



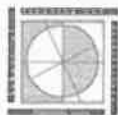
**Department of Planning,
Lecture Plan, Odd Semester, AY 2024-25**

Name of Course: Planning for Physical Infrastructure (PLN214)

Programme & Sem:	Bachelor of Planning (UG), III Sem
Course Duration:	22 July 2024 – 14 Nov 2024
Course Coordinator:	Mr. Srikanta Bhargava Teja, Assistant Professor, Dept. of Planning, (bhargava@spav.ac.in)
Number of Credits:	03
Subject Category:	Theory
Total Periods/Week:	03 (Refer Time Table for Details)
Internal Assessment	50 (minimum pass marks 50%)
End Evaluation	50 (minimum pass marks 50%) – Written Exam.
Total Marks	100 (to be converted to CGPA credit pattern as per regulations)

Subject Objective: To impart basic knowledge on infrastructure, its relation to planners in settlement planning, and design considerations for infrastructure development.

Week	Lecture / Session Topic (Teaching-Learning Objective aimed)	Unit and Assignment
Week 1 (23 July)	Definition of Infrastructure and its components, Role of physical planner in planning of utilities and services	Unit 1: Introduction and Basic Concepts Assignment 1a: Writeup on the any one of the topics discussed in the class
Week 2 (30 July)	Objectives of utilities and services planning, its relation to economic growth, public health and environmental protection	
Week 3 (06 Aug)	Hydrological Cycle; Introduction to the institutions related to Infrastructure services	
Week 4 (13 Aug)	Water supply sources, treatment system and types, Water distribution system, pressure requirement; requirement for domestic and non-domestic purposes, fire fighting	Unit 2: Water Supply System Assignment 1b: Presentation (2 persons a team) of water supply sources and quantity required for various purposes in any city.
Week 5 (20 Aug)	seasonal variations in demand and factors affecting water demand; Standards of water demand per capita,	
Week 6-7	Field Trip	

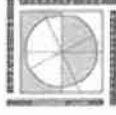


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(27 Aug - 08 Sep)		
Week 8 (10 Sep)	Variations of water demand and consumption, requirements of distribution and storage; pipe network analysis	Unit 2: Water Supply System Assignment 1b: Presentation (2 persons a team) of water supply sources and quantity required for various purposes in any city
Week 9 (17-21 Sep)	Mid- Semester Assessment week	
Week 10 (24 Sep)	Storm Water run-off estimation, DWF and SWF, run-off coefficient, rainfall intensity, time of concentration, Gravity flow, Hydraulic gradient line, Manning's formula and nomographs,	Unit 3: Storm Water System Assignment 2a: Analyse and design the stormwater system requirements for your city/town.
Week 11 (01 Oct)	layout and design of stormwater systems, General considerations, inlets, self-cleansing velocity, non-scouring velocity, physical layout- design principles, data requirements and rainwater harvesting	
Week 12 (08 Oct)	Seminar (Online/ Offline)	
Week 13 (15 Oct)	Sanitation, on-site detention, design procedure for on-site detention; Low-cost appropriate technologies for sanitation,	Unit 4: Sanitation Assignment 2b: Analyse and design the sanitation requirements for your city/town.
Week 14 (22 Oct)	Sanitary sewer system, Sewer network, materials used; Sewer system location and layout, data needs and procedure of planning	
Week 15 (29 Oct)	Quantity of sewage, standards for Indian cities, sewer appurtenances sewer pumping and forced main manholes	
Week 16 (05 Nov)	Solid Waste and types, MSWM rules 2000 and 2013, Stages of SWM and current practices; Composting process – Indore and Bangalore methods	Unit 5: Solid Waste Management
Week 17 (12 Nov)	Concepts of re-use and recycle, e-waste and bio-medical waste generation and treatment methods	

Reference books:

1. Planning Commission, 'Definition of Infrastructure', Secretariat for Infrastructure, Government of India, New Delhi.2011: (REPORT)
2. Central Public Health and Environmental Engineering Organisation. 'Manual on Water Supply and Treatment', GoI.2015 (MANUAL)



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3. Venkateswara Rao. P, Srinivasa Rao. K, 'Hand Book on Water Supply Engineering', State Institute of Vocational Education, Government of Andhra Pradesh, Hyderabad.2005.(TEXT BOOK)
4. Rangawala, 'Water Supply and Sanitary Engineering(Env. Eng.)', 25th Edition. Charotar Publishing House PVT.LTD,Ahmedabad. 2011. (TEXT BOOK)
5. . Davies, David. B and John .W 'Urban Drainage', 3rd Edition.Spon Press, Taylor & Francis. London. 2011. (TEXT BOOK)
6. Central Public Health and Environmental Engineering Organisation, 'Manual on Sewerage and Sewage Treatment', Ministry of Urban Development, New Delhi.2013 (MANUAL)
7. Ministry of Urban Development, 'URDPFI Guidelines', Volume 1. Government of India, New Delhi.2014 (GUIDELINES)
8. Ministry of Urban Development, 'Toolkit for Solid Waste Management', Government of India, New Delhi.2011.
9. Ministry of Environment and Forest, 'Municipal Solid Waste Management Rules', Government of Indi, New Delhi.2000

Note:

1. Any other closed holidays as declared by SPAV shall supersede the above lecture plan. Holidays shown above may alter as per Notice from time to time.
2. Assessment Sessions may be re-scheduled, with prior intimation.
3. Reading lists provided is not exhaustive and is subject to addition – students are advised to follow progression of class to keep abreast of the new reading lists, if any.

S. Bhargava Teja