HSMC- CVE202-T- CIVIL ENGG.–SOCIETAL &GLOBAL IMPACT

Name of the Faculty : Ms. Manju Godara

Discipline : B.Tech in Civil Engineering

Semester : IV (2nd Year)

Subject : Civil Engg.-Societal & Global Impact

Lesson Plan Duration : 15 Weeks

Work Load (Lecture / Practical) per week (in hrs.) : Lectures – 02

Week	Theory		
	Lecture Day	Topic (Including assignment / Test)	
1st	1	Introduction to Course and Overview; Understanding the past to look into the future: Preindustrial revolution days, Agricultural revolution, first and second industrial revolutions, IT revolution	
	2	Recent major Civil Engineering breakthroughs and innovations; Present day world and future projections	
2nd	3	Ecosystems in Society and in Nature; the steady erosion in Sustainability; Global warming, its impact and possible causes, Evaluating future requirements for various resources	
	4	GIS and applications for monitoring systems, Human Development Index and Ecological Footprint of India Vs other countries and analysis	
3rd	5	Understanding the importance of Civil Engineering in shaping andimpacting the world	
	6	The ancient and modern Marvels and Wonders in the field of Civil Engineering; Future Vision for Civil Engineering, Infrastructure - Habitats, Megacities, Smart Cities, futuristic visions	
4th	7	Transportation (Roads, Railways & Metros, Airports, Seaports, River ways, Sea canals, Tunnels (below ground, under water), Energy generation (Hydro, Solar (Photovoltaic, Solar Chimney)	
	8	Futuristic systems (ex, Hyper Loop), Wind, Wave, Tidal, Geothermal, Thermal energy); Water provisioning	
5th	9	Telecommunication needs (towers, above-ground and underground cabling)	
	10	Awareness of various Codes & Standards governing Infrastructure development, Innovations and methodologies for ensuring Sustainability	
6th	11	Environment-Traditional & futuristic methods; Solid waste management, Water purification, Wastewater treatment& Recycling, Hazardous waste treatment; Flood control (Dams, Canals, River interlinking), Multi-purpose water projects	
	12	Atmospheric pollution; Global warming phenomena and Pollution Mitigation measures, Stationarity and non-stationarity	
7th	**1st Minor Test**		
8th	13	Environmental Metrics & Monitoring; Other Sustainability measures; Innovations and methodologies for ensuring Sustainability, Built environment–Facilities management, Climate control; Energy efficient built environments and LEED ratings	
	14	Recycling, Temperature/ Sound control in built environment, Security systems; Intelligent/ Smart Buildings	
9th	15	Aesthetics of built environment, Role of Urban Arts Commissions; Conservation, Repairs	
	16	Rehabilitation of Structures & Heritage structures, Innovations and methodologies for ensuring Sustainability	
10th	17	Civil Engineering Projects – Environmental Impact Analysis procedures;	
	18	Waste (materials, manpower, equipment) avoidance/ Efficiency increase, Advanced construction techniques for better sustainability	
11th	19	Advanced construction techniques for better sustainability	
	20	Techniques for reductionof Green House Gas emissions in various aspects of Civil Engineering Projects	
12th	21	New Project Management paradigms & Systems (Ex. Lean Construction)	
	22	contribution of Civil Engineering to GDP	
13th	23	Contribution to employment(projects, facilities management)	
	24	Quality of products, Health & Safety aspects for stakeholders	
14th	**2nd Minor test**		
15th	25	Quality of products, Health & Safety aspects for stakeholders	
	26	Innovations and methodologies for ensuring Sustainability during Project development	