BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK

DEPARTMENT OF CIVIL ENGINEERING



LESSON PLAN

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| SUBJECT: ADVNCE CONSTRUCTION TECHNIQUES & EQUIPMENTS (TH 3) | ACCADEMIC SESSION: 2021-22 |
| FACULTY: Mrs ASHA MISHRA | SEMESTER: 6TH |
|  | SEC: A |

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| H O D (Civil Engg.) |

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| **Discipline:**  **Civil Engineering** | **Semester: 6th**  **Sec: A** | | **Name of Teaching Faculty:** Mrs **ASHA MISHRA** |
| **Subject:**  **Advanced Construction Techniques & Equipment** | **No. of Days / week class allotted: 04 period per week ( MON—1 Period, FRI-1 Period,SAT-2 Periods** | | **Semester From Date : 10-03-2022 To Date 10-06-2022**  **No. of Weeks: 14** |
| **Week** | **Date** | **No. of periods available** | **Topics to be covered** |
| 1st | 11/03/2022 | 1 | **1 Advanced construction Materials**  1.1 Fibers and plastic:-Types of fibers-steel,carbon, glass fibers as construction materials, properties of fibers |
| 12/03/2022 | 2 | * 1. Types of plastics-PVC,RPVC, HDPE,FRP,GRP,etc.Colored plastic sheets.Use of plastic as construction material   2. Artificial Timber-Properties and uses of artificial timber. Types of artificial timber available in market, strength of artificial timber. |
| 2nd | 14/03/2022 | 1 | 1.3 Miscellaneous materials-Properties and uses of acoustics materials, wall claddingplaster boards,micro-silica,artificial sand, bondingagents, adhesivesetc |
| 17/03/2022 | 1 | **2 Prefabrication**  2.1 Introduction,necessity and scope of prefabrication , History of prefabrication |
| 3rd | 21/03/2022 | 1 | 2.1 current uses of prefabrication,types of prefabricated systems |
| 25/03/2022 | 1 | 2.1 Classification of prefabrication, advantages and disadvantages of prefabrication |
| 26/03/2022 | 2 | 2.2 The theory and process of prefabrication, Design principle of prefabricated systems,types of prefabricated elements |
| 4th | 28/03/2022 | 1 | Monthly Class Test 1 |
| 02/04/2022 | 2 | 2.2 modular coordination  2.3 Indian standard recommendation for modular planning  **3 Earthquake Resistant Construction**  3.1 Building configuration |
| 5th | 04/04/2022 | 1 | 3.2 Lateral load resisting structures3 Building characteristics |
| 08/04/2022 | 1 | 3.3 Building characteristics |
| 09/04/2022 | 2 | 3.4 Effect of structural irregularities-vertical irregularities, plan configuration problems. |
| 6th | 11/04/2022 | 1 | 3.5 Safety consideration during additional construction and alteration of existing buildings. |
| 16/04/2022 | 2 | 3.6 Additional strengthening measures in masonry building-corner reinforcement ,lintel band, sill band etc. |
| 7TH | 18/04/2022 | 1 | **4 Retrofitting of Structure**  4.1 Seismic retrofitting of reinforced concrete buildings |
| 22/04/2022 | 1 | 4.2 Sources of weakness in RC frame building  4.3 classification of retrofitting techniques and their uses |
| 23/04/2022 | 2 | **5 Building Services**  5.1 Cold water distribution in high rise building, layout of installation |
| 8TH | 25/04/2022 | 1 | 5.2 Hot water supply -general principles for central plants- layout |
| 29/04/2022 | 1 | Monthly Class Test 2 |
| 30/04/2022 | 2 | 5.3 Sanitation-soil and waste water installation in high rise buildings |
| 9TH | 2/05/2022 | 1 | 5.4 Electrical services-i)requirements in high rise buildings ii)layout of wiring iii)fuses and their types  iv) earthing |
| 06/05/2022 | 1 | 5.5 Lighting |
| 07/05/2022 | 2 | 5.6 Ventilation  5.7 Mechanical services-lift ,escalator,elevators-types and uses |
| 10TH | 09/05/2022 | 1 | INTERNAL ASSESSMENT |
| 13/05/2022 | 1 | **6 Construction and earth moving equipments**  6.1 Planning and selection of construction equipments |
| 14/05/2022 | 2 | 6.2 Study on earth moving equipment |
| 11TH | 20/05/2022 | 1 | 6.3 Study and uses of compacting equipments like tamping rollers,smooth wheel rollers,pneumatic tired rollers and vibrating compactors |
| 21/05/2022 | 2 | 6.4 Owning and operating cost-problems |
| 12TH | 23/05/2022 | 1 | **7 Soil reinforcing techniques**  7.1 Necessity of soil reinforcing |
| 27/05/2022 | 1 | Monthly Class Test -3 |
| 28/05/2022 | 2 | 7.2 Use wire mesh and geo-synthetics  7.3 Strengthening of embankments |
| 13TH | 03/06/2022 | 1 | 7.3 Slope stabilization in cutting and embankments by soil reinforcing techniques. |
| 04/06/2022 | 2 | Revision |
| 14TH | 06/06/2022 | 1 | Previous Year Questions & Answer Discussion |
| 10/06/2022 | 1 | Previous Year Questions & Answer Discussion |