

22242

M.Tech. 3rd Semester (ME)

Examination, December-2018

MACHINE DESIGN

Paper- M-823-A

Mechanical Vibrations

Time allowed : 3 hours] [Maximum marks : 100

*Note: Attempt any five questions in total.*

1. Explain Langrange's equation in vibration. 20
2. Explain Holzer method by taking suitable value as assumption. 20
3. Derive an expression for forced vibrations due to excitation of the support. 20
4. Discuss the effect of rotary inertia and shear deformation in vibration of continuous system. 20
5. Discuss vibration monitoring and diagois in experimental method of vibration system. 20
6. A Body of mass 5 kg is supported on a spring of stiffness 1960 N/M and has dashpot connected to it which produce a resistance of 1.96 N at a velocity of 1 m / sec. In what ratio will the amplitude of vibration be reduced after 5 cycle. 20
7. Explain Bifilar suspension with neat sketch. 20
8. Discuss vibrations of string. 20

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