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|  | **National Institute of Technology Meghalaya**An Institute of National Importance | **CURRICULUM** |
| Programme | **Master of Technology (Structural Engineering)** | Year of Regulation | **2018** |
| Department | **Civil Engineering** | Semester | **II** |
| Course Code | Course Name | Pre-requisite | Credit Structure | Marks Distribution |
| L | T | P | C | INT | MID | END | Total |
| **CE 522** | **Advance Structure Design lab** | **NIL** | **0** | **0** | **2** | **1** |  | **100** | **200** |
| Course Objectives | To develop the student’s knowledge on understanding of structural analysis design | Course Outcomes | CO1 | Student will be able to have a solid foundation in the various design tools used for structural analysis.  |
| To develop understanding on the various design software like Staad Pro., Etabs and Midas. |
| CO2 | Student will be able to possess the analytical and design related to structures. |
| SYLLABUS |
| No. | Content | Hours | COs |
| I | Instruction to STAAD Pro.,Etabs and Midas programme. | 1 | CO1 |
| II | Design of structural elements in a typical building. | 1 | CO1, CO2 |
| III | Analysis and design of multi-storeyed space frame, using STAAD Pro. | 2 | CO1, CO2 |
| IV | Analysis and design of multi-storeyed space frame using Etabs. | 2 | CO1, CO2 |
| V | Analysis and design of multi-storeyed space frame using Midas. | 2 | CO1, CO2 |
| VI | Analysis and design of water tank . | 2 | CO1, CO2 |
| VII | Analysis and design of industrial shed.  | 2 | CO1, CO2 |
| Tota Hours | 12 |  |
| **Essential Readings** |
| 1. Alexander, M., Kusleika, D., “*Excel 2016 Power Programming with VBA*”, Wiley. |
| 2. Sarma, T.S., “*Design of R.C.C. Buildings Using Staad Pro V8i with Indian Examples: Static and Dynamic Methods*’’, Ebooks2go Inc. |
| **Supplementary Readings** |
| 1. Varyani, U.H., ‘’*Structural Design of Multi Storeyed Building*’’, Standard Publications.
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| 1. Shah, V. L., and Karve, S.R., ‘’Handbook of Reinforced Concrete Design (as per IS : 456 - 2000)’’, Structures Publications.
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