**Engineering Mechanics (EM) (Sem-1-FE-Comps-B)**

**(Academic year 2022 – 2023)**

**Theory Lesson plan**

| **Date** | **Lec.****No.** | **Module** | **Induced plan** | **Number of hours** |
| --- | --- | --- | --- | --- |
| **November 2022, 3th week** |
| 14/11/22 | 1 | 1.1 | Introduction to subject and general over view of modules; marks distribution; Classification of force system | 1 |
| 16/11/22 | 2 | 1.1 | Principle of transmissibility of forces, composition  | 1 |
| **November 2022, 4th week** |
| 21/11/22 | 3 | 1.1 , 1.2 | Resolution of forces , resultant with magnitude and direction | 1 |
| 22/11/22 | 4 | 1.2 | Resultant of concurrent , coplanar force system and numerical | 1 |
| 23/11/22 | 5 | 1.2 | Resultant of parallel, coplanar force system and numerical | 1 |
| 24/11/22 | 6 | 1.2 | Moment of force about point and couples, general force system | 1 |
| **November 2022, 5th week** |
| 28/11/22 | 7 | 1.2 | Varignon’s theorem and numerical on coplanar, general force system , Force couple system, distributed forces in plane | 1 |
| 29/11/22 | 8 | 1.2 | Revision on concurrent , parallel, general coplanar force system | 1 |
| **December 2022, 2nd week** |
| 05/12/22 | 9 | 1.2 | Introduction of centroid, centre of gravity, axis of symmetry | 1 |
| 06/12/22 | 10 | 2.1 | Basics formula to find centroid of basic planar lamina and one numerical; Global and local co-ordinates, centroid of composite plane lamina | 1 |
| **December 2022, 3rd week** |
| 12/12/22 | 11 | 2.1 | Numericals on centroid of composite plane lamina | 1 |
| 13/12/22 | 12 | 2.1 | Conditions of equilibrium for concurrent forces, parallel forces and general forces and couples | 1 |
| 15/12/22 | 13 | 4 | Introduction to dynamics ; kinematics of particle; motion of particle with constant velocity, constant acceleration, variable acceleration | 1 |
| 16/12/22 | 14 | 4 | Numericals on variable acceleration | 1 |
| **December 2022, 5th week** |
| 26/12/22 | 15 | 2.2 | Equilibrium of rigid bodies free body diagrams with numericals | 1 |
| 27/12/22 | 16 | 2.2 | Equilibrium in beams ; types of beams ; types of support reaction ; types of loads on beams | 1 |
| 30/12/22 | 17,18 | 2.2, 3 | Revision on equilibrium numerical ; introduction to friction ; types of friction; angle of friction ; cone of friction; angle of repose | 2 |
| **January 2023, 1st week** |
| 02/01/23 | 19,20 | 3 | Various Numericals on block and wedges | 2 |
| 06/01/23 | 21 | 3 | Numericals on ladder | 1 |
| **January 2023, 2nd week** |
| 09/01/23 | 22 | 4 | Motion curves with numericals | 1 |
| 12/01/23 | 23 | 4 | Numericals on Motion under gravity ; curvilinear motion | 1 |
| 13/01/23 | 24 | 5 | Kinematics of rigid body ; translation , rotation and general plane motion of rigid body | 1 |
| **January 2023, 3rd week** |
| 16/01/23 | 25 | 5 | Numerical on variable angular acceleration  | 1 |
| 17/01/23 | 26 | 5 | Concept of general plane motion using relative velocity method and Instantaneous Centre of Rotation method (ICR) | 1 |
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