Title of the	Mechanics
Course Cada	
Course Code	BSPHUIUI

<u>Part C</u>

Modules	Title	Indicative-ABCA/PBL/Experiments/Field work/Internships	Bloom's Level	Hours
1	Mathematical Physics	Case study on Application of Green's, Gauss's, and Stokes's theorems; Hands on learning through experiments: Triangle law and Parallelogram law using Gravel sand apparatus; Measure the	BL3: Apply	5
		various dimensions using Vernier Callipers; and Screw Gauge.		
2	Newton's Laws and Conservation Principle	Case studies on momentum conservation in collisions, Experiments on projectile motion and collision dynamics,	BL4: Analyze	5
		Hands on learning through experiments: To verify the forces in different members of jib crane.		
3		Project base Learning : Calculation of moment of inertia in different shapes, Fieldwork: Applying principles of rotational motion to real-world mechanical systems,		
Rigid Body Dynamics	Hands on learning through experiments: Verify parallel and perpendicular Axis theorem, determination of Moment of inertia by FLY- Wheel	BL5: Evaluate	8	
4 Central Forces an Oscillations	Central Forces and	ABCA: Analysis oscillatory motion using spring-mass system simulations, Virtual observatory for studying central force applications,	BL4: Analyze	5
		Hands on learning through experiments: To find the Young's modulus using cantilevers		
5	Relativistic Mechanics and AI in Scientific Research	Case studies on relativistic mechanics		
		Learning through Simulations,	BL5: Evaluate	6
		Al-based projects on simulating physical phenomena and data analysis in physics research		