, norms and standards, institutional arrangements, planning provisions and management issues. Power – Sources of power procurement, distribution networks, planning provisions and management issues.

(11 Hrs.)

UNIT 5: E- GOVERNANCE AND IOT The concept of management, concept of e-management & e-business, e-Government Principles, Form e-Government to e-governance, e-governance and developing countries, Designing, and Implementing e-Government Strategy, E governance: Issues in implementation. IOT fundamentals, protocols, design and development, data analytics and supporting services, case studies.

(10 Hrs.)**Textbooks**

S. No.	Name of the Books	Author	Publisher	Edition (Pub. Yr.)
1	Smart City in India	Parmar and Singh	Routledge	1 st (2019)
2	Solving Urban Infrastructure Problems Using Smart City Technologies	John Vacca	Elsevier	1st (2020)

Reference Books

S. No.	Name of the Books	Author	Publisher	Edition (Pub. Yr.)
1	Making Smart Cities More Playable	Nijholt	Springer	1st (2020)
2	Intelligent Transport System in Smart Cities	Rodolfo I. Meneguette	Springer	1st (2018)