



SRI VENKATESWARA COLLEGE OF ENGINEERING

COURSE DELIVERY PLAN - THEORY

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Department of Civil Engineering			
B.E	: Civil Engineering	Regulation: 2018	LP: CE18404
PG Specialisation	: NA		Rev. No: 00
Sub. Code / Sub. Name	: CE18404 / Construction Techniques, Equipment		Date:
and	Practice		1.03.2022
Unit	: I / Concrete Technology		

Unit Syllabus: Cements – Grade of cements - concrete chemicals and Applications – Grade of concrete - manufacturing of concrete – Batching – mixing – transporting – placing – compaction of concrete – curing and finishing - Testing of fresh and hardened concrete – quality of concrete – Extreme Weather Concreting - Ready Mix Concrete.

Objective: To make the students to understand the importance of concrete and their properties.

Session No *	Topics to be covered	Ref	Teaching Aids
1	Cements and different grade of cements	T1 - Ch2 – Pg 65-79	PPT
2	Concrete chemicals and Applications	T 1 - Ch5 – Pg 175-198	PPT
3	Grades of concrete and manufacturing of concrete	T 1 - Ch3 – Pg 102-115	PPT
4	Batching, mixing, transportation of concrete	T 1 - Ch3 – Pg 116-119	PPT
5	Placing and compaction of concrete	T 1 - Ch3 – Pg 128-145	PPT
6	Curing and finishing of concrete	T 1 - Ch4 – Pg 152-165	PPT
7	Testing of fresh and hardened concrete and quality of concrete	T 1 - Ch4 – Pg 152-170	PPT
8	Extreme weather concreting	T 1 - Ch8 – Pg 295-312	PPT
9	Ready mix concrete	T 1 - Ch10 – Pg 385-415	PPT

Content beyond syllabus covered (if any):

* Session duration: 50 minutes



Sub. Code / Sub. Name: CE18404 / Construction Techniques, Equipment and Practice

Unit : II / Construction Practices

Unit Syllabus : Specifications, details and sequence of activities and construction co-ordination – Site Clearance – Marking – Earthwork - masonry – stone masonry – Bond in masonry - concrete hollow block masonry – flooring – damp proof courses – construction joints – movement and expansion joints – pre cast pavements – Building foundations – basements – temporary shed – centering and shuttering – slip forms – scaffoldings – de-shuttering forms – Fabrication and erection of steel trusses – frames – braced domes – laying brick – weather and water proof – roof finishes – acoustic and fire protection.

Objective: To make the students to understand the different construction practices

Session No *	Topics to be covered	Ref	Teaching Aids
10	Specifications, details and sequence of activities and construction co-ordination	T3 - Ch2 – Pg 35-52	PPT
11	Site clearance, marking, earthwork masonry and stone masonry, bond in	R2 - Ch2 – Pg 35-52	PPT
12	Concrete hollow block masonry, flooring, damp proof courses	R2 - Ch4 – Pg 123-156	PPT
13	Construction joints, movement and expansion joints, pre cast pavements	R2 - Ch5 – Pg 163-175	PPT
14	Building foundations, basements, temporary shed	R2 - Ch7 – Pg 258-277	PPT
15	Centering and shuttering, slip forms, scaffoldings and de- shuttering forms	R2 - Ch4 – Pg 175-198	PPT
16	Fabrication and erection of steel trusses, frames and braced domes	R2 - Ch9 – Pg 352-390	PPT
17	Laying brick, weather and water proof	R2- Ch10 – Pg 402-476	PPT
18	Roof finishes, acoustic and fire protection.	R2 - Ch9 – Pg 305-345	PPT
Content beyond syllabus covered (if any):			

* Session duration: 50 mins



Sub Code / Sub Name: CE18404 / Construction Techniques, Equipment and Practice

Unit : III / Sub Structure Construction

Unit Syllabus: Techniques of Box jacking – Pipe Jacking -under water construction of diaphragm walls and basement- Tunneling techniques – Piling techniques - well and caisson - sinking cofferdam - cable anchoring and grouting-driving diaphragm walls, sheet piles - shoring for deep cutting - well points -Dewatering and stand by Plant equipment for underground open excavation.

Objective: To make the students able to plan the requirements for sub structure in a construction project

Session No *	Topics to be covered	Ref	Teaching Aids
19	Techniques of Box jacking	T 2 - Ch5 – Pg 221-248	PPT
20	Pipe Jacking, under water construction of diaphragm walls and basement	T 2 - Ch5 – Pg 221-248	PPT
21	Tunneling techniques	T 2 - Ch6 – Pg 252-270	PPT
22	Piling techniques, well and caisson, sinking cofferdam	T 2 - Ch6 - Pg 252-270	PPT
23	Cable anchoring and grouting, driving diaphragm walls	T 2 - Ch7 – Pg 275-289	PPT
24	Sheet piles - shoring for deep cutting	T 2 - Ch10 – Pg 361-375	PPT
25	Well points	T 2 - Ch10 – Pg 361-375	PPT
26	Dewatering and stand by Plant equipment for underground open excavation.	T 2 - Ch10 – Pg 361-375	PPT
27	Dewatering and stand by Plant equipment for underground open excavation.	T 2 - C11 – Pg 386-395	PPT

Content beyond syllabus covered (if any):

* Session duration: 50 mins



Sub Code / Sub Name: CE18404 / Construction Techniques, Equipment and Practice
Unit : IV / Super Structure Construction

Unit Syllabus: Launching girders, bridge decks, off shore platforms – special forms for shells - techniques for heavy decks – in-situ pre-stressing in high rise structures, Material handling - erecting light weight components on tall structures - Support structure for heavy Equipment and conveyors -Erection of articulated structures, braced domes and space decks.

Objective: To make the students able to plan the requirements for super structure in a construction project.

Session No *	Topics to be covered	Ref	Teaching Aids
28	Launching girders, bridge decks	T3 - Ch8 – Pg 258-278	PPT
29	Off shore platforms and special forms for shells	T3 - Ch9 - Pg 289-302	PPT
30	Techniques for heavy decks, in-situ pre-stressing in high rise structures	T3- Ch10 – Pg 306-315	PPT
31	Material handling, erecting light weight components on tall structures	T3- Ch10 - Pg 310-325	PPT
32	Support structure for heavy Equipment and conveyors	T3 - Ch11 – Pg 340-361	PPT
33	Support structure for heavy Equipment and conveyors	T3 - Ch11 – Pg 340-361	PPT
34	Erection of articulated structures	T3 - Ch12 – Pg 375-402	PPT
35	Braced domes	T3 - Ch12 - Pg 375-402	PPT
36	Space decks	T3 - Ch12 – Pg 405-415	PPT
Content beyond syllabus covered (if any):			

* Session duration: 50 mins



Sub Code / Sub Name: CE18404 / Construction Techniques, Equipment and Practice
Unit : V / Construction Equipment

Unit Syllabus: Selection of equipment for earth work - earth moving operations - types of earthwork equipment - tractors, motor graders, scrapers, front end waders, earth movers – Equipment for foundation and pile driving. Equipment for compaction, batching and mixing and concreting - Equipment for material handling and erection of structures - Equipment for dredging, trenching, tunneling.

Objective: To make the students able to understand various construction equipment and its operations.

Session No *	Topics to be covered	Ref	Teaching Aids
37	Selection of equipment for earth work	R2 - Ch2- Pg 58-79	PPT
38	Earth moving operations, types of earthwork equipment	R2 - Ch3- Pg 88-97	PPT
39	Tractors, motor graders, scrapers	R2- Ch3 – Pg 88-105	PPT
40	Front end waders, earth movers	R2- Ch3 – Pg 95-109	PPT
41	Equipment for foundation and pile driving	R2- Ch3 – Pg 95-109	PPT
42	Equipment for compaction, batching and mixing and concreting	T 1 - Ch4 – Pg 154-167	PPT
43	Equipment for material handling	T 1 - Ch8 – Pg 354-369	PPT
44	Equipment for erection of structures	T 1 - Ch8 – Pg 354-369	PPT
45	Equipment for dredging, trenching, tunneling.	T 1 - Ch10 - Pg 433-448	PPT

Content beyond syllabus covered (if any): Equipment life and replacement analysis

* Session duration: 50 mins



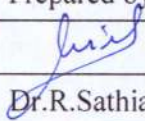
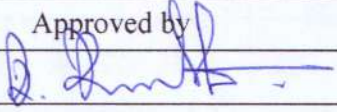
Sub. Code / Sub. Name: **CE18404 / Construction Techniques, Equipment and Practice**

Textbooks:

1. Shetty.M.S., Concrete Technology(Theory and Practice), S.Chand& Company Ltd., 2008.
2. Varghese.P.C., Building Constructions, PHI Learning Private Limited, 2007.
3. Santhakumar.A.R., Concrete Technology, Oxford University Press ,India, 2006.

References:

1. Peurifoy, R.L, Schexnayder,C.J., Shapira,A., Schmitt. R., Construction Planning, Equipment and Methods, Tata McGraw-Hill, 2010.
2. Arora, S.P. and Bindra, S.P., Building Construction, DhanpatRai and Sons, 1997
3. Punmia, B.C., Building Construction, Laxmi Publications (P) Ltd., 1993
4. Peurifoy, R.L., Form work for Concrete Structures, McGraw Hill Book Co., 1999.

	Prepared by	Approved by
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Date	01.03.2022	01/03/2022
Remarks *:		
Remarks *:		

* If the same lesson plan is followed in the subsequent semester/year it should be mentioned and signed by the Faculty and the HOD