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

B

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

Answer All Questions

PART - A (5x 2 = 10 Marks)

		CO	**Blooms**
1.	What do you mean by principle mode of vibration?	CO4	Rem
2.	Define vibration of the continuous media or system?	CO4	Rem
3.	Define coordinate coupling?	CO4	Und
4.	What is the effect of flutter in aircraft design?	CO5	App
5.	Differentiate the classical and Non-classical flutter?	CO5	App

PART – B (13+13+14 =40 Marks)

				CO	Blooms
6.	(a)	A shaft 50mm diameter and 3m long is simply supported at the ends and carries three loads of 1000N, 1500N and 750N at 1m, 2m and 2.5m from the left support. E=200GN/m^2. Find the frequency.	13	CO4	Rem
		(or)			
	(b)	Explain in detail about double rotor torsional vibration system.	13	CO4	Eva
7.	(a)	Briefly explain about fluttering concept of aero vibration.	13	CO5	Eva
		(or)			
	(b)	Explain in detail about Buffeting vibration system.	13	CO5	Eva
8.	(a)	A shaft 60mm diameter and 5m long is simply supported at the ends and carries three loads of 1750N, 1400N and 950N at 2m, 3m and 4m from the left support. E=200GN/m^2. Find the frequency by Dunkerley's Mehod.	14	CO4	Eva
		(or)			
	(b)	Explain in detail about elements of aero elasticity	14	CO5	Cre

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