CMR INSTITUTE

OF TECHNOLOGY

Session wise – Course Plan

Department of Civil Engineering

SEMESTER   :IV A
BRANCH   : CIV
SUBJECT   : Concrete Technology

SUBJECT CODE :10CV42
NO OF HRS/WK : 5

NAME OF THE FACULTY   : MrShivakumara M J
DATE OF COMMENCEMENT :19.01.2016

DATE OF CLOSING   : 10.05.2016
CLASS STRENGTH   : 41
TOTAL HRS   :63

Session No	Chapter no (No of hrs planed 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**	19.01.16	Introduction to the subject Concrete Technology, Discussion on Learning objectives and outcome of the subject.	Board, chalk, duster		
2	**2/1**	20.01.16	Manufacture of OPC by Wet process	Board, chalk, duster		
3	**3/1**	22.01.16	Manufacture of OPC by Dry process.	Board, chalk, duster		
4	**4/1**	22.01.16	Cement, Chemical composition, hydration of cement,	Board, chalk, duster		
5	**5/1**	23.01.16	Types of cement	Board, chalk, duster		
6	**6/1**	27.01.16	Types of cement	Board, chalk,		

			duster		
7	**7/1**	28.01.16	Field testing of cement, Determination of Fineness of cement by Blaine's air permeability.	PPT and Video		
8	**8/1**	30.01.16	Fineness by sieve test, Normal consistency, testing time, soundness.	Experiments will be conducted at lab.		
9	**9/1**	30.01.16	Fineness by sieve test, Normal consistency, testing time, soundness.	Experiments will be conducted at lab.		
10	**10/1**	01.02.16	Compression strength of cement and grades of cement, Quality of mixing water.	Board, chalk, duster	Assignment- I	
11	**1/1**	03.02.16	Introduction to Aggregates, types, sources.	,,		
12	**2/2**	08.02.16	Coarse aggregate – Importance of size,	,,		
13	**3/2**	08.02.16	Coarse aggregate – Importance of shape and texture	,,		
14	**4/2**	09.02.16	Grading of aggregates - Sieve analysis.	,,		
15	**5/2**	11.02.16	Specific gravity, Flakiness and elongation index.			
16	**6/2**	12.02.16	Crushing, impact and abrasion tests.	PPT and Video		
17	**7/2**	15.02.16	Fine aggregate - grading, analysis.	Board, chalk, duster		
18	**8/2**	15.02.16	Specify gravity, bulking.	,,		
19	**9/2**	16.02.16	Moisture content, deleterious materials.	,,	Assignment –II	
20	**10/2**	18.02.16	Class test on Unit-2	,,		
21	**1/3**	22.02.16	Introduction to Workability of Concrete, discussion on Importance of Workability.	,,		
22	**2/3**	24.02.16	Factors affecting workability.	,,		

23	3/3	24.02.16	Measurement of workability - slump, flow tests.	Experiments will be conducted at lab.		
24	4/3	25.02.16	Compaction factor and vee-bee consistometer tests	Experiments will be conducted at lab.		
25	5/3	01.03.16	Segregation and bleeding.	Board, chalk, duster		
26	6/3	03.03.16	Process of manufactures of concrete : Batching.	,,		
27	7/3	03.03.16	Mixing, Transporting.	,,		
28	8/3	04.03.16	Placing, Compaction, Curing.	,,	Assignmnt –III	
29	9/3	08.03.16	Class test on Unit-3	,,		
30	1/4	09.03.16	Introduction to Chemical admixtures and its Importance.	,,		
31	2/4	11.03.16	Plasticizers,	,,		
32	3/4	11.03.16	Accelerators,	,,		
33	4/4	17.03.16	Retarders and air entraining agents,	Board, chalk, duster		
34	5/4	19.03.16	Introduction to Mineral admixtures, Availability, Sustainability concept.	,,		
35	6/4	21.03.16	Fly ash.	,,		
36	7/4	23.03.16	Silica fumes and rice husk ash.	,,	Assignment -IV	
37	8/4	23.03.16	Class test on Unit-4	,,		
38	1/5	24.03.16	Factors affecting strength of Concrete.	,,		
39	2/5	29.03.16	Discussion on factors w/c ratio, gel/space ratio.	,,		
40	3/5	30.03.16	Maturity concept, Effect of aggregate properties on concrete.	,,		

41	**4/5**	01.04.16	Relation between compressive strength, and tensile strength, bond strength, modulus of rupture.	,,		
42	**5/5**	01.04.16	Accelerated curing, aggregate - cement bond strength.	,,		
43	**6/5**	02.04.16	Testing of hardened concrete - compressive strength, split tensile strength.	,,		
44	**7/5**	05.04.16	Testing of hardened concrete - Flexural strength, factors influencing strength test results.		Assignment -V	
45	**8/5**	06.04.16	Class test on Unit-5			
46	**1/6**	11.04.16	Introduction to the concept Elasticity.			
47	**2/6**	11.04.16	Relation between modulus of elasticity and Strength.			
48	**3/6**	12.04.16	Factors affecting modulus of elasticity.			
49	**4/6**	15.04.16	Poisson , Ratio, Shrinkage - plastic shrinkage and drying shrinkage.			
50	**5/6**	16.04.16	Factors affecting shrinkage.			
51	**6/6**	20.04.16	Creep - Measurement of creep, factors affecting creep, Effect of creep.		Assignment -VI	
52	**7/6**	20.04.16	Class test on Unit-6.			
53	**1/7**	21.04.16	Introduction the concept Durability, Importance.			
54	**2/7**	23.04.16	Durability - definition, significance, permeability.			
55	**3/7**	28.04.16	Sulphate attack, Chloride Attack.			
56	**4/7**	30.04.16	Carbonation, freezing and thawing.			
57	**5/7**	30.04.16	Factors contributing to cracks in concrete - plastic shrinkage, settlement cracks, construction joints.			
58	**6/7**	02.05.16	Thermal expansion, transition zone, structural design deficiencies.			
59	**6/7**	04.05.16	Class test on Unit-7		Assignm	

						ent –VII	
60	**1/8**	05.05.16	Concept of Concrete Mix design, variables in proportioning , exposure Conditions.				
61	**2/8**	07.05.16	Procedure of mix design as per IS 10262-1982.				
62	**3/8**	07.05.16	Numerical examples of Mix Design.			Assignm ent -VIII	
63	**4/8**	10.05.16	Class test on Unit-8				

CMR INSTITUTE

OF TECHNOLOGY

Session wise – Course Plan

Department of Civil Engineering

SEMESTER   :IVB   NAME OF THE FACULTY   : MrShivakumara M J
BRANCH   : CIV   DATE OF COMMENCEMENT :18.01.2016
SUBJECT   : Concrete Technology

                                                    DATE OF CLOSING   : 11.05.2016
SUBJECT CODE :10CV42   CLASS STRENGTH   : 56
NO OF HRS/WK : 5   TOTAL HRS   :67

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**	18.01.16	Introduction to the subject Concrete Technology, Discussion on Learning objectives and outcome of the subject.	Board, chalk, duster		

2	**2/1**	18.01.16	Manufacture of OPC by Wet process	Board, chalk, duster		
3	**3/1**	20.01.16	Manufacture of OPC by Dry process.	Board, chalk, duster		
4	**4/1**	21.01.16	Cement, Chemical composition, hydration of cement,	Board, chalk, duster		
5	**5/1**	23.01.16	Types of cement	Board, chalk, duster		
6	**6/1**	25.01.16	Types of cement	Board, chalk, duster		
7	**7/1**	25.01.16	Field testing of cement, Determination of Fineness of cement by Blaine's air permeability.	PPT and Video		
8	**8/1**	28.01.16	Fineness by sieve test, Normal consistency, testing time, soundness.	Experiments will be conducted at lab.		
9	**9/1**	29.01.16	Fineness by sieve test, Normal consistency, testing time, soundness.	Experiments will be conducted at lab.		
10	**10/1**	01.02.16	Compression strength of cement and grades of cement, Quality of mixing water.	Board, chalk, duster	Assignm ent- I	
11	**1/1**	02.02.16	Introduction to Aggregates, types, sources.	,,		
12	**2/2**	02.02.16	Coarse aggregate – Importance of size,	,,		
13	**3/2**	04.02.16	Coarse aggregate – Importance of shape and texture	,,		
14	**4/2**	05.02.16	Grading of aggregates - Sieve analysis.	,,		
15	**5/2**	09.02.16	Specific gravity, Flakiness and			

			elongation index.			
16	**6/2**	10.02.16	Crushing, impact and abrasion tests.	PPT and Video		
17	**7/2**	10.02.16	Fine aggregate - grading, analysis.	Board, chalk, duster		
18	**8/2**	12.02.16	Specify gravity, bulking.	,,		
19	**9/2**	13.02.16	Moisture content, deleterious materials.	,,	Assignm ent –II	
20	**10/2**	16.02.16	Class test on Unit-2	,,		
21	**1/3**	17.02.16	Introduction to Workability of Concrete, discussion on Importance of Workability.	,,		
22	**2/3**	17.02.16	Factors affecting workability.	,,		
23	**3/3**	22.02.16	Measurement of workability - slump, flow tests.	Experiments will be conducted at lab.		
24	**4/3**	22.02.16	Compaction factor and vee-bee consistometer tests	Experiments will be conducted at lab.		
25	**5/3**	25.02.16	Segregation and bleeding.	Board, chalk, duster		
26	**6/3**	26.02.16	Process of manufactures of concrete : Batching.	,,		
27	**7/3**	26.02.16	Mixing, Transporting.	,,		
28	**8/3**	01.03.16	Placing, Compaction, Curing.	,,	Assignm nt –III	
29	**9/3**	02.03.16	Class test on Unit-3	,,		
30	**1/4**	04.03.16	Introduction to Chemical admixtures and its Importance.	,,		

31	**2/4**	05.03.16	Plasticizers,	,,		
32	**3/4**	05.03.16	Accelerators,	,,		
33	**4/4**	09.03.16	Retarders and air entraining agents,	Board, chalk, duster		
34	**5/4**	10.03.16	Introduction to Mineral admixtures, Availability, Sustainability concept.	,,		
35	**6/4**	17.03.16	Fly ash.	,,		
36	**7/4**	18.03.16	Silica fumes and rice husk ash.	,,	Assignm ent -IV	
37	**8/4**	18.03.16	Class test on Unit-4	,,		
38	**1/5**	21.03.16	Factors affecting strength of Concrete.	,,		
39	**2/5**	22.03.16	Discussion on factors w/c ratio, gel/space ratio.	,,		
40	**3/5**	24.03.16	Maturity concept, Effect of aggregate properties on concrete.	,,		
41	**4/5**	28.03.16	Relation between compressive strength, and tensile strength, bond strength, modulus of rupture.	,,		
42	**5/5**	28.03.16	Accelerated curing, aggregate - cement bond strength.	,,		
43	**6/5**	30.03.16	Testing of hardened concrete - compressive strength, split tensile strength.	,,		
44	**7/5**	31.03.16	Testing of hardened concrete - Flexural strength, factors influencing strength test results.		Assignm ent -V	
45	**8/5**	02.04.16	Class test on Unit-5			
46	**1/6**	04.04.16	Introduction to the concept Elasticity.			
47	**2/6**	04.04.16	Relation between modulus of elasticity and Strength.			

48	**3/6**	06.04.16	Factors affecting modulus of elasticity.			
49	**4/6**	07.04.16	Poisson , Ratio, Shrinkage - plastic shrinkage and drying shrinkage.			
50	**5/6**	12.04.16	Factors affecting shrinkage.			
51	**6/6**	13.04.16	Creep - Measurement of creep, factors affecting creep, Effect of creep.		Assignm ent -VI	
52	**7/6**	13.04.16	Class test on Unit-6.			
53	**1/7**	16.04.16	Introduction the concept Durability, Importance.			
54	**2/7**	18.04.16	Durability - definition, significance, permeability.			
55	**3/7**	21.04.16	Sulphate attack, Chloride Attack.			
56	**4/7**	22.04.16	Carbonation, freezing and thawing.			
57	**5/7**	22.04.16	Factors contributing to cracks in concrete - plastic shrinkage, settlement cracks, construction joints.			
58	**6/7**	28.04.16	Thermal expansion, transition zone, structural design deficiencies.			
59	**6/7**	29.04.16	Class test on Unit-7		Assignm ent –VII	
60	**1/8**	02.05.16	Concept of Concrete Mix design, variables in proportioning , exposure Conditions.			
61	**2/8**	03.05.16	Procedure of mix design as per IS 10262-1982.			
62	**3/8**	03.05.16	Numerical examples of Mix Design.		Assignm ent -VIII	
63	**4/8**	05.05.16	Class test on Unit-8			
64	**5/8**	06.05.16	Revision Unit- 1 and 2			
65	**6/8**	10.05.16	Revision Unit 3 and 4			
66	**7/8**	11.05.16	Revision Unit 5 and 6			
67	**8/8**	11.05.16	Revision Unit 7 and 8.			

Session No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics cover As pe plan
1	**1/1**	18/01/2016	Introduction, sign convention, basic concepts	Board, chalk, duster		
2	**2/1**	19/01/2016	Forms of structures, Conditions of equilibrium,	,,		
3	**3/1**	20/01/2016	Linear and Non linear structures, Determinate and indeterminate structures [Static and Kinematics]. Degree of freedom	,,		
4	**4/1**	21/01/2016	Numerical examples on determining Degrees of freedom.	,,		
5	**5/1**	22/01/2016	Introduction to trusses, analysis of trusses	,,		
6	**6/1**	23/01/2016	Analysis of truss by method of joints	,,		
7	**7/1**	25/01/2016	Analysis of truss by method of joints	,,	Assignment- I	
8	**8/1**	27/01/2016	Analysis of truss by method of sections	Board, chalk, duster		
9	**1/2**	28/01/2016	Introduction to deflection of beams	,,		
10	**2/2**	29/01/2016	Explanation of theorems on moment area	,,		
11	**3/2**	30/0/2016	Numerical examples on moment area method	,,		
12	**4/2**	30/01/2016	Numerical examples on moment area method	,,		

13	**5/2**	01/02/2016	Numerical examples on moment area method	,,		
14	**6/2**	02/02/2016	Numerical examples on moment area method	,,		
15	**7/2**	03/02/2016	Numerical examples on moment area method			
16	**8/2**	04/02/2016	Numerical examples on moment area method			
17	**9/2**	05/02/2016+	Numerical examples on moment area method			
18	**10/2**	08/02/2016	Numerical examples on moment area method	,,		
19	**11/2**	09/02/2016	Numerical examples on moment area method	,,	Assignment III	
20	**12/2**	10/02/2016	**Introduction to conjugate beam method**	,,		
21	**13/2**	11/02/2016	Numerical examples on conjugate beam method	,,		
22	**14/2**	12/02/2016	Numerical examples on conjugate beam method	,,		
23	**15/2**	13/02/2016	Numerical examples on conjugate beam method			
24	**16/2**	15/02/2016	Numerical examples on conjugate beam method	Board, chalk, duster		
25	**1/3**	16/02/2016	**Introduction to strain energy method**	,,		
26	**2/3**	17/02/2016	Strain energy and complimentary strain energy	,,		
27	**3/3**	18/02/2016	Strain energy due to axial load, bending and shear	,,	Assignment –IV	
28	**4/3**	22/02/2016	Theorem of minimum potential energy, Law of conservation of energy, Principle of virtual work,	,,		
29	**5/3**	23/02/2016	The first and second theorem of Castigliano	,,		
30	**6/3**	24/02/2016	problems on beams	,,		
31	**7/3**	25/02/2016	problems on frames	,,		

32	**8/3**	26/02/2016	problems on trusses	,,		
33	**9/3**	2/02/2016	Betti's law, Clarke - Maxwell's theorem of reciprocal deflection	Board, chalk, duster	Assignm ent -V	
34	**1/4**	29/02/2016	Analysis of beams by unit load method	,,		
35	**2/4**	01/03/2016	Analysis of frames by unit load method	,,		
36	**3/4**	02/03/2016	Analysis of trusses by unit load method	,,		
37	**4/4**	03/03/2016	Analysis of beams by strain energy method	,,		
38	**5/4**	04/03/2016	Analysis of frames by strain energy method	,,		
39	**6/4**	05/03/2016	Analysis of trusses by strain energy method	,,		
40	**1/5**	8/03/2016	Introduction to Cables and Arches	,,		
41	**2/5**	9/03/2016	Analysis of three hinged circular arches with supports at same levels	,,		
42	**3/5**	10/03/2016	Analysis of parabolic arches with supports at same levels	,,		
43	**4/5**	11/03/2016	Analysis of parabolic arches with supports at same levels	,,		
44	**5/5**	17/03/2016	Analysis of parabolic arches with supports at same levels	,,		
45	**6/5**	18/03/2016	Analysis of parabolic arches with supports at same levels	,,		
46	**7/5**	19/03/2016	Analysis of parabolic arches with supports at same levels	,,		
47	**8/5**	21/03/2016	Analysis of three hinged circular arches with supports at same levels	,,		
48	**9/5**	22/03/2016	Analysis of three hinged circular arches with supports at same levels	,,		
49	**10/5**	23/03/2016	Analysis of parabolic arches with supports at different levels	Board, chalk, duster		

50	**11/5**	24/03/206	Analysis of parabolic arches with supports at different levels	,,		
51	**12/5**	28/03/2016	Analysis of three hinged circular arches with supports at different levels	,,		
52	**13/5**	29/03/2016	Analysis of three hinged circular arches with supports at different levels	,,		
53	**14/5**	30/03/2016	Analysis of three hinged circular arches with supports at different levels	,,		
54	**15/5**	31/03/2016	Analysis of cables under point loads and UDL, length of cables (Supports at same levels and at different levels)	,,		
55	**16/5**	01/04/2016	Analysis of cables under point loads and UDL, length of cables (Supports at same levels and at different levels)	,,		
56	**17/5**	02/04/2016	Analysis of cables under point loads and UDL, length of cables (Supports at same levels and at different levels)	,,		
57	**1/6**	04/04/2016	**Introduction to Analysis of two hinged parabolic Arch**	,,		
58	**2/6**	05/04/2016	Analysis of two hinged parabolic Arch	,,		
59	**3/6**	06/04/2016	Numerical examples on two hinged parabolic Arch	,,		
60	**4/6**	07/04/2016	Numerical examples on two hinged parabolic Arch	,,		
61	**5/6**	11/04/2016	Numerical examples on two hinged parabolic Arch			
62	**7/6**	12/04/2016	Analysis of two hinged circular Arch			
63	**8/6**	13/04/2016	Numerical examples on two hinged circular Arch			
64	**9/6**	15/04/2016	Numerical examples on two hinged circular Arch			
65	**1/7**	16/04/2016	Introduction to Three moment Equation			
66	**2/7**	18/04/2016	Theorem of three moment equation			
67	**3/7**	20/04/2016	Numerical examples on continuous beam			

68	**4/7**	21/04/2016	Numerical examples on continuous beam			
69	**5/7**	22/04/2016	Numerical examples on continuous beam			
70	**6/7**	23/04/2016	Numerical examples on fixed beam			
71	**7/7**	28/04/2016	Numerical examples on fixed beam			
72	**8/7**	29/04/2016	Numerical examples on fixed beam			
73	**1/8**	30/04/2016	Introduction to Consistent deformation method			
74	**2/8**	02/05/2016	Basic concepts, sign convention			
75	**3/8**	03/05/2016	Numerical examples on propped cantilever			
76	**4/8**	04/05/2016	Numerical examples on propped cantilever			
77	**5/8**	05/05/2016	Numerical examples on propped cantilever			
78	**6/8**	06/05/2016	Numerical examples on fixed beam			
79	**7/8**	07/05/2016	Numerical examples on fixed beam			
80	**8/8**	10/05/2016	Numerical examples on fixed beam			

**CMR
INSTITUTE OF
TECHNOLOGY**

DEPARTMENT OF CIVIL ENGINEERING
Lesson Plan for the even sem – 2016

Semester – 6

Subject Code: 10CV63   **Subject Name: SURVEYING II**

SEMESTER : IV A	**NAME OF THE FACULTY** : Karthik N M
BRANCH : CV	**DATE OF COMMENCEMENT** : 25-01-2016
SUBJECT : SURVEYING II	**DATE OF CLOSING** : 11-05-2016
SUBJECT CODE : 10CV44	**CLASS STRENGTH** : 41
NO OF HRS/ WK : 5	**TOTAL HRS** : 56

Sessi on No	Chapter no (No of hrs planed 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	02/02/2016	**THEODOLITE SURVEY** 1.1 Thedolite and types, 1.2 Fundamental axes and parts of a transit theodolite,	Play Role		
2	2/1	03/02/2016	1.3 Uses of theodolite,	Chalk and board		
3	3/1	05/02/2016	1.4 Temporary adjustments of a transit thedolite,	Play Role		
4	4/1	08/02/2016	1.5 Measurement of horizontal angles – Method of repetitions and reiterations,	Play Role		
5	5/1	09/02/2016	1.6 Measurements of vertical angles,	Play Role		
6	6/1	10/02/2016	1.7 Prolonging a straight line by a theodolite in adjustment and theodolite not in adjustment	Play Role		
7	1/2	11/02/2016	**PERMANENT ADJUSTMENT OF DUMPY LEVEL AND TRANSIT**	PPT		

			THEODOLITE 2.1 Interrelationship between fundamental axes for instrument to be in adjustment and step by step procedure of obtaining permanent adjustments			
8	2/2	13/02/2016	2.1 Interrelationship between fundamental axes for instrument to be in adjustment and step by step procedure of obtaining permanent adjustments	PPT		
9	3/2	15/02/2016	2.1 Interrelationship between fundamental axes for instrument to be in adjustment and step by step procedure of obtaining permanent adjustments	PPT		
10	4/2	16/02/2016	2.1 Interrelationship between fundamental axes for instrument to be in adjustment and step by step procedure of obtaining permanent adjustments	PPT		
11	5/2	17/02/2016	2.1 Interrelationship between fundamental axes for instrument to be in adjustment and step by step procedure of obtaining permanent adjustments	PPT		
12	6/2	18/02/2016	2.1 Interrelationship between fundamental axes for instrument to be in adjustment and step by step procedure of obtaining permanent adjustments	PPT		
13	7/2	23/02/2016	2.1 Interrelationship between fundamental axes for instrument to be in adjustment and step by step procedure of obtaining permanent adjustments	PPT		
14	1/3	24/02/2016	**TRIGONOMETRIC LEVELING** 3.1 Determination of elevation of objects when the base is accessible.	Play Role		
15	2/3	25/02/2016	Determination of elevation of objects when the base is inaccessible by single plane method.	Play Role/ PPT		

16	3/3	26/02/2016	Determination of elevation of objects when the base is inaccessible by double plane method.	Play Role/ PPT		
17	4/3	29/02/2016	Determination of elevation of objects when the base is inaccessible by double plane method.	Play Role/ PPT		
18	5/3	02/03/2016	3.2 Distance and difference in elevation between two inaccessible objects by double plane method.	Play Role/ PPT		
19	6/3	03/03/2016	Distance and difference in elevation between two inaccessible objects by double plane method.	Play Role/ PPT		
20	7/3	04/03/2016	Salient features of Total Station, Advantages of Total Station over conventional instruments	Play Role/ PPT		
21	8/3	05/03/2016	Advantages of Total Station over conventional instruments, Application of Total Station.	Play Role/ PPT		
22		08/03/2016	REVESION	Internal 1		
23	1/4	10/03/2016	**TACHEOMETRY** 4.1 Basic principle, 4.2 Types of tacheometric survey,	Chalk and board		
24	2/4	11/03/2016	4.3 Tachometric equation for horizontal line of sight and inclined line of sight in fixed hair method,	Chalk and board		
25	3/4	17/03/2016	4.4 Anallactic lens in external focusing telescopes,	Chalk and board		
26	4/4	18/03/2016	4.5 Reducing the constants in internal focusing telescope,	Chalk and board		
27	5/4	19/03/2016	4.6 Moving hair method and angential method,	Chalk and board		
28	6/4	22/03/2016	4.7 Substance bar,	Chalk and board		
29	7/4	23/03/2016	4.8 Beaman stadia arc.	Chalk and board		
30	1/5	24/03/2016	**CURVE SETTING (Simple curves)** 5.1 Curves – Necessity – Types,	Chalk and board		

31	2/5	28/03/2016	5.2 Simple curves, 5.3 Elements	PPT		
32	3/5	29/03/2016	5.4 Designation of curves,	Chalk and board		
33	4/5	31/03/2016	5.5 Setting out simple curves by linear methods,	Play Role/ PPT		
34	5/5	1/04/2016	5.6 Setting out curves by Rankines deflection angle method.	Chalk and board		
35	6/5	02/04/2016	5.6 Setting out curves by Rankines deflection angle method.	Play Role/ PPT		
36	1/6	04/04/2016	**CURVE SETTING (Compound and Reverse curves)** 6.1 Compound curves 6.2 Elements	Chalk and board		
37	2/6	05/04/2016	6.3 Design of compound curves	Chalk and board		
38	3/6	07/04/2016	6.4 Setting out of compound curves	Play Role/ PPT		
39	4/6	11/04/2016	6.4 Setting out of compound curves	Play Role/ PPT		
40	5/6	12/04/2016	6.5 Reverse curve between two parallel straights (Equal radius and unequal radius).	Chalk and board		
41	6/6	13/04/2016	6.5 Reverse curve between two parallel straights (Equal radius and unequal radius).	Play Role/ PPT		
42		15/04/2016	REVESION	Internal 2		
43	1/7	18/04/2016	**CURVE SETTING (Transition and Vertical curves)** 7.1 Transition curves 7.2 Characteristics	Chalk and board		
44	2/7	20/04/2016	7.3 Length of Transition curve	Chalk and board		
45	3/7	21/04/2016	7.4 Setting out cubic Parabola and Bernoulli's Lemniscates,	Chalk and board		
46	4/7	22/04/2016	7.4 Setting out cubic Parabola and Bernoulli's Lemniscates,	Play Role/ PPT		
47	5/7	23/04/2016	7.5 Vertical curves – Types	PPT		

48	6/7	29/04/2016	7.5 Vertical curves – Types – Simple numerical problems.	Chalk and board		
49	1/8	30/04/2016	**AREAS AND VOLUMES** 8.1 Calculation of area from cross staff surveying,	Chalk and board		
50	2/8	02/05/2016	8.2 Calculation of area of a closed traverse by coordinates method.	Chalk and board		
51	3/8	03/05/2016	8.3 Planimeter – principle of working and use of planimeter to measure areas, digital planimeter,	Play Role/ PPT		
52	4/8	04/05/2016	8.3 Planimeter – principle of working and use of planimeter to measure areas, digital planimeter,	Play Role/ PPT		
53	5/8	06/05/2016	8.4 Computations of volumes by trapezoidal and prismoidal rule,	Chalk and board		
54	6/8	07/05/2016	8.5 Capacity contours	Play Role/ PPT		
55		10/05/2016	REVESION	Chalk and board		
				Improvement Internal		

Literature:

Book Type	Code	Author & Title	Publication info	
			Edition & Publisher	ISBN #
TEXT BOOK		**'Surveying'** Vol 2 and Vol 3 - B. C. Punmia	Laxmi Publications	
TEXT BOOK		**'Plane Surveying'** A. M. Chandra	New age international (P) Ltd	
TEXT BOOK		**'Higher Surveying'** A.M. Chandra	New age international (P) Ltd	

REFERENCE BOOKS		**Fundamentals of Surveying** - Milton O. Schimidt – Wong,	Thomson Learning.	
REFERENCE BOOKS		**Fundamentals of Surveying** - S.K. Roy –	Prentice Hall of India	
REFERENCE BOOKS		**Surveying**, Arther Bannister et al.,	Pearson Education, India	

**CMR
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DEPARTMENT OF CIVIL ENGINEERING
Lesson Plan for the Even Sem – 2015-16

Semester – 4

Subject Code : 10CV45   Subject Name : HYDRAULICS AND

HYDRAULIC MACHINES

SEMESTER : IVA	NAME OF THE FACULTY : Dr. D P Giridhar/Ms. Preeti Jacob	
BRANCH : CIVIL	DATE OF COMMENCEMENT : 18-01-2016	
SUBJECT : HYDRAULICS AND HYDRAULIC MACHINES	DATE OF CLOSING : 20-11-2015	
SUBJECT CODE: 10CV45	CLASS STRENGTH : 41	
NO OF HRS/ WK : 5	TOTAL HRS : 60	

Session No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1	1/4	25.01.2016	Introduction. Impulse- Momentum equation. Theory and derivation	Board, chalk		
2	2/4	25.01.2016	Direct impact of a jet on a stationary flat plate	,,		
3	1/2	27.01.2016	Introduction. Discussion on Fluid Mechanics topics	,,		
4	3/4	28.01.2016	Oblique impact of a jet on a stationary flat plate,	,,		
5	2/2	30.01.2016	Open Channel Flow, Geometric properties of Rectangular	,,	Assignment -I	
6	4/4	02.02.2016	Problems on impact of jet on stationary plates	,,		

7	5/4	02.02.2016	Direct impact on a moving plate,	,,		
8	3/2	03.02.2016	Geometric properties of Trapezoidal and Circular channels(derivation)	''		
9	6/4	04.02.2016	Direct impact of a jet on a series of flat vanes on a wheel	Board, chalk		
10	4/2	08.02.2016	Derivation of Chezy's Equation, Manning's Equation	,,		
11	7/4	10.02.2016	Conditions for maximum hydraulic efficiency.	,,		
12	8/4	10.02.2016	Impact of a jet on a hinged flat plate	,,		
13	5/2	11.02.2016	Most economical open channels-Rectangular	,,		
14	9/4	12.02.2016	Problems on the above moving plates	,,		
15	6/2	15.02.2016	Most economical open channels-triangular channels	,,	Assignment –II	
16	10/4	17.02.2016	Problems on hinged plates	,,		
17	1/5	17.02.2016	Introduction, Force exerted by a jet on a fixed curved vane, moving curved vane.	Board, chalk		
18	7/2	18.02.2016	Most economical open channels-trapezoidal conduits	,,		
19	2/5	22.02.2016	Problems on Force exerted by a jet on a fixed curved vane, moving curved vane.	,,		
20	8/2	24.02.2016	Most economical open channels- Circular conduits	,,		
21	3/5	26.02.2016	Introduction to concept of velocity triangles,	,,		
22	4/5	26.02.2016	Problems on concept of velocity triangles	,,		
23	9/2	29.02.2016	Problems on most economical channels	,,		
24	5/5	01.03.2016	Impact of jet on a series of curved vanes-problems	Board, chalk		
25	10/2	03.03.2016	Problems on most economical channels	"		
26	6/5	05.03.2016	Problems on Impact of jet on a series of curved vanes-	,,		
27	1/6	05.03.2016	Introduction to Turbines, Classification of Turbines.	,,		
28	1/3	08.03.2016	Introduction, Specific energy, Specific energy diagram,	,,		

29	2/6	09.03.2016	Pelton wheel- components, working	,,		
30	2/3	11.03.2016	Critical depth, Conditions for Critical flow- Theory	,,		
31	3/6	18.03.2016	Velocity triangle of a pelton wheel	,,		
32	4/6	18.03.2016	Maximum Power, efficiency, working proportions	,,	Assignment -III	
33	3/3	19.03.2016	Problem on critical depth	,,		
34	5/6	21.03.2016	Problems on Pelton wheel	Board, chalk		
35	4/3	23.03.2016	Hydraulic jump in a Horizontal Rectangular Channel- Theory	,,		
36	1/7	28.03.2016	Introduction, Components, Working Properties of the Turbine.	,,		
37	2/7	28.03.2016	Velocity triangles for the Kaplan turbine	,,		
38	5/3	29.03.2016	Problems on hydraulic jump	,,		
39	3/7	30.03.2016	Discharge of the Turbines, Number of Blades	,,		
40	6/3	01.04.2016	Dynamic equation for Non-Uniform flow in an Open channel,	,,		
41	4/7	04.04.2016	Draft Tube: Types, efficiency of a Draft tube	,,		
42	5/7	04.04.2016	Problems on draft tube	,,		
43	7/3	05.04.2016	Classification of Surface profiles	,,		
44	6/7	06.04.2016	Introduction to Cavitation in Turbines.	,,		
45	8/3	11.04.2016	Simple problems on Surface profiles	,,		
46	7/7	13.04.2016	Problems on Kaplan turbine	Board, chalk	Assignment -IV	
47	1/8	13.04.2016	Introduction to pumps. Different types of Pumps - Classification	,,		
48	1/1	15.04.2016	Introduction, Systems of units, Dimensions of quantities	,,		
49	2/8	16.04.2016	Priming, methods of priming. Heads and Efficiencies of pumps			
50	2/1	20.04.2016	Dimensional Homogeneity of an equation. Analysis- Raleigh's method			
51	3/8	22.04.2016	Equation for work done, minimum starting speed, velocity triangles			

52	4/8	22.04.2016	Multistage Centrifugal Pumps : Pumps in Series	,,		
53	3/1	23.04.2016	Dimensional Homogeneity of an equation. Analysis- Buckingham's Π	Board, chalk, duster		
54	5/8	28.04.2016	Multistage Centrifugal Pumps and Pumps in parallel	,,		
55	4/1	30.04.2016	Problems using Raleigh's method and Buckingham's π method	,,		
56	6/8	03.05.2016	Characteristic Curves for a Single stage Centrifugal Pumps	,,		
57	7/8	03.05.2016	Problems on centrifugal pumps	,,		
58	5/1	04.05.2016	Model Studies, Similitude, Non-dimensional numbers: Froude models	,,		
59	6/1	05.05.2016	Undistorted and Distorted models. Reynolds's models	Board, chalk		
60	7/1	07.05.2016	Problems on the different models	,,		

SEMESTER   : IV B   NAME OF THE FACULTY   : Dr. D P Giridhar/Ms. Preeti Jacob

BRANCH   : CIVIL   DATE OF COMMENCEMENT : 18-01-2016

SUBJECT   : HYDRAULICS AND HYDRAULIC MACHINES   DATE OF CLOSING   : 20-11-2015

SUBJECT CODE: 10CV45   CLASS STRENGTH   :56

NO OF HRS/ WK : 5   TOTAL HRS   : 60

Session No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1	1/2	25.01.2016	Introduction. Discussion on Fluid Mechanics topics	Board, chalk		
2	2/2	27.01.2016	Open Channel Flow, Geometric properties of Rectangular			
3	1/4	30.01.2016	Introduction. Impulse- Momentum equation. Theory and derivation			
4	2/4	30.01.2016	Direct impact of a jet on a stationary flat			

			plate			
5	3/4	01.02.2016	Oblique impact of a jet on a stationary flat plate,			
6	3/2	02.02.2016	Geometric properties of Trapezoidal and Circular channels(derivation)			
7	4/2	03.02.2016	Derivation of Chezy's Equation, Manning's Equation			
8	4/4	08.02.2016	Problems on impact of jet on stationary plates			
9	5/4	08.02.2016	Direct impact on a moving plate,	,,	Assignment -I	
10	6/4	09.02.2016	Direct impact of a jet on a series of flat vanes on a wheel	,,		
11	5/2	10.02.2016	Most economical open channels-Rectangular	,,		
12	6/2	11.02.2016	Most economical open channels-triangular channels	Board, chalk		
13	7/4	15.02.2016	Conditions for maximum hydraulic efficiency.	,,		
14	8/4	15.02.2016	Impact of a jet on a hinged flat plate	,,		
15	9/4	16.02.2016	Problems on the above moving plates	,,		
16	7/2	17.02.2016	Most economical open channels-trapezoidal conduits	,,		
17	8/2	18.02.2016	Most economical open channels- Circular conduits	,,		
18	10/4	24.02.2016	Problems on hinged plates	,,	Assignment –II	
19	1/5	24.02.2016	Introduction, Force exerted by a jet on a fixed curved vane, moving curved vane.	,,		
20	2/5	25.02.2016	Problems on Force exerted by a jet on a fixed curved vane, moving curved vane.	Board, chalk		
21	9/2	26.02.2016	Problems on most economical channels	,,		
22	10/2	29.02.2016	Problems on most economical channels	,,		
23	3/5	03.03.2016	Introduction to concept of velocity triangles,	,,		
24	4/5	03.03.2016	Problems on concept of velocity triangles	,,		
25	5/5	04.03.2016	Impact of jet on a series of curved vanes-problems	,,		
26	1/3	05.03.2016	Introduction, Specific energy, Specific energy diagram,	,,		

27	2/3	08.03.2016	Critical depth, Conditions for Critical flow- Theory	Board, chalk		
28	6/5	11.03.2016	Problems on Impact of jet on a series of curved vanes-	"		
29	1/6	11.03.2016	Introduction to Turbines, Classification of Turbines.	,,		
30	2/6	17.03.2016	Pelton wheel- components, working	,,		
31	3/3	18.03.2016	Problem on critical depth	,,		
32	4/3	19.03.2016	Hydraulic jump in a Horizontal Rectangular Channel- Theory	,,		
33	3/6	23.03.2016	Velocity triangle of a pelton wheel	,,		
34	4/6	23.03.2016	Maximum Power, efficiency, working proportions	,,		
35	5/6	24.03.2016	Problems on Pelton wheel	,,	Assignment -III	
36	5/3	28.03.2016	Problems on hydraulic jump	,,		
37	6/3	29.03.2016	Dynamic equation for Non-Uniform flow in an Open channel,	Board, chalk		
38	1/7	01.04.2016	Introduction, Components, Working Properties of the Turbine.	,,		
39	2/7	01.04.2016	Velocity triangles for the Kaplan turbine	,,		
40	3/7	02.04.2016	Discharge of the Turbines, Number of Blades	,,		
41	7/3	04.04.2016	Classification of Surface profiles	,,		
42	8/3	05.04.2016	Simple problems on Surface profiles	,,		
43	4/7	11.04.2016	Draft Tube: Types, efficiency of a Draft tube	,,		
44	5/7	11.04.2016	Problems on draft tube	,,		
45	6/7	12.04.2016	Introduction to Cavitation in Turbines.	,,		
46	1/1	13.04.2016	Introduction, Systems of units, Dimensions of quantities	,,		
47	2/1	15.04.2016	Dimensional Homogeneity of an equation. Analysis- Raleigh's method	,,		
48	7/7	20.04.2016	Problems on Kaplan turbine	,,		
49	1/8	20.04.2016	Introduction to pumps. Different types of Pumps - Classification	Board, chalk	Assignment -IV	
50	2/8	21.04.2016	Priming, methods of priming. Heads and	,,		

			Efficiencies of pumps			
51	3/1	23.04.2016	Dimensional Homogeneity of an equation. Analysis- Buckingham's π	,,		
52	4/1	23.04.2016	Problems using Raleigh's method and Buckingham's π method			
53	3/8	22.04.2016	Equation for work done, minimum starting speed, velocity triangles			
54	4/8	30.04.2016	Multistage Centrifugal Pumps : Pumps in Series			
55	5/8	02.05.2016	Multistage Centrifugal Pumps and Pumps in parallel	,,		
56	5/1	03.05.2016	Model Studies, Similitude, Non-dimensional numbers: Froude models			
57	6/1	04.05.2016	Undistorted and Distorted models. Reynolds's models	,,		
58	7/1	07.05.2016	Problems on the different models	,,		
59	6/8	07.05.2016	Characteristic Curves for a Single stage Centrifugal Pumps	,,		
60	7/8	10.05.2016	Problems on centrifugal pumps	,,		

Syllabus for Sessionals:

Sessional #	Syllabus
T1	Class # 01 – 30
T2	Class # 31 – 52
T3	Class # 31-60

Literature:

Book Type	Code	Author & Title	Publication info	
			Edition & Publisher	ISBN #
Text Book	TB1	R. K. Rajput, " A Text Book of Fluid Mechanics and Hydraulic Machines"	2006 Edition, S Chand & Co	81 219 1666 6
Text Book	TB2	N. Narayana Pillai, " Principals of Fluid Mechanics & Fluid Machines"	2009 Edition, University Press	978 81 7371 675 1
Text Book	TB3	Madan Mohan Das, " Fluid Mechanics and Turbomachines"	2009 Edition, PHI	978 81 203 3523 3

References	RB1	Dr. R. K. Bansal, " A Textbook of Fluid Mechanics and Hydraulic Machines"	2008 Edition, Laxmi Publications	978 81 318 0815 3
References	RB2	Dr. P. N. Modi & Dr. S. M. Seth, " Hydraulics and Fluid Mechanics including Hydraulic machines"	18th Edition 2011, Rajsons Publications	818940126 2

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OF TECHNOLOGY

Session wise – Course Plan

Department of Civil Engineering

SEMESTER   : 4th   NAME OF THE FACULTY   : Mr. Ruchir A J

BRANCH   : Civil   DATE OF COMMENCEMENT   : 18/01/2016

 SUBJECT   : Building planning & Drawing   DATE OF CLOSING   : 21/05/2016

SUBJECT CODE   : 10CV46   CLASS STRENGTH   : 41

NO OF HRS/WK   : 6   TOTAL HRS   : 62

Sessi on No	Chapter no (No of hrs planed 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**	19/01/2016	Introduction to the subject & Scales, symbols, margins and concepts.	Board, chalk, duster		
2	**2/1**	23/01/2016	Development of plan, elevation, section and schedule of opening of a single bed room residential building(a)	,,		
3	**3/1**	23/01/2016	Functional design of building (Residential, Public and Industrial), positioning of various components of buildings.	,,		
4	**4/1**	27/01/2016	Development of plan, elevation,	,,		

			section and schedule of opening of a office building(b)			
5	**5/1**	01/02/2016	Development of plan, elevation, section and schedule of opening of a residential building(c)	,,		
6	**6/1**	01/02/2016	Geometrical drawing of stepped wall footing	,,		
7	**7/1**	03/02/2016	Development of plan, elevation, section and schedule of opening of a two bed room residential building(d)	,,		
8	**2/2**	11/02/2016	Geometrical drawing of isolated RCC footing (a)	Board, chalk, duster		
9	**2/2**	16/02/2016	Geometrical drawing of isolated RCC footing (b)	,,		
10	**3/2**	16/02/2016	Fully paneled door	,,		
11	**3/2**	18/02/2016	Flushed doors	,,		
12	**3/2**	25/02/2016	Half paneled window	,,		
13	**4/2**	29/02/2016	Half glazed window	,,		
14	**1/3**	29/02/2016	RCC Dog legged stairs	,,		
15	**2/3**	04/03/2016	RCC Dog legged stairs			
16	**3/3**	04/03/2016	Open well stairs	PPT		
17	**4/3**	08/03/2016	Steel truss	PPT		
18	**8/1**	17/03/2016	Development of plan, elevation, section and schedule of opening of a two storeyed building(e)	Board, Chalk	Assignment1	
19	**1/4**	17/03/2016	Bubble diagram of Primary health centre & developing line diagram	,,		
20	**2/4**	19/03/2016	Bubble diagram of Primary health centre & developing line diagram	,,		
21	**3/4**	24/03/2016	Bubble diagram of Primary school building & developing line diagram	,,		

22	**4/4**	24/03/2016	Bubble diagram of Primary school building & developing line diagram	,,		
23	**5/4**	29/03/2016	Bubble diagram of college canteen & developing line diagram			
24	**6/4**	02/04/2016	Bubble diagram of office building & developing line diagram	Board, chalk, duster		
25	**7/4**	02/04/2016	Bubble diagram of office building & developing line diagram			
26	**1/5**	05/04/2016	Water supply and sanitation layouts(a)	,,		
27	**2/5**	12/04/2016	Water supply and sanitation layouts(b)	,,		
28	**3/5**	15/04/2016	Electrical layout(a)	,,		
29	**4/5**	21/04/2016	Electrical layout(b)	,,		
30	**8/1**	21/04/2016	Development of plan, elevation, section and schedule of opening of a two storeyed building(e)	,,		
31	**9/1**	23/04/2016	Development of plan, elevation, section and schedule of opening of a two storeyed building(e)-continuation	,,	Assignment2	
32	**10/1**	02/05/2016	Building standards, bye laws, set back distances	PPT/Seminar		
33	**11/1**	02/05/2016	calculation of carpet area, plinth area and floor area ratio.	Board, chalk, duster		
34	**12/1**	04/05/2016	Development of plan, elevation, section and schedule of opening of a two storeyed building(f)	,,		
35		10/05/2016	Question Paper discussion	,,		
36		10/05/2016	Question Paper discussion	,,		

Sessional #	**Syllabus**

T1	Class # 01 – 34
T2	Class # 01 – 34

Book Type	Code	Author & Title	*Publication info*	
			Edition & Publisher	**ISBN #**
Text Book	TB1	Building drawing , Shah.M.H and Kale C.M	Tata Mc Graw Hill Publication Co. Ltd., New Delhi	81 -219-0003-4
Reference Book	RB1	Building Construction , Gurucharan Singh	Standard publishers and distributors, New Delhi	978-81-775-8587-2