| LESSON PLAN: (ADVANCED CONSTRUCTION TECHNIQUES AND EQUIPMENTS) | | |
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| **Discipline :** | **CIVIL ENGINEERING** | |
| **Faculty :** | **SNIGDHARANI NAIK** | |
| **Semester :** | **6TH** | |
| **Duration :** | **15 WEEKS (15th September 2022 to 22nd December 2022)** | |
| **Work Load :** | **Lecture :** | **4 Lectures per week (50 minutes per Class)** |
| Week | **Week Day** | **Theory** |
| 1st | 1st | Types of fibers- Steel, Carbon, glass fibers, Use of fibers as construction material, properties of Fibers. |
| | 2nd | Types of plastics- PVC, RPVC, HDPE, FRP, GRP etc. Colored plastic sheets. Use of plastic as construction material. |
| | 3rd | Artificial Timbers – Properties and uses of artificial timber. |
| | 4th | Types of artificial timber available in market, strength of artificial timber. |
| 2nd | 5th | Miscellaneous materials – Properties and uses of acoustics materials |
| | 6th | Properties and uses of wall claddings, plaster boards, micro-silica |
| | 7th | Properties and uses of artificial sand, bonding agents, adhesives etc. |
| | 8th | Introduction, necessity and scope of prefabrication of buildings, |
| 3rd | 9th | history of prefabrication, current uses of prefabrication |
| | 10th | types of prefabricated systems, classification of prefabrication, advantages and disadvantages of prefabrication, |
| | 11th | The theory and process of prefabrication, design principle of prefabricated systems, |
| | 12th | types of prefabricated elements, modular coordination |
| 4th | 13th | Indian standard recommendation for modular planning |
| | 14th | Building Configuration |
| | 15th | Lateral Load resisting structures |
| | 16th | Building characteristics |
| 5th | 17th | Effect of structural irregularities-vertical irregularities |
| | 18th | plan configuration problems. Safety consideration during additional construction |
| | 19th | Safety consideration and alteration of existing Buildings. |
| | 20th | Additional strengthening measures in masonry building-corner reinforcement, lintel band, sill band, plinth band, roof band, gable band etc. |
| 6th | 21st | Seismic retrofitting of reinforced concrete buildings |
| | 22nd | Sources of weakness in RC frame building |
| | 23rd | Classification of retrofitting techniques |
| | 24th | uses of retrofitting techniques |
| 7th | 25th | Cold Water Distribution in high rise building, |
| | 26th | lay out of installation |
| | 27th | Hot water supply – |
| 8th | 29th | General principles for central plants-layout |
| | 30th | Sanitation –soil and waste water installation in high rise buildings |
| | 31st | Electrical services – i) requirements in high rise buildings |
| | 32nd | Layout of wiring - types of wiring |
| 9th | 33rd | Fuses and their types,Earthing and their uses |
| | 34th | Lighting – Requirement of lighting, Measurement of light intensity |

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| | 35th | Ventilation - Methods of ventilation (Natural and artificial Systems of ventilation) |
| | 36th | problems on ventilation |
| 10th | 37th | Mechanical Services- Lifts, Escalator, Elevators – types and uses. |
| | 38th | Planning and selection of construction equipments |
| | 39th | Study on earth moving equipments like drag line, tractor |
| | 40th | Study on earth moving equipments like bulldozer, Power shovel |
| 11th | 41st | Study and uses of compacting equipments like tamping rollers, Smooth wheel rollers |
| | 42nd | Study and uses of compacting equipments like Pneumatic tired rollers and vibrating compactors |
| | 43rd | Owning and operating cost |
| | 44th | problems on Owning and operating cost |
| 12th | 45th | Necessity of soil reinforcing |
| | 46th | Use wire mesh |
| | 47th | geo-synthetics |
| | 48th | Strengthening of embankments |
| 13th | 49th | Slope stabilization in cutting by soil reinforcing techniques |
| | 50th | Slope stabilization in embankments by soil reinforcing techniques. |
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| 14th | 53rd | |
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