BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK

DEPARTMENT OF CIVIL ENGINEERING



LESSON PLAN

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| SUBJECT: ADVANCED CONSTRUCTION TECHNIQUES & EQUIPMENT (TH 3) | ACCADEMIC SESSION: 2021-22 |
| FACULTY: MISS JASHASWINI BEHERA | SEMESTER: 6TH  |
|  | SEC: C |

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| Sd/- |
| H O D (Civil Engg.) |

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| **Discipline:** **Civil Engineering** | **Semester: 6th****Sec:C** | **Name of Teaching Faculty: MISS JASHASWINI BEHERA** |
| **Subject:** **Advanced Construction Techniques & Equipment**  | **No. of Days / week class allotted: 04 period per week ( MON—1 Period, WED-1 Period ,FRI-1 Period & SAT-1 Period)**  | **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 | 1 | 1.1 Types of plastics-PVC,RPVC,HDPE,FRP,GRP,etc.Colored plastic sheets.Use of plastic as construction material |
| 2ND |  14/03/2022 | 1 | 1.2 Artificial Timber-Properties and uses of artificial timber.Types of artificial timber available in market, strength of artificial timber. |
| 16/03/2022 | 1 |  1.3 Miscellaneous materials-Properties and uses of acoustics materials,wall cladding |
| 3RD | 21/03/2022 | 1 | 1.3 plaster boards,micro-silica,artificialsand,bondingagents,adhesives etc.**2 Prefabrication** |
| 23/03/2022 |  1 | 2.1 Introduction,necessity and scope of prefabrication  |
| 25/03/2022 | 1 | 2.1 History of prefabrication,current uses of prefabrication,types of prefabricated systems |
| 26/03/2022 | 1 | Monthly Class Test -1 |
| 4TH | 28/03/2022 | 1 | 2.1 Classification of prefabrication,advantages and disadvantages of prefabrication |
| 30/03/2022 | 1 | 2.2 The theory and process of prefabrication |
| 01/04/2022 | 1 | 2.2 Design principle of prefabricated systems,types of prefabricated elements |
| 02/04/2022 | 1 | 2.2 modular coordination2.3 Indian standard recommendation for modular planning |
| 5TH | 04/04/2022 | 1 | **3 Earthquake Resistant Construction**3.1 Building configuration |
| 06/04/2022 | 1 | 3.2 Lateral load resisting structures3 Building characteristics |
| 08/04/2022 | 1 | 3.3 Building characteristics |
| 09/04/2022 | 1 | 3.4 Effect of srtuctural irregularities-vertical irregularities,plan configuration problems. |
| 6TH | 11/04/2022 | 1 | 3.5 Safety consideration during additional construction and alteration of existing buildings.  |
| 13/04/2022 | 1 | 3.6 Additional strengthening measures in masonry building-corner reinforcement ,lintel band,sill band etc.  |
| 16/04/2022 | 1 | **4 Retrofitting of Structure**4.1 Seismic retrofitting of reinforced concrete buildings |
| 7TH | 18/04/2022 | 1 | 4.2 Sources of weakness in RC frame building4.3 classification of retrofitting techniques and their uses |
| 20/04/2022 | 1 | **5 Building Services**.5.1 Cold water distribution in high rise building,layout of installation |
| 22/04/2022 | 1 | .5.1 Cold water distribution in high rise building,layout of installation |
| 23/04/2022 | 1 | 5.2 Hot water supply -general principles for central plants- layout |
| 8TH | 25/04/2022 | 1 | 5.3 Sanitation-soil and waste water installation in high rise buildings |
| 27/04/2022 | 1 |  5.4 Electrical services-i)requirements in high rise buidings |
| 29/04/2022 | 1 | 5.4 ii)layout of wiring |
| 30/04/2022 | 1 | Monthly Class Test-2 |
| 9TH | 02/05/2022 | 1 | iii)fuses and their types iv) earthing |
| 04/05/2022 | 1 | 5.5 Lighting  |
| 06/05/2022 | 1 | 5.6 Ventilation |
| 07/05/2022 | 1 | 5.7 Mechanical services-lift ,escalator,elevators-types and uses. |
| 10TH | 09/05/2022 | 1 | INTERNAL ASSESSMENT |
| 11/05/2022 | 1 | 5.7 Mechanical services-lift ,escalator,elevators-types and uses. |
| 13/05/2022 | 1 | **6 Construction and earth moving equipments**6.1 Planning and selection of construction equipments |
| 14/05/2022 | 1 | 6.2 Study on earth moving equipments |
| 11TH | 18/05/2022 | 1 | 6.3 Study and uses of compacting equipments like tamping rollers,smooth wheel rollers,pneumatic tired rollers and vibrating compactors |
| 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 | 1 | Monthly Class Test 3 |
| 12TH | 23/05/2022 | 1 | 6.4 Owning and operating cost-problems |
| 25/05/2022 | 1 | **7 Soil reinforcing techniques**7.1 Necessity of soil reinforcing |
| 27/05/2022 | 1 | 7.2 Use wire mesh and geo-synthetics |
| 28/05/2022 | 1 | 7.3 Strengthening of embankments |
|  13TH | 01/06/2022 | 1 | 7.3 Slope stabilization in cutting  |
| 03/06/2022 | 1 | 7.3 embankments by soil reinforcing techniques. |
| 04/06/2022 | 1 | Revision |
|  14TH | 06/06/2022 | 1 | Revision |
| 08/06/2022 | 1 | Previous Year Questions & Answer Discussion |
| 10/06/2022 | 1 | Previous Year Questions & Answer Discussion |