Reg.No: | | | | | | | |

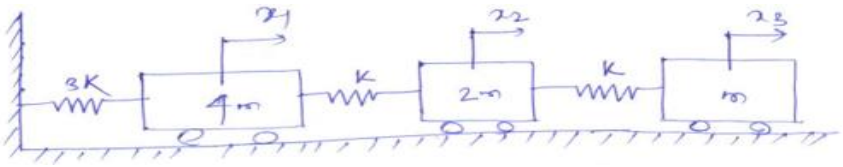
SNS College of Technology, Coimbatore-35.
(Autonomous)
B.E/B.Tech- Internal Assessment -III
Academic Year 2022-2023 (Even Semester)
Sixth Semester
Aerospace Engineering
19ASE306– Theory of Vibrations and Aero Elasticity

A

Time: 1 1/2 Hours **Maximum Marks: 50**

Answer All Questions

PART - A (5x 2 = 10 Marks)

			CO	Blooms
1.		Define Newton's law of motion?	CO4	Rem
2.		Define energy method?	CO4	Rem
3.		What is Seismic instruments.	CO4	Und
4.		Define flutter	CO5	App
5.		Define aero elasticity on stability	CO5	App
PART – B (13+13+14 =40 Marks)				
			CO	Blooms
6.	(a)	Find the fundamental natural frequency and corresponding mode shape for the system show in fig. Using matrix iteration method. 	CO4	Rem
		(or)		
	(b)	Explain in detail about single rotor torsional vibration system.	CO4	Eva
7.	(a)	Briefly discuss about collars aero elastic triangle.	CO5	Eva
		(or)		
	(b)	Explain with neat sketch about wing divergence.	CO5	Eva
8.	(a)	Find fundamental natural frequency of vibration for the system shown in figure using Rayleigh's method. $E=1.96*10^{11}$ N/m^2 and $I=4*10^{-7}$m^4	CO4	Eva
		(or)		
	(b)	Explain in detail about aileron control reversal.	CO5	Cre

Abbreviations Rem- Remembering Und-Understanding App-Applying Ana-Analyzing Eva-Evaluating Cre-Creating