## DEPARTMENT OF CIVIL ENGINEERING GANAPATI INSTITUTE OF ENGINEERING AND TECHNOLOGY, JAGATPUR, CUTTACK

LESSON PLAN OF 6 <sup>th</sup> SEMESTER(2023-24) CIVIL ENGINEERING  DISCIPLINE- CIVILENGG.  SEMESTER-6 <sup>th</sup> NAME OF THE TEACHING FACULTY- JAYALAXMI BEHERA  SEMESTER FROM DATE-16/01/24 TO DATE-26/04/24 NO. OF WEKS-15  WEEK  CLASS ALLOTTED- 04  SEMESTER FROM DATE-16/01/24 TO DATE-26/04/24 NO. OF WEKS-15  1th 1st 1.1 Grades of concrete.  1st 2st 2st 2st 2st 2st 2st 2st 2st 2st 2			SATPUR, CUTTACK
CIVIL ENGG.  SUBJECT- CT(TH-4)  NO. OF DAYS PER WEEK CLASS ALLOTTED- 04  WEEK  CLASS DAY  THEORY TOPICS  1.1 Grades of concrete.  2.1 Composition, hydration of cement  water cement ratio and compressive strength, fineness of cement, setting time  3.1 Classification and characteristics of aggregate  3.1 Classification and characteristics of aggregate  3.2 Grading of aggregate, I.S.333  4.1 S.2 Quality of water for mixing and curing  3.3 Important functions of admixtures.  2.2 Classification of admixtures, I.S 9103  3.3 Important functions of admixtures, water reducing admixtures, retarding admixtures, water reducing admixtures, retarding admixtures, water reducing admixtures, retarding admixtures  1.1 Properties of fresh concrete;  3.2 Vebec consistency test and flow test, requirement of workshillty, I.S.1199.  4.1 Vebec consistency test and flow test, requirement of flexural strength of concrete  2.1 Lomposition of admixtures, retarding admixtures, requirement of flexural strength of concrete  3.4 Vebec consistency test and flow test, requirement of workshillty, I.S.1199.  4.1 Flexural strength of concrete  2.2 Flexural strength of concrete  4.1 Concept of foresh concrete:  5.1 Cube and cyllinder compressive strengths		LESSON PLAN OF 6TH SE	MESTER(2023-24) CIVIL ENGINEERING
SUBJECT- CT(TH-4)  NO. OF DAYS PER WEEK CLASS ALLOTTED- 04  SEMESTER FROM DATE-16/01/24 TO DATE-26/04/24 NO. OF WEEKS-15  WEEK  CLASS DAY  THEORY TOPICS  1.0 Concrete as a construction material: 1.1 Grades of concrete.  2 <sup>nd</sup> 1.2 Advantages and disadvantages of concrete.  Cement: 2.1 Composition, hydration of cement  water cement ratio and compressive strength, fineness of cement, setting time 3 <sup>nd</sup> Soundness, types of cement  4 <sup>nd</sup> Aggregate, Water and Admixtures: 3.1 Classification and characteristics of aggregate  1 <sup>nd</sup> Discussion 2 <sup>nd</sup> fineness modulus of aggregate 3 <sup>nd</sup> grading of aggregate, I.S.383 4 <sup>nd</sup> 3.2 Quality of water for mixing and curing 1 <sup>nd</sup> 3.3 Important functions of admixture.  classification of admixtures, I.S 9103 3 <sup>nd</sup> accelerating admixtures, plantage admixtures, 4 <sup>nd</sup> water reducing admixtures, air containing admixtures 1 <sup>nd</sup> Properties of fresh concrete: 4.1 Concept of fresh concrete; 4.1 Concept of fresh concrete; 5.1 Cube and cylinder compressive strengths flexural strength of concrete 2 <sup>nd</sup> stress-strain and elasticity of concrete	DISCIPLINE-	SEMESTER_6th	NAME OF THE TEACHING FACULTY-
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		concrete
	4 <sup>th</sup>	durability of concrete, sulphate, chloride and acid attac
	4	on concrete, efflorescence
<b>7</b> <sup>TH</sup>	1 st	Concrete mix Design
		6.1 a) Introduction
	2 <sup>nd</sup>	b) Data or input required for mix design.
	3 <sup>rd</sup>	6.2 Nominal mix concrete &design mix concrete
	4 <sup>th</sup>	6.3 Basic consideration for concrete mix design
	1 st	Discussion
-	2 <sup>nd</sup>	Methods of proportioning concrete mix – I.S Code method of mix design(I.S.10262)
8тн	3 <sup>rd</sup>	Production of concrete:
		7.1 Batching of materials,
	4 <sup>th</sup>	mixing of concrete materials
	1 st	transportation, placing of concrete
	2 <sup>nd</sup>	compaction of concrete (vibrators), Curing of concrete
9тн	3 <sup>rd</sup>	Formwork-requirements and types ,stripping of forms.
J		(Concepts only)
	, 4 <sup>th</sup>	Inspection and Quality Control of Concrete
		8.1 Quality control of Concrete as per I.S.456,
	1 st	Factors causing the variations in the quality of concrete
	2 <sup>nd</sup>	8.2 Mixing, Transporting
10™	3 <sup>rd</sup>	Discussion
	4 <sup>th</sup>	Placing requirement of Concrete as per I.S.456.
	1 st	curing requirement of Concrete as per I.S.456.
11 <sup>TH</sup>	2 <sup>nd</sup>	Discussion
	3 <sup>rd</sup>	8.3 Inspection and Testing as per Clause 17 of IS:456.
	4 <sup>th</sup>	8.4 Durability requirements of Concrete as per I.S:456.
12 <sup>™</sup>	1 st	Special Concrete 9.1 Introduction to ready mix concrete
	2 <sup>nd</sup>	high performance concrete
	3 <sup>rd</sup>	silica fume concrete
	4 <sup>th</sup>	shot-crete concrete or gunitting (Concepts only).
13тн	1 st	Discussion

	2 <sup>nd</sup>	Deterioration of concrete and its prevention:
		10.1 Types of deterioration
	3 <sup>rd</sup>	prevention of concrete deterioration
	4 <sup>th</sup>	corrosion of reinforcement
	1 st	effects and prevention
<b>14</b> <sup>TH</sup>	2 <sup>nd</sup>	Repair technology for concrete structures:
		11.1 Symptom
	3 <sup>rd</sup>	cause and prevention and remedy of defects during
		construction
	4 <sup>th</sup>	cracking of concrete due to different reasons
4.500	1 <sup>st</sup>	Repair of cracks for different purposes,
15 <sup>TH</sup>	2 <sup>nd</sup>	Discussion
	3 <sup>rd</sup>	selection of techniques, polymer based repairs
	4 <sup>th</sup>	Common types of repairs.

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