

| Discipline: <u>Civil</u> | | Semester: <u>6th</u> | Name of the Teaching Faculty <u>Mousumi Pahan.</u> | |
|-------------------------------------|-----------|--|--|-------------------------|
| Subject: <u>Concrete Technology</u> | | No of Days/Week Class Allotted: <u>04</u> | Semester From date: _____ To date _____ | No. of Weeks: <u>06</u> |
| WEEK | Class Day | Theory Topics | | |
| 1st | 1st | Introduction to Concrete Technology | | |
| | 2nd | Grades of Concrete | | |
| | 3rd | Advantages & Disadvantages of Concrete - Cement - Composition, Hydration of cement | | |
| | 4th | Water cement ratio & Compressive strength | | |
| | 5th | | | |
| 2nd | 1st | Fineness of Cement, Setting time of Cement, soundness of Cement | | |
| | 2nd | Types of Cement | | |
| | 3rd | Types of Cement | | |
| | 4th | Aggregate, water and admixtures - Classification and characteristic of aggregate | | |
| | 5th | | | |
| 3rd | 1st | Finemodulus, Grading of aggregate. | | |
| | 2nd | Quality of water mixing and curing | | |
| | 3rd | Important functions and classification of admixtures. | | |
| | 4th | Accelerating admixtures, retarding admixtures | | |
| | 5th | | | |

| WEEK | Class Day | Theory Topics |
|------|-----------|---|
| 4th | 1st | Water reducing admixtures, Air containing admixtures. |
| | 2nd | Properties of fresh concrete - Concept of fresh concrete. |
| | 3rd | Workability, Slump test. |
| | 4th | Compacting Factor test |
| | 5th | |
| 5th | 1st | Vee-Bee consistency test |
| | 2nd | Flow test. |
| | 3rd | Requirement of workability. |
| | 4th | Properties of Hardened concrete - Cube and cylinder compressive strength |
| | 5th | |
| 6th | 1st | Flexural strength of concrete, Stress-strain |
| | 2nd | Elasticity, Permeability, Efflorescence. |
| | 3rd | Phenomena of Creep, shrinkage, Causes of creep |
| | 4th | Durability of concrete, Sulphate attack on concrete. |
| | 5th | |

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| Discipline: Civil Engg | Semester: 6th | Name of the Teaching Faculty Moussumi Pohan | |
| Subject: Concrete Technology | No of Days/Week Class Allotted: 04 | Semester From date: _____ To date _____ | No. of Weeks: 06 |

| WEEK | Class Day | Theory Topics |
|------|-----------|--|
| | 1st | Chloride and Acid attack on concrete. |
| | 2nd | Class test -1 |
| | 3rd | Concrete Mix Design - Introduction |
| | 4th | Data or input required for mix Design. |
| | 5th | |
| | 1st | Nominal mix concrete & Design mix concrete. |
| | 2nd | Basic considerations for Concrete mix Design. |
| | 3rd | Methods of proportioning concrete mix |
| | 4th | Revision, Doubt clear class |
| | 5th | |
| | 1st | Production of Concrete - Introduction, Batching of materials |
| | 2nd | Mixing of concrete materials, transportation |
| | 3rd | Placing of Concrete, Compaction of concrete. |
| | 4th | Vibrators, Curing of Concrete. |
| | 5th | |

| WEEK | Class Day | Theory Topics |
|------|-----------|--|
| | 1st | Production of Concrete - Curing of Conc., Formwork requirements |
| | 2nd | Types of Formwork, Stripping of forms. |
| | 3rd | Inspection and quality control of Concrete - Quality Control of Concrete. |
| | 4th | Factors causing the variations in the Quality of concrete. |
| | 5th | |
| | 1st | Mixing, Transporting of Concrete as per IS: 456-2000 |
| | 2nd | Placing and Curing requirements of Concrete IS 456-2000 |
| | 3rd | Inspection & Testing as per IS 456 |
| | 4th | Durability Requirement as per IS 456-2000 |
| | 5th | |
| | 1st | Class Test |
| | 2nd | Special Concrete - Introduction to ready mix concrete. |
| | 3rd | High performance concrete. |
| | 4th | Silica Fume Concrete. |
| | 5th | |

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| Dicipline: Civil | Semester: 3th | Name of the Teaching Faculty Mousumi Puhon | |
| Subject: Concrete Technology | No of Days/Week Class Allotted: 04 | Semester From date: _____ To date _____ | No. of Weeks: 03 |

| WEEK | Class Day | Theory Topics |
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| | 1st | Shot-crete Concrete or Grouting |
| | 2nd | Causes of Deterioration of Concrete - Prevention of deterioration |
| | 3rd | Types of deterioration. |
| | 4th | Corrosion of reinforcement & its prevention. |
| | 5th | |
| | 1st | Remedy of defects during construction. |
| | 2nd | Revision, Doubt clear class. |
| | 3rd | Cracking of concrete due to different reasons. |
| | 4th | Repair of cracks for diff. purposes |
| | 5th | |
| | 1st | Selection of techniques, polymer based repairs |
| | 2nd | Common types of repair. |
| | 3rd | Revision |
| | 4th | Revision. |
| | 5th | |