

**Lesson Plan for the Even sem – 2016**

**Semester – 8**

**Subject Code: 10CV81**

**Subject Name: Advanced Concrete Technology**

<b>SEMESTER</b>	<b>: 8<sup>th</sup></b>	<b>NAME OF THE FACULTY</b>	<b>: Vibha. N Dalawai</b>
<b>BRANCH</b>	<b>: CV</b>	<b>DATE OF COMMENCEMENT</b>	<b>: 18-01-2016</b>
<b>SUBJECT</b>	<b>: Advanced Concrete Technology</b>	<b>DATE OF CLOSING</b>	<b>: 21-05-2016</b>
<b>SUBJECT CODE</b>	<b>: 10CV81</b>	<b>CLASS STRENGTH</b>	<b>: 67</b>
<b>NO OF HRS/ WK</b>	<b>: 5</b>	<b>TOTAL HRS</b>	<b>: 46</b>

<b>Dates</b>	<b>DAY</b>	<b>Topics planned for the session</b>	<b>Teaching Aids UNITS</b>	<b>Assignments/Tests planned for the chapter</b>	<b>Topics covered As per plan</b>
21.01.16 Thursday	1	Importance of Bogue's compounds, Structure of a Hydrated Cement Paste,	UNIT 1 CHALK AND BOARD AND PPT		12.5
23.01.16 Saturday	3	Volume of hydrated product,			
28.01.16 Thursday	1	Porosity of paste and concrete			
30.01.16 Saturday	3	Transition Zone, Elastic Modulus,			
04.02.16 Thursday	1	Factors affecting strength and elasticity of concrete,			
11.02.16 Thursday	3	Rheology of concrete in terms of Bingham's parameter.			

12.02.16 Friday	1	<b>CHEMICAL ADMIXTURES</b> - Mechanism of chemical admixture,Plasticizers their effect on concrete property in fresh and hardened state,			25
18.02.16 Thursday	3	super Plasticizers their effect on concrete property in fresh and hardened state,	UNIT 2CHALK		
25.02.16 Thursday	1	Marsh cone test for optimum dosage of super plasticizer,retarder, accelerator, Air-entraining admixtures, new generation Super plasticiser.	AND BOARD		
03.03.16 Thursday	3	MINERAL ADMIXTURE-Fly ash, effect on concrete property in fresh state and hardened state.	AND PPT		
04.03.16 Friday	1	Silica fume, effect on concrete property in fresh state and hardened state.GGBS effect on concrete property in fresh state and hardened state.			
10.03.16 Thursday	3	<b>MIX DESIGN</b> - Factors affecting mix design, design of concrete mix by BIS method using IS10262	UNIT 3CHALK		
11.03.16 Friday	1	<b>American (ACI)/ British (BS) methods. Provisions in revised IS10262-2004.</b>	AND BOARD		
18.03.16 Friday	3	American (ACI)/ British (BS) methods. Provisions in revised IS10262-2004	AND PPT		
19.03.16 Saturday	1	American (ACI)/ British (BS) methods. Provisions in revised IS10262-2004.			
31.03.16 Thursday	3	<b>DURABILITY OF CONCRETE</b> - Introduction, Permeability of concrete, chemical attack,	UNIT 4CHALK		50
01.04.16 Friday	1	acid attack, efflorescence,Corrosion in concrete. Thermal conductivity,thermal diffusivity, specific heat.	AND BOARD		
07.04.16 Thursday	3	Alkali Aggregate Reaction, IS456-2000 requirement for durability.	AND PPT		
15.04.16 Friday	1	RMC concrete - manufacture, transporting,Placing, precautions,Methods of concreting- Pumping,under water concreting, shotcrete,	UNIT 5CHALK		62.5
21.04.16 Thursday	3	High volume fly ash concrete concept, properties, typical mix	AND BOARD		
22.04.16 Friday	1	Self compacting concrete concept, materials, tests, properties, application and Typical mix.	AND PPT		
28.04.16 Thursday	3	Fiber reinforced concrete - Fibers types and properties, Behavior of FRC in compression, tension including pre-cracking stage and post-cracking stages behavior in flexure and shear,	UNIT 6CHALK		75
29.04.16 Friday	1	Ferro cement - materials, techniques of manufacture, properties and application Light weight concrete-materials properties and types.	AND BOARD		
05.05.16 Thursday	3	Typical light weight concrete mix	AND PPT		

06.05.16 Friday	1	High density concrete-materials, properties and applications, typical mix	UNIT 7CHALK	87.5
16.05.16 Monday		high performance concrete- materials, properties and applications, typical mix	AND BOARD AND PPT	
17.05.16 Tuesday		Test on Hardened concrete-Effect of end condition of specimen, capping,	UNIT 8 CHALK	100
18.05.16 Wednesday		H/D ratio, rate of loading, moisture condition.	AND BOARD	
19.05.16 Thursday		Compression, tension and flexure tests.	AND PPT	

Book Type	Code	Author & Title	Publication info	
			Edition & Publisher	ISBN #
Text Book	TB1	Concrete Mix Design- N. Krishna Raju	Sehgal Publishers	
Ref book	RB1	Properties of Concrete- Neville,	Pearson	978 81 775 8587 2
Ref book	RB2	Concrete Technology- Neville,	Pearson	978 87317 0536 0
Ref book	RB3	Concrete Technology- A R Shanthakumar	Oxford university press	0 19 567153 8
Ref book	RB4	Non-Destructive Test and Evaluation of Materials- J.Prasad, C G K Nair	Mc Graw Hill.	978-1259061615
Ref book	RB5	High Performance Concrete- Prof Aitcin P C	E and FN, London.	978 0419192701
Ref book	RB6	Properties of Fresh Concrete- Power T.C.	E and FN, London	978-0471695905
Code book	CB1	ACI Code for Mix Design		
Code book	CB2	IS 10262-2004		

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DEPARTMENT OF CIVIL ENGINEERING

Lesson Plan for the even sem – 2016

Semester – VIII

**Subject Code: 10CV82      Subject Name: DESIGN AND DRAWING STEEL STRUCTURES**

SEMESTER : VIII

NAME OF THE FACULTY : Mohammed Ismail

BRANCH : CIVIL

TE OF COMMENCEMENT : 18-01-2016

SUBJECT : DESIGN AND DRAWING STEEL OF STRUCTURES

DATE OF CLOSING : 20-04-2016

SUBJECT CODE : 10CV822

CLASS STRENGTH : 61

NO OF HRS/ WK : 6

TOTAL HRS : 52

Session No	Chapter no (No of hrs planned for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1	1/1	21/01/16	<b>UNIT 1: beam-beam connection - bolted ,welded</b>	Board, Chalk, PPT		
2	2/1	22/01/16	<b>beam-beam connection – bolted,welded</b>	„		
3	3/1	23/01/16	<b>beam-beam connection – bolted,welded</b>	„		
4	3/1	28/01/16	<b>beam-beam connection – bolted,welded</b>			
5	3/1	29/01/16	<b>Beam- column connection – bolted,welded</b>			
4	1/2	30/01/16	<b>Beam- column connection – bolted.welded</b>	„		
5	2/2	04/02/16	<b>Beam- column connection – bolted,welded</b>	„	Assignment-1	
6	3/2	05/02/16	<b>Seated unstiffened bolted,welded connection</b>	„		
7	4/2	11/02/16	<b>Seated unstiffened bolted ,welded connection</b>	„		
8	4/2	12/02/16	<b>Seated unstiffened bolted ,welded connection</b>	„		
9	5/2	13/02/16	<b>Seated stiffened bolted ,welded</b>	Board,		

			<b>connection</b>	Chalk, PPT		
10	1/3	18/02/16	<b>Seated stiffened bolted,welded connection</b>	„	Assignment –II	
11	2/3	25/02/16	<b>Seated stiffened bolted,welded connection</b>	„		
12	3/3	26/02/16	<b>welded plate girder (Design)</b>	„		
13	4/3	29/02/16	<b>welded plate girder (Design)</b>	„		
14	5/3	03/03/16	<b>welded plate girder (Drawing)</b>	„		
15	6/3	04/03/16	<b>welded plate girder (Drawing)</b>	„		
16	1/4	05/03/16	<b>welded plate girder (Drawing)</b>	„		
17	2/4	10/03/16	<b>Splices, Column-column of same sections</b>	„		
18	3/4	11/03/16	<b>Splices, Column-column of same sections</b>	„	Assignment –III	
19	4/4	17/03/16	<b>Splices, Column-column of different sections</b>	„		
20	5/4	18/03/16	<b>Splices, Column-column of different sections</b>			
21	6/4	19/03/16	<b>Bolted roof truss - design</b>			
20	1/5	24/03/16	<b>Bolted roof truss - design</b>	„		
21	2/5	31/03/16	<b>Bolted roof truss - design</b>	„		
22	3/5	01/04/16	<b>Bolted roof truss -drawing</b>	„		
23	4/5	02/04/16	<b>Bolted roof truss –drawing</b>	„		
24	5/5	06/04/16	<b>Bolted roof truss -drawing</b>	„		
25	6/5	07/04/16	<b>Drawing of Lacings</b>	Board, Chalk, PPT		
26	7/5	15/04/16	<b>Drawing of Lacings</b>	„		
27	8/5	16/04/16	<b>Drawing of battens</b>	„		
28	1/6	21/04/16	<b>Drawing of battens</b>	„	Assignment -IV	
29	2/6	22/04/16	<b>Welded roof truss -design</b>	„		
30	3/6	23/04/16	<b>Welded roof truss -design</b>	„		
31	4/6	28/04/16	<b>Welded roof truss -drawing</b>	„		
32	1/7	29/04/16	<b>Welded roof truss -drawing</b>	„		
33	2/7	30/04/16	<b>Welded roof truss -drawing</b>	„		
33	3/7	5/05/16	<b>Slab bases</b>	„		
34	4/7	6/05/16	<b>Slab bases</b>	Board,		

				Chalk, PPT		
35	5/7	7/05/16	<b>Gusseted bases</b>	„		

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DEPARTMENT OF CIVIL ENGINEERING

**Lesson Plan for the even sem – 2016**

**Semester – 8**

**Subject Code : 10CV833**

**Subject Name : PAVEMENT DESIGN**

**SEMESTER : VIII A**

**NAME OF THE FACULTY : Dr Asha M Nair**

**BRANCH : CIVIL**

**DATE OF COMMENCEMENT : 23-01-2015**

**SUBJECT : PAVEMENT DESIGN**

**DATE OF CLOSING : 07-05-2016**

**SUBJECT CODE : 10CV833**

**CLASS STRENGTH : 61**

**NO OF HRS/ WK : 6**

**TOTAL HRS : 68**

Session No	Chapter no (No of hrs planned for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1	1/1	28.01.16	<b>Unit 1</b>  <b>- Introduction:</b> General introduction about the subject, text books and	Board, chalk		

			references			
2	2/1	28.01.16	Desirable characteristics of pavement, Types and components	„		
3	3/1	29.01.16	Design strategies of variables- Functions of sub-grade, sub base, base course, surface course	„		
4	4/1	29.01.16	Comparison between Rigid and flexible pavement	„		
5	5/1	30.01.16	Comparison continued	„		
6	6/1	30.01.16	Difference between Highway pavement and Air field pavement	„		
7	7/1	04.02.16	Comparison continued	„		
8	1/2	04.02.16	<b>Unit 2: Fundamentals of design of pavements:</b> Design life – Traffic factors, Climatic factors, Road geometry	„		
9	2/2	05.02.16	Subgrade strength and drainage	Board, chalk		
10	3/2	05.02.16	Stresses and deflections, Boussinesqs theory – principle, Assumptions – Limitations.	„		
11	4/2	11.02.16	Problems	„	<b>Assignment 1</b> (comprising of 1, 2 and 3 units)	
12	5/2	11.02.16	Busmister theory – Two layered analysis – Assumptions	„		
13	6/2	12.02.16	Problems	„		
14	7/2	12.02.16	Problems	„		
15	1/3	13.02.16	<b>Unit 3: Design factors:</b> Design wheel load	„		
16	2/3	13.02.16	Contact pressure – ESWL concept	„		
17	3/3	18.02.16	Determination of ESWL by equivalent deflection criteria	„		
18	4/3	18.02.16	Problems on above	„		

19	5/3	25.02.16	Determination of ESWL by equivalent Stress criteria			
20	6/3	25.02.16	Problems on above	Board, chalk		
21	7/3	26.02.16	EWL concept	„		
22	8/3	26.02.16	Problems on above	„		
23	1/4	03.03.16	<b>Unit 4: Flexible pavement design</b> McLeod Method –Assumptions and Principle - Problems	Board, chalk		
24	2/4	03.03.16	Kansas method – Assumptions and Principle -Problems			
25	3/4	04.03.16	Tri-axial method - Assumptions and Principle - Problems			
26	4/4	04.03.16	CBR method – IRC Method (old) - Assumptions and Principle - Problems	„		
27	5/4	05.03.16	CSA Method using IRC 37-2001	„		
28	6/4	05.03.16	Problems on above.	„		
29	7/4	10.03.16	Problems on above.			
30	1/5	10.03.16	<b>Unit 5: Stresses in rigid pavement</b> Principle – Factors - wheel load and its repetition	„	<b>Assignment 2</b> (comprising of 4, 5 and 6 units)	
31	2/5	11.03.16	Properties of sub grade – properties of concrete.	„		
32	3/5	11.03.16	External conditions – joints – Reinforcement	„		
33	4/5	17.03.16	Analysis of stresses – Assumptions – Westergaard’s Analysis – Modified Westergaard equations	„		
34	5/5	17.03.16	Critical stresses – Wheel load stresses, Warping stress – Frictional stress –	Board, chalk		
35	6/5	18.03.16	Combined stresses (using chart / equations) - problems on above.	„		



36	7/5	18.03.16	Problems continued	„		
37	1/6	19.03.16	<b>Unit 6: Design of rigid pavement</b> Design of C.C. Pavement by IRC: 38 – 2002 for dual and Tandem axle load	„		
38	2/6	19.03.16	Continued with design	„		
39	3/6	24.03.16	Problems	„		
40	4/6	31.03.16	Reinforcement in slabs – Requirements of joints	„		
41	5/6	01.04.16	Reinforcement in slabs – Requirements of joints	„		
42	6/6	01.04.16	Types of joints – Expansion joint – contraction joint- warping joint – construction joint – longitudinal joint	„		
43	7/6	02.04.16	Design of joints, Design of Dowel bars,	„		
44	8/6	02.04.16	Design of Tie bars	„		
45	9/6	07.04.16	Problems	„		
46	1/7	07.04.16	<b>Unit 7: Flexible pavement failures, maintenance and evaluation</b> Types of failures, causes, remedial/maintenance measures in flexible pavements	„		
47	2/7	15.04.16	Functional Evaluation by visual inspection and unevenness measurement by using different techniques	„		
48	3/7	15.04.16	Structural Evaluation by Benkelman Beam Deflection Method,	„		
49	4/7	16.04.16	Falling weight deflectometer, GPR Method.		<b>Assignment 2</b> (comprising of 7 and 8 units)	
50	5/7	16.04.16	Design factors for Runway Pavements -.			
51	6/7	21.04.16	Design methods for Airfield pavements and problems on above			
52	7/7	21.04.16	Problems	„		

53	8/7	22.04.16	Problems	Board, chalk, duster		
54	1/8	22.04.16	<b>Unit 8: Rigid pavement failures, maintenance and evaluation</b> Types of failures, causes, in rigid pavements	„		
55	2/8	23.04.16	Continued with remedial/maintenance measures	„		
56	3/8	23.04.16	Functional Evaluation by visual inspection	„		
57	4/8	28.04.16	Unevenness measurements.	„		
58	5/8	28.04.16	Design factors for Runway Pavements –	„		
59	6/8	29.04.16	Design methods for Airfield pavements	„		
60	7/8	29.04.16	Problems	„		
61	8/8	30.04.16	Problems	„		
62		30.04.16	Revision –Unit 1 and Unit 2	„		
63		05.05.16	Revision - Unit 3	„		
64		05.05.16	Revision- Unit 4	„		
65		06.05.16	Revision- Unit 5	„		
66		06.05.16	Revision- Unit 6	„		
67		07.05.16	Revision- Unit 7	„		
68		07.05.16	Revision- Unit 8	„		

### Syllabus for Internal Assessment Tests (IAT)\*

Sessional #	Syllabus
T1	Class # 01 – 22
T2	Class # 23 - 45

Improvement Test	Class # 46 - 61
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\* See calendar of events for the schedules of IATs.

**Literature:**

Book Type	Code	Author & Title	Publication info	
			Edition & Publisher	ISBN #
Text Book	TB1	"Principles & Practices of Highway Engineering- L R Kadiyalli & N B. Lal	Khanna Publishers.	81-7409-165-3
Text Book	TB2	"Highway Engineering" - Khanna & Justo	Nem Chand & Brothers	8185240779
References	RB1	"Pavement Analysis & Design - Yang H. Huang	Prentice Hall; 2 edition	978-0131424739

### 10CV843– Urban Transport Planning

Name of the Faculty: Preethi Raj

Total No of Hrs: 60

Hrs / week: 5

Class #	Chapter Title / Reference Literature	Topic	Percentage of portion covered	
			Reference (%)	Cumulative (%)
1	<b>RB1 -29.1-29.3</b> <b>RB2 – 1.1.1 - 1.16</b>	Scope of Urban transport planning	12.5%	12.5%
2		Scope of Urban transport planning		
3		Inter dependency of land use and traffic		
4		Inter dependency of land use and traffic		
5		System Approach to urban planning		
6		System Approach to urban planning		
7		System Approach to urban planning		
8		System Approach to urban planning		

9	<b>RB1- 29.4, 30.1, 31.1, 32.1, 34.1, 33.1 RB2 – 8.1, 8.2, 8.3, 8.5</b>	<b>STAGES IN URBAN TRANSPORT PLANNING</b>	12.5%	25%
10		Trip generation		
11		Trip production		
12		Trip distribution		
13		Modal split		
14		Modal split		
15		Modal split		
16		Trip assignment		
		Trip assignment		
17	<b>RB1 – 30.1, 30.2, 30.3, 30.4, 30.13, 30.15 RB2 – 7.2.5, 7.4.3 – 7.5</b>	<b>URBAN TRANSPORT SURVEY</b>	12.5%	37.5%
18		Definition of study area-Zoning		
19		Definition of study area-Zoning		
20		Types of Surveys		
21		Types of Surveys		
22		Types of Surveys		
23		Inventory of transportation facilities		
24		Inventory of transportation facilities		
25		Expansion of data from sample.		
26	Expansion of data from sample.			
27	<b>RB1 – 31.1- 31.5 RB2 – 8.2</b>	<b>TRIP GENERATION:</b>	12.5%	50%
28		Trip purpose		
29		Factors governing trip generation and attraction		
30		Category analysis		
31		Problems on above		
32		Problems on above		
33	<b>RB1 – 32.1 – 32.7 RB2 – 8.3</b>	<b>TRIP DISTRIBUTION:</b>	12.5%	62.5%
34		Methods – Growth factors methods – Synthetic methods		
35		Methods – Growth factors methods – Synthetic methods		
36		Methods – Growth factors methods – Synthetic methods		
37		Fractor and Furness method and problems on the above.		
38		Fractor and Furness method and problems on the above.		
39		<b>MODAL SPLIT:</b>	12.5%	75%

40	<b>RB1 – 34.1-34.4</b> <b>RB2 – 8.4</b>	Factors affecting – characteristics of split		
41		Factors affecting – characteristics of split		
42		Model split in urban transport planning		
43		Model split in urban transport planning		
44		Model split in urban transport planning		
45		problems on above		
46		problems on above		
47	<b>RB1 – 33.1-33.5, 36.1-36.5</b> <b>RB2 – 8.5</b>	<b>TRIP ASSIGNMENT:</b>	12.5%	87.5%
48		Assignment Techniques		
49		Traffic fore casting		
50		Land use transport models		
51		Lowry Model		
52		Garin Lowry model		
53		Garin Lowry model		
54		Applications in India – (No problems on the above		
55	<b>RB1 – 37.1-37.3</b>	<b>URBAN TRANSPORT PLANNING FOR SMALL AND MEDIUM CITIES:</b>	12.5%	100%
56		Introduction		
57		Difficulties in transport planning <b>LHGYFEENXEA</b>		
58		Difficulties in transport planning		
59		Recent Case studies		
60		Difficulties in transport planning – Recent Case studies		

Syllabus for Sessionals :

Sessional #	Syllabus
T1	Class # 1-22
T2	Class # 23- 46
T3	Class # 47-60

Literature:

Book type	Code	Author & Title	Publication Info	
			Edition & Publisher	ISBN #
Reference Book	RB1	Traffic Engineering and Transport Planning- L.R.	Khanna Publishers	81-7409-220-X

		Kadiyali		
Reference Book	RB2	Transportation Engineering & Planning – C.S. Papacostas & P.D. Prevedouros	Eastern Economy Edition – PHI	978-81-203-2154-0
Reference Book	RB3	Principles of urban transport system planning - B.G. Hutchinson	Scripta Book Co., Washington D.C. & McGraw Hill Book Co	