COURSE HANDOUT

B.E. (CE) - VIII Semester

Civil-VIII SEMESTER

ACADEMIC YEAR (2023-24)

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Civil Engineering Department

Civil Engineering Department

Model Institute of Engineering & Technology (Autonomous)

Kot Bhalwal, Jammu - 181122

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Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Sessional	Final Exam	Total
CE-801(C)	Urban planning and Smart Cities	PCC	**3**	**2**	1	0	50	100	150

COURSE OUTCOMES

At the end of the course the student 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

Unit-I

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 Hours)

Unit-II

GREEN BUILDING CONCEPTS AND SUSTAINABLE DEVELOPMENT Green projects in smart cities, sustainability – green building – Rating system – Energy efficient building – energy saving systems. (9 Hours)

Unit-III

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 to Traffic Management. (11 Hours)

Unit- lV

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 Hours)

Unit-V

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. (10 Hours)

Textbooks

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

Reference Books

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

COURSE PLAN		
Unit-I INTRODUCTION		
S.No	**Topics**	**Recommended Books**
1	Understanding – Dimensions – Global experience	Book 1, Ch.1
2	Global standards and performance benchmarks	Book 1, Ch.1
3	Practice codes	Book 1, Ch.1
4	India 100 smart cities policy and mission	Book 2, Ch.2
5	Smart city planning and development,	Book 2, Ch.2
6	financing smart cities development	Book 2, Ch.2
7	Governance of smart cities.	Book 2, Ch.2
Unit-II GREEN BUILDING CONCEPTS AND SUSTAINABLE DEVELOPMENT		
8	Green projects in smart cities	Book 1, Ch.3
9	sustainability – green building	Book 1, Ch.3
10	Rating system	Book 1, Ch.3
11	Energy efficient building	Book 2, Ch.4
12	Energy saving systems.	Book 2, Ch.4
Unit-III SMART URBAN TRANSPORT SYSTEMS		
16	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.	Book 2, Ch.4
17	Urban form and Transport patterns, land use – transport cycle, concept of accessibility. Hierarchy, capacity and geometric design elements of roads and intersections	Book 2, Ch.4
18	Urban transport planning process –Transport, environment, and safety issues. Principles and approaches of Traffic Management.	Book 2, Ch.4
Unit-IV WATER SUPPLY AND DRAINAGE Water		
22	Treatment and storage, networks, distribution losses, recycling, and reuse.	Book 2, Ch.4
23	Sanitation – points of generation, collection, treatment, disposal, norms, and standards, DEWATS, institutional arrangements, planning provisions and management issues.	Book 2, Ch.4
24	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.	Book 2, Ch.4

25	Power – Sources of power procurement, distribution networks, planning provisions and management issues.	Book 2, Ch.4
Unit-V E- GOVERNANCE AND IOT		
29	The concept of management, concept of e-management & e-business,	Book 2, Ch.8
30	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.	Book 1, Ch.8
31	IOT fundamentals, protocols, design and development, data analytics and supporting services, case studies.	Book 2, Ch.8

ADDITIONAL WEB RESOURCES

1.	**MOOC: Smart Cities – Management of Smart Urban Infrastructures- starts-14th March, 2024** https://www.coursera.org/learn/smart-cities
2.	**NPTEL:** Video lectures on Urban Planning and Smart Cities- IIT Roorkee http://digimat.in/nptel/courses/video/124107158/L14.html

GRADING AND ASSESSMENT

- **Sessional Test**: 20 marks
- **Assignment**: 20 marks
- **Attendance**: 10 marks
- **Final Examination**: 100 marks

COURSE POLICIES

- **Attendance**: Minimum 75% attendance is mandatory to appear in the final examination of the course.
- **Academic Integrity**: MIET's academic integrity policies apply. Plagiarism will not be tolerated.
- **Late Submissions**: Assignments and projects must be submitted by the specified timelines.

FACULTY INFORMATION

- **Office Hours**

  Monday (12:05 PM - 12:55 PM)
  Friday (12:05 PM - 12:55 PM)

- **Contact Information**
  muzafar.civ@mietjammu.in