

# LESSON PLAN OF 6<sup>TH</sup> SEMESTER CIVIL ENGINEERING

Discipline :- CIVIL	Semester:-6 <sup>TH</sup>	Name of the Teaching Faculty:-HARAPRIYA BADANAYAK
Subject:- CONCRETE TECHNOLOGY	No of Days/per Week Class Allotted :-04	Semester From:- 14/02/2023                      To:- 23/05/2023  No of Weeks:- 15
<b>Week</b>	<b>Class Day</b>	<b>Theory/ Practical Topics</b>
<b>Feb 3rd</b>	1 <sup>st</sup>	<b>1.0 Introduction</b> Concrete as a construction material: 1.1 Grades of concrete. 1.2 Advantages and disadvantages of concrete.
	2 <sup>nd</sup>	<b>2.0 Cement:</b> 2.1 Composition, hydration of cement, water cement ratio and compressive strength, fineness of cement, setting time, soundness, types of cement.
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
<b>Feb 4th</b>	1 <sup>st</sup>	<b>3.0 Aggregate, Water and Admixtures:</b> 3.1 Classification and characteristics of aggregate, fineness modulus, grading of aggregate, I.S.383 3.2 Quality of water for mixing and curing. 3.3 Important functions, classification of admixtures, IS 9103, accelerating admixtures, retarding admixtures, water reducing admixtures, air containing admixtures
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
<b>March 1st</b>	1 <sup>st</sup>	<b>4.0 Properties of fresh concrete:</b> 4.1 Concept of fresh concrete, workability, slump test, compacting factor test, V-bee consistency test and flow test, requirement of workability, I.S.1199.
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
<b>March 2nd</b>	1 <sup>st</sup>	<b>Monthly class test</b>
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
<b>March 3rd</b>	1 <sup>st</sup>	<b>5.0 Properties of hardened concrete:</b> 5.1 Cube and cylinder compressive strengths, flexural strength of concrete, stress-strain and elasticity, phenomena of creep and shrinkage, permeability, durability of concrete, sulphate, chloride and acid attack on concrete, efflorescence.
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
<b>March 4th</b>	1 <sup>st</sup>	<b>6.0 Concrete mix Design</b> 6.1 a) Introduction b) Data or input required for mix design. 6.2 Nominal mix concrete & design mix concrete. 6.3 Basic consideration for concrete mix design, Methods of proportioning concrete mix – I.S Code method of mix design (I.S.10262)
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
<b>April 1st</b>	1 <sup>st</sup>	<b>7.0 Production of concrete:</b> 7.1 Batching of materials, mixing of concrete materials, transportation, placing of concrete, compaction of concrete (vibrators), Curing of concrete, Formwork-requirements and types, stripping of forms. (Concepts only)
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
<b>April 2nd</b>	1 <sup>st</sup>	<b>8.0 Inspection and Quality Control of Concrete</b> 8.1 Quality control of Concrete as per I.S.456, Factors causing the variations in the quality of concrete
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	



	4 <sup>th</sup>	8.2 Mixing, Transporting, Placing & curing requirements of Concrete as per I.S.456.
April 3rd	1 <sup>st</sup>	<b>Monthly class test</b>
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
April 4th	1 <sup>st</sup>	9.0 Special Concrete
	2 <sup>nd</sup>	9.1 Introduction to ready mix concrete, high performance concrete, silica fume concrete, shot-crete concrete or gunniting (Concepts only).
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
1 <sup>st</sup>	10.0 Deterioration of concrete and its prevention:	
May 1st	2 <sup>nd</sup>	10.1 Types of deterioration, prevention of concrete deterioration, corrosion of reinforcement, effects and prevention
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
	1 <sup>st</sup>	
May 2nd	2 <sup>nd</sup>	11.1 Symptom, cause and prevention and remedy of defects during construction, cracking of concrete due to different reasons. Repair of cracks for different purposes, selection of techniques, polymer based repairs, common types of repairs.
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
	1 <sup>st</sup>	
2 <sup>nd</sup>		
May 3rd		<b>DOUBT CLEARING CLASS AND REVISION</b>

*Singh*  
Signature of HOD 13.02.23

*R. S.*  
Signature of 13/02/23

*Vijay*  
Signature of Principal 13/02/23

Academic coordinator

*13/02/2023*  
Concern Faculty