Assignment Number	Assignment	Learning outcome	directives	Evaluation (Rubrics)							
5 Chapter -5: Work, Energy & Power & Chapter -6: Gravitation & Gravity	Title: Problems related to Work & Energy Suppose you have prepared a pile of 10 rectangular body each of height 0.4m a) If the mass of each rectangular body is 2.5 kg, then how much mechanical energy you have spent to make this pile b) Now place an inclined plane of length 5m from you to the top of the pile and raise a sphere of mass 2.5kg over the inclined plane. The coefficient of kinetic friction of the inclined plane is 0.2 and the acceleration due to gravity is 9.8m/s2. In this case how much work has to be done? c) Now first drop the sphere of mass 2.5kg vertically downward from the top of the pile and again release the same spherical body over the inclined plane from the top position. Will the work in both of the case be equal or not? Give logic in favour of your answer. d) Will the law of conservation of energy be applicable or not while the body falling over the inclined plane? Give mathematical logic in favour of your answer. e) Now remove each of the rectangular body one by one and in every case from the top of the inclined plane release the same sphere and observe the change of its speed and explain the cause of the change of that speed.	• Can explain the general idea about work and energy. • Can explain the work done by the constant force and variable force • Can compare the work done by elastic force & work done against the gravity force • Can explain the law of free-falling body • Can verify the law of free falling body by calculating distance & time of rolling marble over the inclined plane.	• Work, power & energy • Gravity & gravitation	Sl. no	indicators	Competency level				score	comments
						4	3	2	1		
				a.	Measure of mechanical energy	-	To represent the necessary info & find the appreciable answer	To represent the answer with formula only	Only giving idea or the introducing formula		
				b.	Measure of work	-	To represent the necessary info & find the appreciable answer	To represent the answer with formula only	Only giving idea or the introducing formula		
				c.	Logical Comparison of work	-	To represent the necessary info & find the appreciable answer with logical explanation	To represent the necessary info & find the appreciable answer	Finding answer by using formula		
				d.	Logical application of the law of conservation of energy	-	To represent the necessary info & find the appreciable answer with logical explanation	To represent the necessary info & find the appreciable answer	Finding answer by using formula		
				e.	Explanation of the change of the speed mathematically with observation	To explain the result of the work done on the basis of the info obtained by observation by using formula	To represent all the steps of calculation following the working procedure & explanation the cause of the obtained answer’	Finding correct answer by applying correct formula	Only giving idea or explanation		
					13-16= Excellent 11-12= Very good 8-10= good		Below 8= Needs Improvement				