

DEPARTMENT OF CIVIL ENGINEERING

LESSON PLAN FOR THE ODD SEM – 2017 SEMESTER – VII

Subject Code : 10	CV71	Subject Nam	e: ENVIRONMENTAL	ENGINEERING II
SEMESTER	: VII	NAMI	E OF THE FACULTY	: Ms.Bhavya K.
BRANCH	: CIV		DATE OF COMMENCE	EMENT : 17-08-2017
SUBJECT	: ENVIRONMENTAL	ENGG II	DATE OF CLOSING	: 25-11-2017
SUBJECT CODE	: 10CV71		CLASS STRENGTH	: 50
NO OF HRS/ WK	X : 5		TOTAL HRS	: 50

Sessio n No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teachin g Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1		14.08.17	Introduction and syllabus briefing	Chalk &		
				Board		
2	1/1	18.08.17	UNIT 1: Introduction	,,		
			Introduction			
3	2/1	19.08.17	Necessity for sanitation & methods of domestic waste water disposal	"		
4	3/1	19.08.17	Types of sewerage systems and their suitability	,,		
5	4/1	21.08.17	Dry weather flow, factors affecting dry weather flow	"		
6	5/1	22.08.17	Flow variations and their effects on design of sewerage system	,,		
7	6/1	28.08.17	Computation of design flow, estimation of storm flow	,,		
8	7/1	29.08.17	Rational method and empirical formulae	Chalk &		

CMR INSTITUTE OF TECHNOLOGY



			of design of storm water drain. Time of concentration	Board		
9	1/2	29.08.17	UNIT 2: Design of Sewers	"		
			Hydraulic formulae for velocity			
10	2/2	30.08.17	Effects of flow variations on velocity	,,		
11	3/2	31.08.17	Self cleansing and non scouring velocities	,,		
12	4/2	04.09.17	Design of hydraulic elements for circular	,,		
			sewers flowing full and flowing partially			
			full (No derivations)			
13	5/2	06.09.17	Design Problems	,,		
14	6/2	06.09.17	Design Problems	,,		
15	7/2	07.09.17	MATERIALS OF SEWERS:	PPT		
			Sewer materials, shapes of sewers, laying			
			of sewers			
16	8/2	08.09.17	Joints and testing of sewers, ventilation	PPT	Assignment -I	
			and cleaning of sewers			
17	1/3	12.09.17	UNIT 3: Sewer Appurtenances	PPT		
17	1/3	12.09.17	UNIT 3: Sewer Appurtenances Catch basins, manholes, Flushing tanks,	РРТ		
17	1/3	12.09.17	UNIT 3: Sewer Appurtenances Catch basins, manholes, Flushing tanks, oil and grease traps	PPT		
17 18	1/3 2/3	12.09.17 13.09.17	UNIT 3: Sewer Appurtenances Catch basins, manholes, Flushing tanks, oil and grease traps Drainage traps. Basic principles of house	PPT PPT		
17 18	1/3 2/3	12.09.17 13.09.17	UNIT 3: Sewer Appurtenances Catch basins, manholes, Flushing tanks, oil and grease traps Drainage traps. Basic principles of house drainage	PPT PPT		
17 18 19	1/3 2/3 3/3	12.09.17 13.09.17 13.09.17	UNIT 3: Sewer Appurtenances Catch basins, manholes, Flushing tanks, oil and grease traps Drainage traps. Basic principles of house drainage Typical layout plan showing house	PPT PPT Chalk &		
17 18 19	1/3 2/3 3/3	12.09.17 13.09.17 13.09.17	UNIT 3: Sewer Appurtenances Catch basins, manholes, Flushing tanks, oil and grease traps Drainage traps. Basic principles of house drainage Typical layout plan showing house drainage connections	PPT PPT Chalk & Board		
17 18 19 20	1/3 2/3 3/3 4/3	12.09.17 13.09.17 13.09.17 14.09.17	UNIT 3: Sewer Appurtenances Catch basins, manholes, Flushing tanks, oil and grease traps Drainage traps. Basic principles of house drainage Typical layout plan showing house drainage connections Maintenance of house drainage	PPT PPT Chalk & Board ,,		
17 18 19 20 21	1/3 2/3 3/3 4/3 1/4	12.09.17 13.09.17 13.09.17 14.09.17 15.09.17	 UNIT 3: Sewer Appurtenances Catch basins, manholes, Flushing tanks, oil and grease traps Drainage traps. Basic principles of house drainage Typical layout plan showing house drainage connections Maintenance of house drainage UNIT 4: Waste Water Characterization 	PPT PPT Chalk & Board ,, ,,		
17 18 19 20 21	1/3 2/3 3/3 4/3 1/4	12.09.17 13.09.17 13.09.17 14.09.17 15.09.17	 UNIT 3: Sewer Appurtenances Catch basins, manholes, Flushing tanks, oil and grease traps Drainage traps. Basic principles of house drainage Typical layout plan showing house drainage connections Maintenance of house drainage UNIT 4: Waste Water Characterization Sampling, Significance, techniques and 	PPT PPT Chalk & Board ,, ,		
17 18 19 20 21	1/3 2/3 3/3 4/3 1/4	12.09.17 13.09.17 13.09.17 14.09.17 15.09.17	 UNIT 3: Sewer Appurtenances Catch basins, manholes, Flushing tanks, oil and grease traps Drainage traps. Basic principles of house drainage Typical layout plan showing house drainage connections Maintenance of house drainage UNIT 4: Waste Water Characterization Sampling, Significance, techniques and frequency 	PPT PPT Chalk & Board ,, ,,		
17 18 19 20 21 22	1/3 2/3 3/3 4/3 1/4 2/4	12.09.17 13.09.17 13.09.17 14.09.17 15.09.17 25.09.17	 UNIT 3: Sewer Appurtenances Catch basins, manholes, Flushing tanks, oil and grease traps Drainage traps. Basic principles of house drainage Typical layout plan showing house drainage connections Maintenance of house drainage UNIT 4: Waste Water Characterization Sampling, Significance, techniques and frequency Physical Characteristics 	PPT PPT Chalk & Board ,, ,,		
17 18 19 20 21 22 23	1/3 2/3 3/3 4/3 1/4 2/4 3/4	12.09.17 13.09.17 13.09.17 14.09.17 15.09.17 25.09.17 26.09.17	 UNIT 3: Sewer Appurtenances Catch basins, manholes, Flushing tanks, oil and grease traps Drainage traps. Basic principles of house drainage Typical layout plan showing house drainage connections Maintenance of house drainage UNIT 4: Waste Water Characterization Sampling, Significance, techniques and frequency Physical Characteristics Chemical Characteristics 	PPT PPT Chalk & Board ,, ,, ,, ,,		
17 18 19 20 21 22 23 24	1/3 2/3 3/3 4/3 1/4 2/4 3/4 4/4	12.09.17 13.09.17 13.09.17 14.09.17 15.09.17 25.09.17 26.09.17 26.09.17	 UNIT 3: Sewer Appurtenances Catch basins, manholes, Flushing tanks, oil and grease traps Drainage traps. Basic principles of house drainage Typical layout plan showing house drainage connections Maintenance of house drainage UNIT 4: Waste Water Characterization Sampling, Significance, techniques and frequency Physical Characteristics Chemical Characteristics Biological Characteristics 	PPT PPT Chalk & Board ,, ,, ,, ,, Chalk &		
17 18 19 20 21 22 23 24	1/3 2/3 3/3 4/3 1/4 2/4 3/4 4/4	12.09.17 13.09.17 13.09.17 14.09.17 15.09.17 25.09.17 26.09.17 26.09.17	 UNIT 3: Sewer Appurtenances Catch basins, manholes, Flushing tanks, oil and grease traps Drainage traps. Basic principles of house drainage Typical layout plan showing house drainage connections Maintenance of house drainage UNIT 4: Waste Water Characterization Sampling, Significance, techniques and frequency Physical Characteristics Chemical Characteristics Biological Characteristics 	PPT PPT Chalk & Board ,, ,, ,, Chalk & Board		

CMR INSTITUTE OF TECHNOLOGY



26	6/4	28.09.17	COD and BOD	,,		
27	7/4	06.10.17	CNS Cycles and their significance	,,		
28	8/4	07.10.17	Problems	,,		
29	9/4	07.10.17	Problems	,,	Assignment -II	

30	1/5	09.10.17	UNIT 5: Disposal of Effluents	,,		
			Disposal of Effluents by dilution, self			
			purification phenomenon			
31	2/5	10.10.17	Oxygen sag curve, Zones of purification	"		
32	3/5	13.10.17	Sewage farming, sewage sickness,	"		
			Effluent Disposal standards for land,			
			surface water and ocean			
33	4/5	14.10.17	Numerical Problems on Disposal of	Chalk &		
			Effluents	Board		
34	5/5	14.10.17	Numerical Problems on Disposal of	"		
			Effluents			
35	1/6	16.10.17	UNIT 6: Treatment of Waste water	,,		
			Flow diagram of municipal waste water			
			treatment plant			
36	2/6	17.10.17	Preliminary & Primary treatment	,,		
37	3/6	25.10.17	Screening, grit chambers. Skimming	PPT		
			tanks, primary sedimentation tanks			
38	4/6	26.10.17	Design criteria & Design examples	Chalk &		
				Board		
39	5/6	26.09.17	Design criteria & Design examples	,,	Assignment -	
					III	
40	1/7	27.09.17	UNIT 7: Secondary Treatment	,,		
			Suspended growth and fixed film			
			bioprocess			
41	2/7	28.10.17	Trickling filter – theory and operation	,,		
42	3/7	02.11.17	Types and designs	,,		

CMR INSTITUTE OF TECHNOLOGY



43	4/7	03.11.17	Activated sludge process- Principle and flow diagram	"		
44	5/7	03.11.17	Modifications of ASP	,,		
45	6/7	04.11.17	F/M ratio. Design of ASP	,,		
46	1/8	09.11.17	UNIT 8	,,		
			Anaerobic Sludge digestion			
47	2/8	14.11.17	Sludge digestion tanks	,,		
48	3/8	15.11.17	Design of Sludge drying beds. Low cost	,,		
			waste treatment method			
49	4/8	15.11.17	Septic tank, Oxidation Pond and	,,		
			Oxidation ditches			
50	5/8	16.11.17	Design. Reuse and recycle of waste water	,,	Assignment -	
					IV	

DEPARTMENT OF CIVIL ENGINEERING

Syllabus for Internal Assessment Tests (IAT)*

Sessional #	Syllabus
T1	Class # 01 – 20
T2	Class # 21 – 39
T3	Class # 40 - 50

*: See calendar of events for the schedules of IATs.

Literature:

			Publicat	ion info
Book Type	Code	Author & Title	Edition & Publisher	ISBN #
Textbook	TB1	Dr. B. C. Punmia. "Wastewater Engineering"	2 nd Edition Laxmi	8131805964, 9788131805961
Textbook	TB2	S.K . Garg "Sewage disposal and Air Pollution Engineering"	22 nd Edition Khanna	9788174092304



Reference	RB1	Metcalf & Eddy "Wastewater Engineering: Treatment, Disposal and Reuse "	5 th Edition McGraw Hill	9780071122504
-----------	-----	---	--	---------------



Subject Code: 10CV	V72	SEMESTER	: VII
NAME OF THE FA	ACULTY : K SHIJINA PADMA	ANABHAN	
BRANCH :	CIVIL	DATE OF COMM	MENCEMENT : 16-08-2017
SUBJECT :	DESIGN OF STEEL STRUCTURE	ES	
DATE OF CLOSIN	NG : 25-11-2017	CLA	ASS STRENGTH: 51
NO OF HRS/ WK:	6	TOTAL HRS	: 50

Sessio n No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topi cs cove red As per plan
1	1/1	16/08/17	UNIT-1	PPT		
	2/1	17/08/17	INTRODUCTION: Advantages			
			and Disadvantages of Steel structures			
2	3/1	19/08/17	Loads and Load combinations, Design considerations	PPT		
3	4/1	19/08/17	Limit State Method(LSM) of design,	РРТ		
4	5/1 6/1	21/08/17	Failure criteria for steel, Codes,	PPT		
		22/08/17	Specifications and section			
			classification			
5	1/2 2/2	23/08/17	UNIT-2	Board,	Assignment-1	
		24/08/17	BOLTED CONNECTIONS : Introduction			
6	3/2 4/2	29/08/17	Design strength of ordinary Black	,,		
		29/08/17	Bolts, Design strength of High Strength Friction Grip bolts			

CMR INSTITUTE OF TECHNOLOGY



				(HSFG)			
7	5/2	6/2	30/08/17	Moment resistant connections,	,,		
			31/08/17	Beam to Beam connections,			
				Beam and Column splices, Semi			
				rigid connections			
8	1/3	2/3	01/09/17	UNIT-3	Board,		
			04/09/17	WELDED CONNECTIONS:			
				Introduction, Welding process,			
				Welding electrodes, Advantages			
				of Welding, Types and Properties			
				of Welds,			
9	3/3	4/3	06/09/17	Types of joints, Weld symbols,	,,		
			06/09/17	Weld specifications, Effective			
				areas of welds, Design of welds,			
				Simple joints			
10	5/3	6/3	07/09/17	Moment resistant connections,	,,		
			08/09/17	Continuous Beam to Column			
				connections, Continuous Beam to			
				Beam connections, Beam			
				Column splices, Tubular			
				connections			
11	1/4	2/4	09/09/17	UNIT-4	Board,	Assignment –II	
			11/09/17	Plastic Behaviour of Structural			
				Steel: Introduction, Plastic theory			
12	3/4	4/4	13/09/17	Plastic hinge concept, Plastic	,,		
			13/09/17	collapse load, conditions of			
				plastic analysis			
13	5/4	6/4	14/09/17	Theorem of Plastic collapse,	"		
			15/09/17	Methods of Plastic analysis			
14	7/4		22/09/17	Plastic analysis of continuous	,,		
				beams.			
15	1/5		23/09/17	UNIT-5	Board,		

CMR INSTITUTE OF TECHNOLOGY



	2/5		26/09/17	Design of Tension Members:			
				Introduction, Types of tension			
				members, Design of strands,			
				Slenderness ratio,			
16	3/5		26/09/17	Behaviour of tension members,	,,		
	4/5		27/09/17	Modes of failure, Factors			
				affecting the strength of tension			
				members			
17	5/5		28/09/17	Angles under tension, Other	,,		
	6/5		03/10/17	sections, Design of tension			
				member, Lug angles, Splices,			
				Gussets			
18	1/6		03/10/17	UNIT-6	Board,		
	2/6		04/10/17	Design of Compression			
				Members: Introduction, Failure			
				modes,			
19	3/6		07/10/17	Behaviour of compression	,,		
	4/6		07/10/17	members, Elastic buckling of			
				slender compression members			
20	5/6		09/10/17	Sections used for compression	,,		
	6/6		10/10/17	members, Effective length of			
				compression members,			
21	7/6		11/10/17	Design of compression members,	,,		
	8/6		12/10/17	Built up compression members			
22	1/7	2/7	14/10/17	UNIT-7	Board,	Assignment -III	
			14/10/17	Design of Column			
				Bases:,Introduction and basics			
23	3/7	4/7	16/10/17	Design of simple slab base			
			17/10/17				
24	5/7	6/7	23/10/17	Design of gusseted base	,,		
			24/10/17				

CMR INSTITUTE OF TECHNOLOGY



25	1/8	2/8	26/10/17	UNIT-8	Board,	
			26/10/17	Design of Beams: Introduction,		
				Beam types, Lateral stability of		
				beams,		
26	3/8	4/8	27/10/17	factors affecting lateral stability,	,,	
			28/10/17	Behaviour of simple and built-up		
				beams in bending(without		
				vertical stiffeners),		
27	5/8	6/8	30/10/17	Design strength of laterally	,,	
			31/10/17	supported beams in Bending,		
				Design strength of laterally		
				unsupported beams		
28	7/8		03/11/17	Shear strength of steel beams,	,,	
				Maximum deflection, Design of		
				beams and purlins		
29			06/11/17	Revision	Board,	
			to			
			16/11/17			

DEPARTMENT OF CIVIL ENGINEERING

Syllabus for Internal Assessment Tests (IAT)*

Sessional #	Syllabus
T1	Class # 01 – 10
T2	Class # 11 – 19
Т3	Class # 20 - 28

*: See calendar of events for the schedules of IATs.



DEPARTMENT OF CIVIL ENGINEERING

Literature:

			Publication info		
Book Type	Code	Author & Title	Edition & Publisher	ISBN #	
Textbook	TR1	S K Duggal. "Limit State Design of	2 nd Edition	93-513/-3/9-9	
Технооок	IDI	Steel Structures"	McGraw Hill	JJ-J1J 1 -J 1 /-J	
Taythook	трγ	N.Subramanian. " Design of Steel	12 nd Edition	0 10 567681 5	
Textbook	ID2	Structures"	Oxford	0-19-30/081-3	
Deference	DD1	Bureau of Indian Standards, IS800-	Third Revision		
Kelelelice	KDI	2007	BIS	-	
Reference	RB2	R Agor "Steel Tables"	- Birla		



Subject Code: 10CV	73	Subject Name: ESTIMATION & VALUAT	ION
SEMESTER : 7 B		NAME OF THE FACULTY : GURUPR	RASAD H C
BRANCH	: CV	DATE OF COMMENCEMENT	: 07-08-2017
SUBJECT	: ESTIMATION &	& VALUATION DATE OF CLOSING	: 25-11-2017
SUBJECT CODE	: 10CV73	CLASS STRENGTH	: 54
NO OF HRS/ WK	:6	TOTAL HRS	: 57

Sess ion No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teachin g Aids	Assignment s/ Tests planned for the chapter	Topics covered As per plan
1	1/6	07/08/2017	Introduction to Unit-6.	Chalk and talk		
2	2/6	07/08/2017	Methods for computation of earthwork.	Chalk and talk		
3	3/6	09/08/2017	Methods for computation of earthwork – cross sections – mid section formula or average end area or mean sectional area	Chalk and talk		
4	4/6	09/08/2017	Methods for computation of earthwork Trapezoidal & prismoidal formula with and without cross slopes.	Chalk and talk		
5	5/6	10/08/2017	Methods for computation of earthwork Trapezoidal & prismoidal formula with and without cross slopes.	Chalk and talk		
6	6/6	12/08/2017	Methods for computation of earthwork Trapezoidal & prismoidal formula with and without cross slopes.	Chalk and talk		
7	1/5	14/08/2017	Introduction to Unit-5, Definition and purpose.	Chalk and talk		
8	2/5	14/08/2017	Working out quantities and rates for earth work in different types of soils.	Chalk and talk, role play		
9	3/5	17/08/2017	Working out quantities and rates for cement concrete of different mixes.	Chalk and talk		
10	4/5	17/08/2017	Working out quantities and rates for bricks and stone masonry.	Chalk and talk, role play		
11	5/5	18/08/2017	Working out quantities and rates for flooring, plastering. RCC works.	Chalk and talk		

CMR INSTITUTE OF TECHNOLOGY



12	6/5	21/08/2017	Working out quantities and rates for centering and form work for different RCC items, wood and steel works for doors, windows and ventilators	Chalk and talk	
13	1/4	22/08/2017	<u>Introduction to Unit-4</u> Definition of specifications, objective of writing specifications.	Chalk and talk, role play	
14	2/4	22/08/2017	Essentials in specifications.	Chalk and talk	
15	3/4	24/08/2017	General and detail specifications of common item of works in buildings.	Chalk and talk	
16	4/4	24/08/2017	General and detail specifications of common item of works in buildings.	Chalk and talk	
17	5/4	28/08/2017	General and detail specifications of common item of works in buildings.	role play	
18	1/7	30/08/2017	Introduction to unit-7. CONTRACTS: Types of contract – essentials of contract agreement	role play	
19	2/7	31/08/2017	Legal aspects, penal provisions on breach of contract. Definition of the terms – Tender, earnest money deposit, security deposit, tender forms, documents and types.	role play	
20	3/7	31/08/2017	Acceptance of contract documents. Termination of contract, completion certificate, quality control, right of contractor, refund of deposit.	role play	
21	4/7	04/09/2017	Administrative approval – Technical sanction. Nominal muster roll, measurement books – procedure for recording and checking measurements– preparation of bills,	role play	
22	5/7	04/09/2017	Valuation- Definitions of various terms, method of valuation, Freehold & Leasehold properties,	role play	
23	6/7	05/09/2017	Valuation Sinking fund, depreciation and method of estimating depreciation, Outgoings.	Chalk and talk	
24	7/7	08/09/2017	Numerical problems on valuation.	Chalk	

CMR INSTITUTE OF TECHNOLOGY



and talk Numerical problems on valuation. Chalk 25 8/7 08/09/2017 and talk Introduction to Unit-2. Different type Chalk 11/09/2017 26 1/2of estimates. and talk. LCD Approximate methods of estimating 27 2/211/09/2017 Chalk buildings, cost of materials. and talk. LCD Approximate methods of estimating 28 3/212/09/2017 Chalk buildings, cost of materials. and talk. LCD Approximate methods of estimating 14/09/2017 29 4/2Chalk buildings, cost of materials. and talk. LCD Estimation of wooden joineries such as Chalk 30 4/215/09/2017 doors. and talk. LCD Estimation of wooden joineries such as Chalk 5/215/09/2017 31 doors. and talk. LCD Estimate of Steel truss (Fink and Howe 23/09/2017 Chalk 32 1/3truss) and talk, LCD Estimate of Steel truss (Fink and Howe 33 2/323/09/2017 Chalk truss) and talk. LCD Estimate of Manhole and septic tanks. Chalk 34 3/3 25/09/2017 and talk, LCD Estimate of Manhole and septic tanks. 35 4/3 27/09/2017 Chalk and talk.

LCD

CMR INSTITUTE OF TECHNOLOGY



36	5/3	28/09/2017	Estimate of Manhole and septic tanks.	Chalk and talk, LCD
37	6/3	28/09/2017	Estimate of RCC Culverts.	Chalk and talk, LCD
38	7/3	04/10/2017	Estimate of RCC Culverts	Chalk and talk, LCD
39	8/3	04/10/2017	Estimate of RCC Culverts.	Chalk and talk, LCD
40	1/1	06/10/2017	Unit-1 Introduction . Study of various drawings with estimates Units of measurement.	Chalk and talk, LCD
41	2/1	09/10/2017	Abstract Methods of taking out quantities and cost – center line method, long and short wall method or crossing method.	Chalk and talk, LCD
42	3/1	10/10/2017	Abstract Methods of taking out quantities and cost – center line method, long and short wall method or crossing method, Problems.	Chalk and talk, LCD
43	4/1	10/10/2017	Abstract Methods of taking out quantities and cost – center line method, long and short wall method or crossing method, Problems.	Chalk and talk, LCD
44	5/1	12/10/2017	Abstract Methods of taking out quantities and cost – center line method, long and short wall method or crossing method, Problems,	Chalk and talk, LCD
45	6/1	12/10/2017	Abstract Methods of taking out quantities and cost – center line method, long and short wall method or crossing method, Problems.	Chalk and talk, LCD
46	7/1	13/10/2017	Abstract Methods of taking out quantities and cost – center line method, long and short wall method or crossing	Chalk and talk,

CMR INSTITUTE OF TECHNOLOGY



			method, Problemsco-ordinates	LCD	
47	8/1	16/10/2017	Abstract Methods of taking out quantities and cost – center line method,	Chalk	
			long and short wall method or crossing method, Problems.	LCD	
48	9/1	17/10/2017	Abstract Methods of taking out quantities and cost – center line method.	Chalk	
			long and short wall method or crossing method, Problems	and talk, LCD	
49	10/1	17/10/2017	Abstract Methods of taking out	Chalk	
			long and short wall method or crossing method. Problems	and talk, LCD	
50	11/1	24/10/2017	Abstract Methods of taking out	Chalk	
			quantities and cost – center line method, long and short wall method or crossing	and talk,	
			method, Problems.	LCD	
51	12/1	24/10/2017	Abstract Methods of taking out	Chalk	
			long and short wall method or crossing	and talk,	
			method, Problems	LCD	
52	13/1	25/10/2017	quantities and cost – center line method,	Chalk	
			long and short wall method or crossing	and talk,	
	1 4 / 1	07/10/0017	Method, Problems.		
53	14/1	27/10/2017	quantities and cost – center line method,	Chalk	
			long and short wall method or crossing		
51	15/1	29/10/2017	Abstract Methods of taking out	LCD	
54	15/1	28/10/2017	quantities and cost – center line method,	Chalk	
			long and short wall method or crossing method, Problems.	and talk	
55	16/1	28/10/2017	Abstract Methods of taking out	C1. 11	
			quantities and cost – center line method, long and short wall method or crossing	Chalk and talk	
			method, Problems.		
56	REVISION	31/10/2017	REVISION	Chalk and talk	
57	REVISION	31/10/2017	REVISION	Chalk and talk	



DEPARTMENT OF CIVIL ENGINEERING

Sessional #	Syllabus	DATE
T1 (IA -1)	Class # 01 – 24	18-09-2017 to 29 -11-2017
T2 (IA -2)	Class # 25 – 48	06-11-2017 to 08-11-2017
T3 (IA -3)	Class # 48 - 66	17-11-2017 to 20-11-2017

Literature:

Book Type	Code	Author & Title	Publication info Edition & Publisher
TEXT BOOK		Estimating & Costing – B N DUTTA	Chand Publications pvt. Ltd., New Delhi – 2015.
REFERENCE BOOKS		Quantity Surveying - P L BHASIN	Chand Publications pvt. Ltd., New Delhi – 2015.
REFERENCE BOOKS		"Text Book on Estimating, Costing & Accounts – D D Kohli & R C KOHLI	S CHAND Publishers New Delhi. – 2013
REFERENCE BOOKS		Contracts & Estimates – B S PATIL	University Press, New Delhi -209



Subject Code: 10C	V74	Subject Name: Design of PSC Structures.			
SEMESTER :VII	A NAM	IE OF THE FACULTY	:Raghavendra PK		
BRANCH	:CV DAT	TE OF COMMENCEMENT	: 17-08-2017		
SUBJECT	:Design of PSC Structures.	DATE OF CLOSING	: 09-11-2016		
SUBJECT CODE	:10CV74	CLASS STRENGTH	: 64		
NO OF HRS/ WK	: 5	TOTAL HRS	: 55		

Sess ion No	Chapter no (No of hrs planed for the chapter)	date	Topics planned for the session	Teaching Aids	Assignments / Tests planned for the chapter
1	1/1	17/08	Unit 1- Materials: High strength	Board,	
			steel and concrete, stress strain characteristics	chalk	
2	2/1	18/08	High strength steel and concrete, properties	"	
3	3/1	19/08	Basic principles of pre-stressing: Fundamentals, pre-stressing concept.	Presentation , Board, chalk	
4	4/1	21/08	Pre tensioning methods.	Presentation , Board, chalk	
5	5/1	22/08	Post tensioning methods.	,,	
6	6/1	23/08	Anchorage methods.	"	Assignment - I
7	1/2	24/08	Analysis of sections for flexure: Stresses in concrete due to pre-stress and loads. Theory.	Board, chalk	
8	2/2	28/08	Stresses in concrete due to pre-stress and loads. Problems	,,	
9	3/2	29/08	Stresses in concrete due to pre-stress	,,	

CMR INSTITUTE OF TECHNOLOGY



			and loads. Problems		
10	4/2	30/08	Stresses in concrete due to pre-stress	**	
			and loads. Problems		
11	5/2	31/08	Center of thrust theory and Problems.	,,	
12	6/2	01/09	Cable profiles. (Load balancing	,,	
			concept)		
13	7/2	04/09	Cable profiles. (Load balancing	,,	
			concept)		
14	8/2	05/09	Stresses in steel due to loads.	,,	Assignment -
					II
15	1/3	07/09	Losses of pre-stress: Various losses	,,	
			encountered in pre-tensioning and post		
			tensioning.		
16	2/3	08/09	Various losses encountered in pre-	,,	
			tensioning, problems.		
17	3/3	09/09	Various losses encountered in post	"	
			tensioning, problems.		
18	4/3	11/09	Various losses encountered in post	,,	
			tensioning, problems.		
19	5/3	12/09	Various losses encountered in post	,,	
			tensioning, problems.		
20	6/3	13/09	Determination of jacking force	,,	Assignment -
					III
21	1/4	14/09	DEFLECTIONS: Deflection of a pre-	,,	
			stressed member – Short term and long		
			term deflections		
22	2/4	15/09	Elastic deflections under transfer loads	,,	
			and due to different cable profiles.		
23	3/4	22/09	Deflection limits as per IS 1343. Effect	"	
			of creep on deflection, load verses		
			deflection curve.		
24	4/4	23/09	Elastic deflections under transfer loads	"	

CMR INSTITUTE OF TECHNOLOGY



and due to different cable profiles. Problems. 25 5/4 25/09 Elastic deflections under transfer loads TEST-1 ,, and due to different cable profiles. Problems. 26 6/4 26/09 Elastic deflections under transfer loads ,, and due to different cable profiles. Problems. 27 27/09 7/4methods of reducing deflection Assignment -,, IV 28/09 LIMIT STATE OF COLLAPSE: 28 1/5,, Flexure -IS Code recommendations 29 2/503/10 Ultimate flexural strength of sections. ,, 30 04/10 3/5 Ultimate flexural strength of sections. ,, 31 4/506/10 Ultimate flexural strength of sections, ,, problems. 32 5/507/10 Ultimate flexural strength of sections, Assignment -,, problems. V 09/10 Shear - IS Code recommendations. 33 1/6 ,, 34 2/610/10 Shear resistance of sections. ,, 35 3/6 11/10Shear reinforcement. ,, 36 4/6 12/10 Shear reinforcement. Problems. ,, 37 5/6 13/10Shear reinforcement. Problems. ,, 38 14/10Shear reinforcement. Problems. 6/6 ,, 39 7/6 16/10 Limit state of serviceability – control Assignment -,, VI of deflections and cracking. 17/10**DESIGN OF END BLOCKS:** 40 1/7,, Transmission of pre-stress in pretensioned members. Transmission length. 23/1041 2/7Anchorage stress in post-tensioned ,,

members.

CMR INSTITUTE OF TECHNOLOGY



DEPARTMENT OF CIVIL ENGINEERING

42	3/7	24/10	Anchorage stress in post-tensioned ", members. Problems.		
43	4/7	25/10	Bearing stress and bursting tensile force-stresses in end blocks-Methods.	"	
44	5/7	26/10	I.S. Code, provision for the design of end blocks reinforcement.	,,	
45	6/7	27/10	I.S. Code, provision for the design of end blocks reinforcement.	"	Assignment - VII
46	1/8	28/10	DESIGN OF BEAMS: Design of pre- tensioned and post-tensioned symmetrical.	,,	
47	2/8	30/10	Design of pre-tensioned and post- tensioned symmetrical.	,,	
48	3/8	31/10	Design of pre-tensioned and post- tensioned asymmetrical.	,,	
49	4/8	2/11	Design of pre-tensioned and post- tensioned asymmetrical sections.	,,	
50	5/8	03/11	Design of pre-tensioned and post- tensioned asymmetrical sections.	,,	
51	6/8	04/11	Permissible stress. Theory and problem	"	
52	7/8	06/11	Design of pre-stressing force and eccentricity.	"	
53	8/8	9/11	Limiting zone of pre-stressing force cable profile.	"	
54		10/11	Revision	,,	
55		13/11	Revision	,,	
56		14/11	Revision	,,	
57		15/11	Revision	,,	
58		16/11	revision		

Literature:



			Publication info		
Book Type	Code	Author & Title	Edition & Publisher	ISBN #	
Tayt Dool	TD 1	Pre-stressed Concrete- N. Krishna	Tata Mc. Graw	978-1-25-900336-	
Text Book	IDI	Raju -	Publishers.	3	
Tarthool	TB1	Pre-stressed Concrete- P.	Oxford and IBH	978 81 204 0045	
Text book		Dayarathnam :	Publishing Co.	0	
		Design of pre-stressed concrete	John Wiley &		
Ref book	RB1	structures- T.Y. Lin and Ned H.	Sons,		
		Burns	New York.		
Code book	CB1	IS: 1343:1980			



SEMESTER	:VII	NAME OF THE FACULTY	: Mr Naresh Dixit P S
BRANCH	: CIVIL ENGINEERING	DATE OF COMMENCEMENT	: 01.08.2017
SUBJECT	: Matrix method of structural analy	sis DATE OF CLOSING	: 19.11.2017
SUBJECT COI	DE: 10CV751	CLASS STRENGTH	: 12
NO OF HRS/	WK :5	TOTAL HRS : 55	

	DATE	Topics planned for the session	Teachin	Assignments	Topics
Sessi			g	1	covered
on			Aids	Tests	As per
Νο				planned for	plan
				the chapter	
1	8.08.17	Basics of structural analysis	РРТ		
2	9.08.17	Basics of structural analysis	"		
3	10.08.17	Introduction to flexibility matrix	,,		
4		Introduction to flexibility matrix	,,		
	12.08.17				
5	17.08.17	Introduction to flexibility matrix	"		
6	17.08.17	Transformation matrix	,,	Assignment-	
				Ι	
7	18.08.17	Analysis of Rigid joint continuous	Chalk		
		beams	and		
			Board		
8	19.08.17	Analysis of Rigid joint continuous	,,		
		beams			
9	22.08.17	Analysis of Rigid joint continuous			
		beams			
10	23.08.17	Analysis of Rigid joint continuous			
		beams			

CMR INSTITUTE OF TECHNOLOGY



11	24.08.17	Analysis of Rigid joint portal frames		
12	25.08.17	Analysis of Rigid joint portal frames	,,	
13	26.08.17	Analysis of Rigid joint portal frames	,,	
14	29.08.17	Analysis of Rigid joint portal frames	,,	
15	30.08.17	Analysis of Rigid joint portal frames	,,	
17	1.09.17	Analysis of Rigid joint portal frames	,,	
17	2.09.17	Analysis of Rigid joint portal frames		
18	10.09.17	Analysis of Rigid joint portal frames	Board,	
			chalk,	
			duster	
19	13.09.17	Analysis of Rigid joint portal frames	,,	
20	14.09.17	Introduction to stiffness method	,,	Assignment-
21	15.09.17	Stiffness matrix	,,	
22	17.09.17	Displacement transformation matrix	,,	
23	19.09.17	Analysis of truss	,,	
24	20.09.17	Analysis of truss	,,	
25	21.09.17	Analysis of truss	,,	
26	22.09.17	Analysis of truss	,,	
27	23.09.17	Analysis of truss	Board,	
			chalk,	
			duster	
28	26.09.17	Analysis of rigid joint frames and	,,	
		continuous beams		
29	27.09.17	Analysis of rigid joint frames and	,,	

CMR INSTITUTE OF TECHNOLOGY



		continuous beams			
30	28.09.17	Analysis of rigid joint frames and	,,		
		continuous beams			
31	29.09.17	Analysis of rigid joint frames and	,,		
		continuous beams			
32	3.10.17	Analysis of rigid joint frames and	,,		
		continuous beams			
33	5.10.17	Analysis of rigid joint frames and	,,		
		continuous beams			
34	6.10.17	Analysis of rigid joint frames and	,,		
		continuous beams			
35	7.10.17	Direct stiffness method	,,		
36	8.10.17	Direct stiffness method	,,		
37	13.10.17	Analysis of beams frames and truss	,,		
		by direct stiffness method			
38	17.10.17	Analysis of beams frames and truss	,,	Assignment-	
		by direct stiffness method		Ш	
39	18.10.17	Analysis of beams frames and truss	,,		
		by direct stiffness method			
40	19.10.17	Analysis of beams frames and truss	,,		
		by direct stiffness method			
41	20.10.17	Analysis of beams frames and truss	,,		
		by direct stiffness method			
42	21.10.17	Introduction to matlab	,,		
43	27.10.17	Introduction to matlab	Board,		
			chalk,		
			duster		
44	28.10.17	Introduction to matlab	,,		



DEPARTMENT OF CIVIL ENGINEERING

45	2.11.17	Introduction to matlab	,,	
46	3.11.17	Introduction to matlab	"	
47	4.11.17	Introduction to matlab	,,	
48	7.11.17	Introduction to matlab	"	
49	8.11.17	Introduction to matlab	"	
50	9.11.17	Introduction to matlab		

Signature of faculty

Signature of HOD

Signature of Principal

Syllabus for Internal Assessment Tests (IAT)*

IAT #	Syllabus
IAT-1	1-19
IAT-2	20-44

*: See calendar of events for the schedules of IATs.

Literature:

Book Type	Code	Author & Title	Publication info	
J F -			Edition & Publisher	ISBN #
Text Book	TB1	Matrix analysis of framed structures	CBS Publisher	9788123911519
Text Book	TB2	Computational structural mechanics	6 th edition , Khanna Publishers	9788120317345
References	RB1	Structural analysis- Matrix approach	Mc Graw hill	9780070667358



SEMESTER	: VII	NAME OF THE FACULTY	: Mrs. Azhaginiyal A
BRANCH	: CIVIL ENGINEERING	DATE OF COMMENC	CEMENT : 16.08.2017
SUBJECT	: Highway Geometric design	DATE OF CLOSING	: 16.11.2017
SUBJECT CO	DDE: 10CV755	CLASS STRENGTH	: 50
NO OF HRS/	WK : 5	TOTAL HRS	: 50

Sessi on No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assign ments/ Tests planned for the chapter	Topics covere d As per plan
1	1/1	16.08.2017	Introduction : Geometric control factors- topography	Board, chalk, duster		
2	2/1	17.08.2017	Design speed, Design vehicle	PPT		
3	3/1	21.08.2017	Traffic. Capacity, Volume	,,		
4	4/1	22.08.2017	Environment and other factors as per IRC	"		
5	5/1	22.08.2017	Environment and other factors as per AASHTO	"		
6	6/1	23.08.2017	PCU concept, Factors controlling PCU for different design purpose	,,		
7	1/2	24.08.2017	Cross Sectional elements: Pavement surface characteristics, Light reflecting characteristics	PPT		

CMR INSTITUTE OF TECHNOLOGY



8	2/2	30.08.2017	Camber – objectives and types,	,,		
			Methods of providing cambers			
9	3/2	31.08.2017	Carriage way, Kerb and	,,		
			median, Shoulders, Bus Bays			
			Parking lanes, service roads			
10	4/2	31.08.2017	Cycle tracks and drive ways	,,		
11	5/2	01.09.2017	Right of way, factors	,,		
			influencing right of way			
12	6/2	04.09.2017	Design of road humps as per	,,	Assign	
			latest IRC provisions		ment- I	
13	1/3	07.09.2017	Sight distance: Importance	Chalk and		
				Board		
14	2/3	08.09.2017	Types of sight distance	,,		
15	3/3	08.09.2017	Sight distance at uncontrolled			
			intersections			
16	4/3	09.09.2017	Derivation of sight distance,			
			Factors affecting sight distance			
17	5/3	11.09.2017	IRC standards and AASHTO			
			standards			
18	6/3	14.09.2017	Problems on Sight distance	,,		
19	1/4	15.09.2017	Horizontal Alignment :	,,		
			Definition, checking the			
			stability of vehicle while			
			moving on horizontal curve			
20	2/4	15.09.2017	Super elevation, Ruling	,,		
			minimum And maximum			
			radius, Assumptions –			
			problems			
21	3 /4	22.09.2017	Method of providing super	,,		
			Elevation for different curves			



22	4/4	23.09.2017	Extra widening of pavement on curves , Objectives – Mechanical widening – psychological widening	,,		
23	5/4	27.09.2017	Transition Curve Objectives – Ideal requirements – Types of transition curve			
24	6/4	28.09.2017	Method of evaluating length of transition curve	Board, chalk, duster		
25	7/4	28.09.2017	Set back distance on horizontal curve and problems on above	,,		
26	8/4	03.10.2017	Problems – VTU questions	"	Assign ment- II	
27	1/5	04.10.2017	Gradient –Vertical curve design criteria-	"		
28	2/5	09.10.2017	Types of summit and valley curves	"		
29	3/5	10.10.2017	Design of vertical curves based on SSD – OSD	"		
30	4/5	10.10.2017	Night visibility considerations	"		
31	5/5	11.10.2017	Design standards for hilly roads	,,		
32	6/5	12.10.2017	Problems on above.	,,		
33	1/6	16.10.2017	Principle	Board, chalk, duster		
34	2/6	17.10.2017	At grade Junctions	"		
35	3/6	23.10.2017	Grade separated Junctions	,,		



4/6 36 24.10.2017 Channelization , Features of ,, Channelising Island 37 5/6 27.10.2017 Median opening ,, 38 6/6 28.10.2017 Gap in median at junction ,, 39 1/7 28.10.2017 **Rotary Intersection**: ,, Elements -40 2/730.10.2017 Advantages – Disadvantages ,, 41 3/7 31.10.2017 Design guide lines ,, 4/7 42 02.11.2017 Problem on the above – Grade ,, separated intersection 43 5/7 04.11.2017 Three legged inter section – ,, Diamond inter change 44 6/7 09.11.2017 Half clover leaf, clover leaf -Assign ,, Disadvantages and ment-Ш disadvantages 45 1/6 09.11.2017 **Highway Drainage:** Board, Importance – sub surface chalk, drainage –surface Drainage duster 2/6 46 10.11.2017 Design of cross sections ,, 47 3/6 13.11.2017 Hydrological – Hydraulically ,, Considerations 4/6 14.11.2017 48 Design of filter media ,, 49 5/6 15.11.2017 Design of cross section-,, problems on above 50 6/6 21.11.2017 REVISION



DEPARTMENT OF CIVIL ENGINEERING

IAT #	Syllabus
IAT-1	1-19
IAT-2	20-44

*: See calendar of events for the schedules of IATs.

Literature:

			Publication info		
Book Type	Code	Author & Title	Edition & Publisher	ISBN #	
Text Book	TB1	Highway Engineering, Khanna, S.K., and Justo, C.E.G.,	10 th Edition, Nem Chand and	13- 9788185240800	
			Bros. Roorkee		
Text Book	TB2	Principles and Practices of Highway Engineering, Dr.L.R.Khadyali, N.B.Lal	6 th edition , Khanna Publishers	9788174091659	
References	RB1	Transportation Engineering – K P Subramanium	1st edition, Scitech Publications, Chennai	9788188429066	
References	RB2	IRC 37 -2001, IRC 58-2002	2nd Revision, Indian Roads Congress	NA	

Relevant IRC codes and MoRT & H specifications



DEPARTMENT OF CIVIL ENGINEERING

SUBJECT CODE : 10CV757 SUBJECT NAME : SOLID WASTE MANAGEMENT SEMESTER : VII DATE OF COMMENCEMENT : 07-08-2017 NO OF HRS/ WK : 5

NAME OF THE FACUL	TY : Karnapa Ajit
BRANCH	: CIVIL
CLASS STRENGTH	:
DATE OF CLOSING	: 25-11-2017
TOTAL HRS	: 52

Session Number	Date	Unit	Торіс	Teaching aids	Assignment
1	07-08-17	Unit1	Solid waste management - Scope and definition	Power point presentation	
2	08-08-17	Unit 1	Classification – Municipal, Commercial, Industrial	Chalk & talk	
3	09-08-17	Unit 1	Physical characteristics	Chalk & talk	
4	10-08-17	Unit-1	Chemical Characteristics	Chalk & talk	
5	11-08-17	Unit-1	Functional elements of management	Chalk & talk	
6	12-08-17	Unit-1	Methods of quantification	Chalk & talk	
7	14-08-17	Unit-2	Introduction to systems of collection collection	Chalk & talk	
8	16-08-17	Unit-2	Collection equipments, garbage chutes	Power point presentation	
9	17-08-17	Unit -2	Transfer stations – Bailing and compacting	Power point presentation	
10	18-08-17	Unit-2	Route optimization techniques	Chalk & talk	
11	19-08-17	Unit-2	Numerical problems	Chalk & talk	Assignment 1
12	21-08-17	Unit-2	Numerical problems	Chalk & talk	
13	22-08-17	Unit-3	Separation of waste components	Chalk & talk +	
				Power point	
14	23-08-17	Unit-3	Volume reduction techniques	Chalk & talk	
15	24-08-17	Unit -3	Size reduction	Chalk & talk	
16	28-08-17	Unit-3	Chemical reduction methods	Chalk & talk	
17	29-08-17	Unit-3	Biological processing methods Composting – aerobic and	Chalk & talk + Power point	

CMR INSTITUTE OF TECHNOLOGY



anaerobic 30-08-17 Unit-3 Numerical problems Chalk & talk 18 19 Introduction to incineration process Chalk & talk + 31-08-17 Unit-4 Power point 20 01-09-17 Unit-4 3 Ts Chalk & talk Factors affecting process 21 04-09-17 Chalk & talk + Unit-4 Types of incineration Power point 22 05-09-17 Chalk & talk Unit-4 Air pollution prevention 23 06-09-17 Unit-4 **Pyrolysis** Chalk & talk + Power point 24 Unit-4 Design criteria for Chalk & talk 07-09-17 incineration 25 Unit-4 Chalk & talk 08-09-17 Numerical problems Assignment 2 26 09-09-17 Unit-5 Chalk & talk + Aerobic composting Power point 27 Chalk & talk + 11-09-17 Unit-5 Anaerobic composting Power point 12-09-17 28 Unit-5 Factors affecting composting Chalk & talk 29 13-09-17 Unit-5 Chalk & talk Indore process Unit-5 30 14-09-17 Bangalore process Chalk & talk + Power point 15-09-17 Unit-5 Mechanical and semi Chalk & talk 31 Mechanical process 32 22-09-17 Unit-5 Vermi composting method Chalk & talk Types of sanitary landfill Chalk & talk + 33 Unit-6 23-09-17 Power point 34 25-09-17 Chalk & talk Unit-6 Trench area Ramp and pit method 35 26-09-17 Unit-6 Chalk & talk Selection of site 36 27-09-17 Unit-6 Steps in landfill construction Chalk & talk 37 28-09-17 Chalk & talk Unit-6 Cell design aspects 38 03-10-17 Unit-6 Methods to prevent site pollution Chalk & talk

CMR INSTITUTE OF TECHNOLOGY



39	04-10-17	Unit-6	Leachate and gas collection,	Chalk & talk	
			Control methods		
40	06-10-17	Unit-6	Significance of geosynthetic fibres	Chalk & talk + Power point	
41	07-10-17	Unit-7	Introduction to disposal methods Site selection	Power point	
42	09-10-17	Unit-7	Open dumping	Chalk & talk + Power point	
43	10-10-17	Unit-7	Ocean dumping. Feeding to hogs	Chalk & talk	Assignment 3
44	11-10-17	Unit-7	Sanitary landfilling concept	Chalk & talk	
45	12-10-17	Unit-7	Merits and demerits of various processing techniques	Chalk & talk	
46	12 10 17	Unit-7	Introduction to bio medical	Chalk & talk +	
	13-10-17		wastes	Power point	
47	14-10-17	Unit-7	Disposal of biomedical wastes	Chalk & talk	
48	16-10-17	Unit-8	Identification of recoverable materials	Power point	
49	17-10-17	Unit-8	Energy and material recovery concepts	Chalk & talk	
50	23-10-17	Unit-8	Reuse in industries	Chalk & talk	
51	24-10-17	Unit-8	Environmental significance of plastic wastes	Chalk & talk	
52	25-10-17	Unit-8	Reuse of plastic wastes	Chalk & talk	
53	26-10-17	Unit-1	Solid waste characterization numericals	Chalk & talk	
54	27-10-17	Unit-1	Solid waste characterization numericals	Chalk & talk	
55	28-10-17	Unit-2	Route optimization problems	Chalk & talk	
56	30-10-17	Unit-2	Route optimization problems	Chalk & talk	
57	31-10-17	Unit -3	Waste seggregation	Case study	

CMR INSTITUTE OF TECHNOLOGY



58	02-11-17	Unit -4	Incineration design examples	Chalk & talk
59	03-11-17	Unit -4	Incineration design examples	Chalk & talk
60	04-11-17	Unit-5	Indore method of composting	Case study
61	09-11-17	Unit-5	Bangalore method of composting	Case study
62	10-11-17	Unit-6	Sanitary landfill – cell design	Chalk & talk
63	13-11-17	Unit-7	Disposal methods – comparative study	Chalk & talk
64	14-11-17	Unit-8	Material recovery	Case study
65	15-11-17	Unit-8	Energy recovery	Case study
66	16-11-17		Question paper discussion	Chalk & talk

DEPARTMENT OF CIVIL ENGINEERING

Sessional #	Syllabus
T1	Class # 01 - 30
T2	Class # 31 -52

Literature

Book Type	Code	Author & Title	Publication info
Text Book	TB1	G. Tchobanoglous, Integrated Solid Waste Management	Mc Graw Hill, Indian Edition
Text Book	TB2	S. Peavy, R. Rowe, Environmental Engineering	Mc Graw Hill, International Edition
Refrence Book	RB3	A. D. Bhide and S. S. Sundaresan, Solid waste management in developing countries	Indian National Scientific Documentation Centre, 1983
Code	CB1	Solid waste handling manual	CPHEO, 2000 and 2016
Code	CB2	Biomedical waste handlng manual	СРНЕО, 2000



SEMESTER	:VII	NAME OF THE FACULTY	: Dr Asha M Nair
BRANCH	: CIVIL ENGINEERING	DATE OF COMMENCEMEN	T : 16.08.2016
SUBJECT	: Pavement Materials and Construc	tion DATE OF CLOSING	: 19.11.2016
SUBJECT COL	DE: 10CV763	CLASS STRENGTH	: 30
NO OF HRS/\	WK :5	TOTAL HRS	: 51

Sessi on No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignm ents/ Tests planned for the chapter	Topics covered As per plan
1	1/1	16.08.2017	UNIT 1 AGGREGATES Introduction to pavements, types of pavements and requirements.	Board, chalk, duster		
2	2/1	17.08.2017	Aggregates: Origin, classification, requirements, properties Tests on road aggregates	"		
3	3/1	19.08.2017	Tests on road aggregates-	,,		
4	4/1	23.08.2017	Concepts of size and gradation – design gradation,maximum aggregate size	"		
5	5/1	23.08.2017	Aggregate blending by different methods to meet specification.	"		
6	6/1	24.08.2017	Numericals to understand blending	,,		
7	1/2	28.08.2017	UNIT II BITUMEN AND TAR Bitumen and Tar : Origin and preparation	,,		

CMR INSTITUTE OF TECHNOLOGY



8	2/2	29.08.2017	Properties and chemical constitution	Board,		
			of bitumen	chalk,		
				duster		
9	3/2	01.09.2017	Requirements of bitumen to be used	,,		
			as road binding materials			
10	4/2	01.09.2017	Tests on bitumen	,,		
13	1/4	04.09.2017	UNIT-IV BITUMINOUS MIXES	,,		
			Mechanical properties, dense and			
			open textured mixes,			
14	2/4	05.09.2017		,,	Assignm	
			Flexibility and brittleness of mixes		ent- I	
15	3/4	06.09.2017	Bituminous mix, design methods			
			using Rothfuch's Method and			
			specifications			
16	4/4	09.09.2017	Marshal mixed design criteria			
17	5/4	09.09.2017				
			Marshall mix design criteria			
18	6/4	11.09.2017	Voids in mineral aggregates voids in			
			total mix Density, flow, stability,	"		
			Percentage voids filled with			
			bitumen.			
19	7/4	12.09.2017	Numerical examples on bituminous			
			mixes	,,		
20	1/3	13.09.2017	UNIT-III BITUMINOUS EMULSIONS AND	.,		
			CUTBACKS			
			Preparation of emulsion and			
			cutbacks			
21	2/3	22.09.2017	characteristics, uses	,,		
22	3/3	22.09.2017	Tasts on omulsions and suthasks	,,		
			rests on emulsions and cutbacks	,,		
23	4/3	23.09.2017	Adhesion of Bituminous Binders to			
			Road aggregates:			

CMR INSTITUTE OF TECHNOLOGY



24	5/3	25.09.2017	Adhesion failure, mechanism of stripping	Board, chalk, duster		
25	6/3	26.09.2017	Tests and methods of improving adhesion.	"	Assignm ent- II	
26	1/6	03.10.2017	UNIT-V EQUIPMENT IN HIGHWAY CONSTRUCTION: Various equipment for excavation	"		
27	1/5	03.10.2017	Excavation equipment working principle advantages and limitations	"		
28	2/5	04.10.2017	Various equipment for grading	"		
29	3/5	06.10.2017	Grading equipments working principle advantages and limitations	"		
30	4/5	07.10.2017	Compaction equipments – their working principle, advantages and limitations.	"		
31	5/5	11.10.2017	Special equipment for bituminous Cement concrete pavement	"		
32	6/5	11.10.2017	Special equipment for bituminous stabilized soil road construction	"		
33	1/6	12.10.2017	UNIT-VI SUBGRADE: Earthwork grading and construction of embankments	Board, chalk, duster		
34	2/6	13.10.2017	Earthwork grading and construction of embankments	,,		
35	3/6	14.10.2017	Earthwork grading and construction in cuts	"		
36	4/6	22.10.2017	Preparation of subgrade for pavement	"		
37	5/6	22.10.2017	Quality control tests on subgrade	,,		

CMR INSTITUTE OF TECHNOLOGY



38	6/6	23.10.2017	Quality control tests on subgrade	,,		
39	1/7	25.10.2017	UNIT-VII FLEXIBLE PAVEMENTS:	,,		
			Specifications of materials			
40	2/7	26.10.2017	Construction method for flexible	,,		
			pavements			
41	3/7	30.10.2017	Construction method for flexible	,,		
			pavements			
42	4/7	30.10.2017	Construction method for flexible	,,		
			pavements			
43	5/7	31.10.2017	Field control checks on pavements	,,		
44	6/7	02.11.2017	Field control checks on pavements	,,	Assignm	
					ent- III	
45	1/8	03.11.2017	UNIT VIII	,,		
			CEMENT CONCRETE PAVEMENTS:			
			Specifications			
46	2/8	03.11.2017	Method of cement concrete	,,		
			pavement construction			
47	3/8	10.11.2017	Method of cement concrete	,,		
			pavement construction			
48	4/8	10.11.2017	Quality control tests	,,		
49	5/8	13.11.2017	Quality control tests	Board,		
				chalk,		
				duster		
50	6/8	14.11.2017	Construction of various types of	,,		
			joints.			
51	7/8	15.11.2017	Discussion on old VTU Question	,,		
			papers			

DEPARTMENT OF CIVIL ENGINEERING

Signature of faculty

Signature of HOD

Signature of Principal



DEPARTMENT OF CIVIL ENGINEERING

Syllabus for Internal Assessment Tests ${\rm (IAT)}^{*}$

IAT #	Syllabus
IAT-1	1-19
IAT-2	20-44
Improvement Test	45-52

*: See calendar of events for the schedules of IATs.

Literature:

Book Type	Code	Author & Title	Publicati	on info
2002 - 5 - 5 - 5			Edition & Publisher	ISBN #
Text Book	TB1	Highway Engineering, Khanna, S.K., and Justo, C.E.G., : Nem	10 th Chand and Bros. Roorkee	
Text Book	TB2	Principles and Practices of Highway Engineering, Dr.L.R.Khadyali, N.B.Lal	6 th edition , Khanna Publishers	
References	RB1	Bituminous Materials in Road Construction',	HMSO Publication	
References	RB2	Soil Mechanics for Road Engineers	HMSO Publication.	

Relevant IRC codes and MoRT & H specifications.



SEMESTER	: VII	NAME OF THE FACULTY	: Mrs. Namitha B
BRANCH	: CV	DATE OF COMMENCEME	NT : 16.8.2017
SUBJECT	: Air pollution and Control	DATE OF CLOSING	: 16.11.2017
SUBJECT COD	E: 10CV765	CLASS STRENGTH	: 30
NO OF HRS/V	/K :5	TOTAL HRS	: 50

	Chapter no	DATE	Topics planned for the session	Teaching	Assignme	Topics
Sessi	(No of hrs planed			Aids	nts/	covered
on	for the chapter)				Tests	As per
No					planned	plan
					for the	
					chapter	
1	1/1	16.08.17	Definition – classification of air	Board,		
			pollution	chalk,		
				duster		
2	1/1	16.08.17	Characterization of air pollutants	,,		
3	1/1	17.08.17	Emission sources, behavior and	,,		
			fate of air pollutants			
4	1/1	18.08.17	Chemical reactions in the	,,		
			atmosphere			
5	1/1	19.08.17	Photochemical smog	,,		
6	1/1	23.08.17	Coal-induced smog, Air Pollution	,,		
			Inventories			
7	1/2	23.08.17	Effects On Human Health	"	Assignme	
					nt- l	
8	1/2	24.08.17	Effects on Animals,	Board,		
				chalk,		
				duster		
9	1/2	28.08.17	Effects on Plants and Materials	"		

CMR INSTITUTE OF TECHNOLOGY



10	1/2	29.08.17	Major Environmental Air Pollution Episodes – London Smog,	"		
11	1/2	1.09.17	Los Angeles Smog	"		
12	1/2	1.09.17	Bhopal Gas Tragedy.	,,		
13	1/2	4.09.17	Introduction – Meteorological Variables	"	Assignme nt -II	
14	1/3	5.09.17	Primary and Secondary Lapse Rate	"		
15	1/3	6.09.17	Inversions	,,		
16	1/3	9.09.17	Stability Conditions, Windrose	,,		
17	1/3	9.09.17	General Characteristics of Stack Plumes	"		
18	1/3	11.09.17	Meterological Models	"		
19	1/3	12.09.17	Factors to be considered in Industrial Plant Location and Planning	"		
20	1/3	13.09.17	Factors to be considered in Industrial Plant Location and Planning	"		
21	1/4	22.09.17	Factors to be considered in Industrial Plant Location and Planning	"		
22	1/4	22.09.17	Noise pollution – sources	"		
23	1/4	23.09.17	Noise pollution –measurement units, effects			
24	1/4	25.09.17	Noise pollution – control	Board, chalk, duster		

CMR INSTITUTE OF TECHNOLOGY



25	1/4	26.09.17	Sampling and Measurement of Gaseous and Particulate matter	,,	Assignme nt –III	
26	1/4	3.10.17	Stack Sampling, Analysis of Air Pollutants, Smoke and Smoke Measurement	"		
27	1/5	3.10.17	Air Pollution Control Methods – Particulate, Emission Control, Gravitational Settling Chambers, Cyclone Separators, Fabric Filters, Electrostatic Precipitators,	"		
28	1/5	4.10.17	Wet Scrubbers, Selection of a Particulate Collecting Equipment,	"		
29	1/5	6.10.17	Control of Gaseous Emissions	,,		
30	1/5	7.10.17	Adsorption by Liquids, Adsorption by Solids, Combustion Odours and their control.	"		
31	1/5	11.10.17	Air Pollution due to Gasoline Driven and Diesel Driven Engines	"		
32	1/5	11.10.17	Air Pollution due to Gasoline Driven and Diesel Driven Engines	"		
33	1/6	12.10.17	Air Pollution due to Gasoline Driven and Diesel Driven Engines	Board, chalk, duster	Assignme nt –IV	
34	1/6	13.10.17	Effects, Direct and Indirect Methods of control	"		
35	1/6	14.10.17	Effects, Direct and Indirect Methods of control	"		
36	1/6	23.10.17	Effects, Direct and Indirect Methods of control	"		
37	1/6	23.10.17	Acid Rain	,,		

CMR INSTITUTE OF TECHNOLOGY



38	1/6	24.10.17	Acid Rain	"		
39	1/6	25.10.17	Global Warming	"		
40	1/7	26.10.17	Ozone Depletion in Stratosphere	"		
41	1/7	30.10.17	Indoor Air Pollution	"		
42	1/7	30.10.17	Indoor Air Pollution	"		
43	1/7	31.10.17	Environmental Policy	"	Assignme nt -V	
44	1/7	2.11.17	Environmental Policy	"		
45	1/7	3.11.17	Environmental Acts	"		
46	1/8	10.11.17	Environmental Acts	"		
47	1/8	10.11.17	Water, Air and Noise Pollution Standards.	"		
48	1/8	13.11.17	Revision	"		
49	1/8	14.11.17	Revision	Board, chalk, duster		
50	1/8	15.11.17	Revision	,,		

Sessional #	Syllabus
T1	Class # 01 – 20
T2	Class # 21 – 45
T3	Class # 46 - 50



Book Type	Code	Author & Title	Publication info	
			Edition & Publisher	ISBN #
Text Book	TB1	S.K Garg.Environmental engineering2	16th edition Khanna Publisher,2006	81-7409-057-6
Reference Book	RB1	B.C Punmia, A.K JAIN Environmental engineering 2	Lakshmi publication	978-81-318-0596-1