JHARKHAND Rai University
UGC RECOGNISED UNIVERSITY
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# Lesson Plan & Tracking

**Programe : B.Tech** | **Session : 2020-2024** | **Year : 2nd** | **Sem: 3rd**

**Course: Engineering Mechanics**

**Name of the Faculty: Prof. O.P.Satyam** | **Commencement Date:06.09.2021** | **Date of Closure:31.12.2021**

| Lecture No. | Week | Unit | Topics to be Covered | Blended Mode | | | Date | Duration | Tracking of Lectures | Related Course Outcome | Signature of Faculty | Signature of HoD | Remarks (if any) |
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| | | | | ICT Tool/Platform/ LMS | Resources | Activity | | | | | | | |
| 1 | 1 | 1 | Basic concepts of forces and equilibrium | | | | | | | | | | |
| 2 | | 1 | Types of forces and types of equilibrium | | | | | | | | | | |
| 3 | | 1 | components in space,resultant forces and its applications | | | | | | | | | | |
| 4 | 2 | 1 | equilibrium of system of forces,FBD,equation of equilibrium of coplaner system | | | | | | | | | | |
| 5 | | 1 | Moments and its applications | | | | | | | | | | |
| 6 | | 1 | couple vectors and its numericals | | | | | | | | | | |
| 7 | 3 | 1 | couple vectors and rigid body equilibrium | | | | | | | | | | |
| 8 | | 1 | Rigid body equilibrium numericals | | | | | | | | | | |
| 9 | | 1 | spatial systems,static indeterminancy | | | | | | | | | | |
| 10 | 4 | 2 | Types of friction,limiting friction,laws of friction | | | | | | | | | | |
| 11 | | 2 | static and dynamic friction | | | | | | | | | | |
| 12 | | 2 | wedge friction concepts and numericals | | | | | | | | | | |
| 13 | | 2 | ladder frictions concepts and numericals | | | | | | | | | | |

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| 14 | 5 | 2 | Screw jack and differential screw jack | | | | | | | | | | |
| 15 | | 3 | Trusses (Method of joints) how to determine if a member is in tension or compression. | | | | | | | | | | |
| 16 | 6 | 3 | Simple trusses,zero force members,beams and types of beams | | | | | | | | | | |
| 17 | | 3 | Trusss (Method of joints) numercals | | | | | | | | | | |
| 18 | | 3 | Trusss (Method of section) | | | | | | | | | | |
| 19 | 7 | 4 | centroid of simple figures from frist principle,centroid of composite section | | | | | | | | | | |
| 20 | | 4 | Centre of gravity and its implications,area moment of inertia,moment of inertia of plain section. | | | | | | | | | | |
| 21 | | 4 | Theories of moments of inertia | | | | | | | | | | |
| 22 | 8 | 4 | Moments of inertia of composite sections | | | | | | | | | | |
| 23 | | 4 | Mass moment of inertia of circular plate,cylinder,cone,sphere,Hook. | | | | | | | | | | |
| 24 | | 5 | Virtual displacements,principle of virtual work for particles | | | | | | | | | | |
| 25 | 9 | 5 | Ideal system of rigid bodies | | | | | | | | | | |
| 26 | | 5 | Degrees of freedom ,active force diagram | | | | | | | | | | |
| 27 | | 6 | linear mtion | | | | | | | | | | |
| 28 | 10 | 6 | Variable acceleration | | | | | | | | | | |
| 29 | | 6 | Projectile motion | | | | | | | | | | |
| 30 | | 6 | Projectile motion numericals | | | | | | | | | | |
| 31 | 11 | 6 | projectile motion on a inclined plane | | | | | | | | | | |
| 32 | | 6 | Newtons laws of motion and its numericals | | | | | | | | | | |
| 33 | | 7 | Simple harmonic motion | | | | | | | | | | |

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| 34 | 12 | 7 | Helical spring mass concepts and numericals | | | | | | | | | |
| 35 | | 7 | simple amd compound pendulum | | | | | | | | | |
| 36 | | 8 | Rotation | | | | | | | | | |
| 37 | 13 | 8 | General motion | | | | | | | | | |
| 38 | | 8 | Work energy principle and its applications | | | | | | | | | |