	Reg. No.:	
	Name :	

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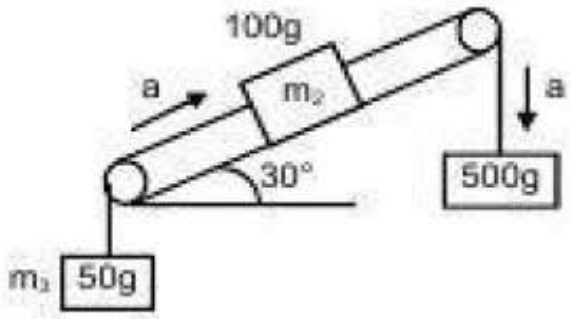
Mid-Term Examinations – October 2021

Programme	:	**B.Tech (Common Course)**	Semester	:	**Fall 2021-22**
Course	:	**Engineering Physics**	Code	:	**PHY1001**
Faculty	:	**Dr. Divya Haridas**	Slot/ Class No.	:	**C11+C12+C13/ 0019**
Time	:	**1 ½ hours**	Max. Marks	:	**50**

Answer all the Questions

Q.No.	Sub. Sec.	Question Description	Marks
1		Find the acceleration of the 500g block in figure. The surfaces are frictionless. Take g = 10m/s^2 	**10**
2		Derive Rayleigh Jeans's formula for black body radiation and discuss how it leads to the phenomena called ultraviolet catastrophe.	**10**
3		The position and momentum of a 1 Kev electron are simultaneously determined. If its position is located to within 1 A^o. What is the percentage of uncertainty in its momentum.	**10**
4		Elaborate the concepts (a) wave function (b) normalized wave function and (c) properties of wave function.	**10**
5		Elaborate on different synthesis methods for nanoparticles	**10**

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