

# R.K INSTITUTE OF TGECHNOLOGY & ENGINEERING CUTTACK LESSON PLAN- 2025/26 (SUMMER)

<b>Discipline: CIVIL ENGG.</b>	<b>Semester:6thSem</b>		<b>Name of the Teaching Faculty: Mr. RADHESHYAM JENA</b>
<b>Subject: CT</b>	<b>No .of Days/ perweekclassallotted:04</b>	<b>SemesterFromdate:22.12.2025</b>	<b>ToDate:18.04.2026</b>
Day	Unit	Topics	
	<b>UNIT-1</b>	<b>1.Concreteasaconstructionmaterial:</b>	
1st		Grades of concrete	
2nd		Advantages and disadvantages of concrete.	
3rd	<b>UNIT-2</b>	<b>2.Cement:</b>	
		Composition,hydrationofcement,watercementratioandcompressivestrength	
5th		Fineness of cement, setting time ,soundness	
1st		Types of cement.	
2nd		Question Discussion	
3rd	<b>UNIT-3</b>	<b>3.Aggregate,WaterandAdmixtures:</b>	
		Classificationandcharacteristicsofaggregate,finenessmodulus,gradingofaggregate,I.S.383	
5th		Quality of water for mixing and Curing.	
1st		Importantfunctions,classificationofadmixtures,I.S9103,acceleratingadmixtures,retarding	
2nd		Admixtures ,water reducing admixtures ,air containing admixtures	
3rd		Question Discussion	
	<b>UNIT-4</b>	<b>CLASSTEST-1</b>	
5th		<b>4.Propertiesoffreshconcrete:</b>	
		Conceptoffreshconcrete,workability,slumptest,compactingfactortest	
1st		V-beeconsistencytestandflowtest, requirementofworkability, I.S.1199.	
2nd		Question Discussion	
3rd			
5th	<b>UNIT-5</b>	<b>5.Propertiesofhardenedconcrete:</b>	
		Cube and cylinder compressive strengths flexural strength of concrete,	
1st		Stress- strain and elasticity ,phenomena of creep and shrinkage,	
2nd		Permeability, durability of concrete	
3rd			
5th		Sulphate, chloride an dace attack on concrete, efflorescence.	
1st		Question Discussion	
2nd	<b>UNIT-6</b>	<b>6.ConcretemixDesign</b>	
		a) Introduction	
		b) Dataorinputr equired formixdesign.	
3rd		Nominal mix concrete & designmix concrete.	
5th			
1st		Basicconsiderationforconcretemixdesign,Methodsofproportioningconcretemix –I.S	
		Code method of mix design(I.S.10262)	
2nd		Question Discussion	

3rd	<b>UNIT-7</b>	<b>Internal Assessment</b>
5th		<b>7.Productionofconcrete:</b>
1st		Batching of materials ,mixing of concrete materials,
2nd		Transportation,placingofconcrete,compactionofconcrete(vibrators),
3rd		Curingofconcrete,Formwork-requirementsandtypes,strippingoffforms.(Concepts only)
5th		Question Discussion
1st		Question Discussion
2nd		
3rd	<b>UNIT-8</b>	<b>8.InspectionandQualityControlofConcrete</b>
5th		QualitycontrolofConcreteasperI.S.456,Factorscausingthevariationsinthequalityofconcrete
1st		Mixing, Transporting, Placing&curingrequirementsofConcreteasperI.S.456.
2nd		InspectionandTestingasperClause 17 of IS:456.
3rd		DurabilityrequirementsofConcreteasperI.S:456.
5th		Question Discussion
1st	<b>UNIT-9</b>	<b>9.SpecialConcrete</b>
2nd		Introduction to ready-mix concrete ,high-performance concrete,
3rd		
5th		Silicafume concrete, shot-creation creteorgunitting (Concepts only).
1st		Question Discussion
2nd		
3rd		
2nd	<b>UNIT-10</b>	<b>CLASSTEST-2</b>
3rd		<b>10.Deteriorationofconcreteanditsprevention:</b>
5th		Types of deterioration
1st		Prevention of concrete deterioration
2nd		Corrosion of reinforcement,
3rd		Question Discussion
5th		Effects and prevention
1st	<b>UNIT-11</b>	Question Discussion
2nd		<b>11.Repairtechnologyforconcretestructures:</b>
3rd		Symptom ,cause an dpreventionan remedy of defects during construction,
5th		Cracking of concrete due to differ entresols.
1st		Repair of cracks for different purposes,
2nd		Question Discussion
3rd		Selection of techniques, polymer base repairs, common types of repairs.
5th		
1st		Question Discussion
2nd		Semester Question Discussion
3rd		Semester Question Discussion
5th		

