

LESSON PLAN FOR SUMMER 2022

| DISCIPLINE:- CIVIL ENGG. | | SEMESTER:- 6TH SEM 2ND SHIFT | NAME OF THE TEACHING FACULTY:-DEBASHIS BEHERA |
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| SUBJECT:- CONCRETE TECHNOLOGY | DATE | NO. OF DAYS/PER WEEK CLASS ALLOTTED:- 4T | SEMESTER - 6TH SEM1ST SHIFT FROM DATE-10/03/2022 TO DATE- 10/06/2022 NO. OF WEEKS-14 WEEKS |
| WEEK | | CLASS DAY | THEORY TOPICS |
| 1ST WEEK | 1. Concrete as a construction material(2P) | | |
| | 3/12/2022 | 4TH | 1.1 Grades of concrete. |
| 2ND WEEK | 3/14/2022 | 1ST | 1.2 Advantages and disadvantages of concrete. |
| | 2. Cement(4P) | | |
| | 3/15/2022 | 2ND | 2.1 Composition, hydration of cement, water cement ratio and compressive strength, fineness of cement, setting time, soundness, types of cement. |
| | 3/16/2022 | 3RD | 2.1 Composition, hydration of cement, water cement ratio and compressive strength, fineness of cement, setting time, soundness, types of cement. |
| 3RD WEEK | 3/21/2022 | 1ST | 2.1 Composition, hydration of cement, water cement ratio and compressive strength, fineness of cement, setting time, soundness, types of cement. |
| | 3/22/2022 | 2ND | 2.1 Composition, hydration of cement, water cement ratio and compressive strength, fineness of cement, setting time, soundness, types of cement. |
| | 3.Aggregate, Water and Admixtures(6P) | | |
| | 3/23/2022 | 3RD | 3.1 Classification and characteristics of aggregate, fineness modulus, grading of aggregate,I.S.383 |
| | 3/26/2022 | 4TH | 3.1 Classification and characteristics of aggregate, fineness modulus, grading of aggregate,I.S.383 |
| 4TH WEEK | 3/28/2022 | 1ST | 3.2 Quality of water for mixing and curing. |
| | 3/29/2022 | 2ND | 3.2 Quality of water for mixing and curing. |
| | 3/30/2022 | 3RD | 3.3 Important functions, classification of admixtures, I.S 9103, accelerating admixtures, |
| | 4/2/2022 | 4TH | 3.3 Important functions, classification of admixtures, I.S 9103, accelerating admixtures, retarding admixtures, water reducing admixtures, air containing admixtures |
| 4. Properties of fresh concrete(6P) | | | |

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| 5TH WEEK | 4/4/2022 | 1ST | 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. |
| | 4/5/2022 | 2ND | 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. |
| | 4/6/2022 | 3RD | 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. |
| | 4/9/2022 | 4TH | 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. |
| 6TH WEEK | 4/11/2022 | 1ST | 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. |
| | 4/12/2022 | 2ND | 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. |
| | 5. Properties of hardened concrete (7P): | | |
| | 4/13/2022 | 3RD | 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. |
| | 4/16/2022 | 4TH | 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. |
| 7TH WEEK | 4/18/2022 | 1ST | 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. |
| | 4/19/2022 | 2ND | 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. |

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| 7TH WEEK | 4/20/2022 | 3RD | 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. |
| | 4/23/2022 | 4TH | 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. |
| 8TH WEEK | 4/25/2022 | 1ST | 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. |
| | 6. Concrete mix Design (5P) | | |
| | 4/26/2022 | 2ND | 6.1 a) Introduction b) Data or input required for mix design. |
| | 4/27/2022 | 3RD | 6.2 Nominal mix concrete & design mix concrete. |
| | 4/30/2022 | 4TH | 6.3 Basic consideration for concrete mix design, Methods of proportioning concrete mix – I.S Code method of mix design (I.S.10262) |
| 9TH WEEK | 5/2/2022 | 1ST | 6.3 Basic consideration for concrete mix design, Methods of proportioning concrete mix – I.S Code method of mix design (I.S.10262) |
| | 5/4/2022 | 3RD | 6.3 Basic consideration for concrete mix design, Methods of proportioning concrete mix – I.S Code method of mix design (I.S.10262) |
| | 7. Production of concrete (6P) | | |
| | 5/7/2022 | 4TH | 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) |
| | 5/9/2022 | 1ST | 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) |

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| 10TH WEEK | 5/10/2022 | 2ND | 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) |
| | 5/11/2022 | 3RD | 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) |
| | 5/14/2022 | 4TH | 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) |
| 11TH WEEK | 5/17/2022 | 1ST | 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) |
| | 8. Inspection and Quality Control of Concrete (6P) | | |
| | 5/18/2022 | 2ND | 8.1 Quality control of Concrete as per I.S.456, Factors causing the variations in the quality of concrete |
| | 5/21/2022 | 4TH | 8.1 Quality control of Concrete as per I.S.456, Factors causing the variations in the quality of concrete |
| 12TH WEEK | 5/23/2022 | 1ST | 8.2 Mixing, Transporting, Placing &curing requirements of Concrete as per I.S.456. |
| | 5/24/2022 | 2ND | 8.2 Mixing, Transporting, Placing &curing requirements of Concrete as per I.S.456. |
| | 5/25/2022 | 3RD | 8.3 Inspection and Testing as per Clause 17 of IS:456. |
| | 5/28/2022 | 4TH | 8.4 Durability requirements of Concrete as per I.S:456. |
| 9. Special Concrete (6P) | | | |
| 13TH WEEK | 5/31/2022 | 2ND | 9.1 Introduction to ready mix concrete, high performance concrete, silica fume concrete, shot- |
| | 6/1/2022 | 3RD | 9.1 Introduction to ready mix concrete, high performance concrete, silica fume concrete, shot-crete concrete or gunnitng (Concepts only). |
| | 6/4/2022 | 4TH | 9.1 Introduction to ready mix concrete, high performance concrete, silica fume concrete, shot-crete concrete or gunnitng (Concepts only). |
| | 6/6/2022 | 1ST | 9.1 Introduction to ready mix concrete, high performance concrete, silica fume concrete, shot-crete concrete or gunnitng (Concepts only). |

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| 14TH WEEK | 6/7/2022 | 2ND | 9.1 Introduction to ready mix concrete, high performance concrete, silica fume concrete, shotcrete concrete or gunniting (Concepts only). |
| | 6/8/2022 | 3RD | 9.1 Introduction to ready mix concrete, high performance concrete, silica fume concrete, shotcrete concrete or gunniting (Concepts only). |
| 10. Deterioration of concrete and its prevention (6P) | | | |
| EXTRA CLASSES REQUIRED | | | 10.1 Types of deterioration, prevention of concrete deterioration, corrosion of reinforcement, effects and prevention |
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| 11 Repair technology for concrete structures | | | |
| EXTRA CLASSES REQUIRED | | | 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. |