M.Tech 3rd Semester Mechanical Engg.

(Machine Design) Examination,

December–2017

MECHANICAL VIBRATIONS

Paper-M-823-A

Time allowed : 3 hours] *[Maximum marks : 100*

Note : *All questions carry equal marks. Attempt any* ***five*** *questions.*

1. Explain single degree freedom forced vibration with elastically coupled viscous dampers with neat sketch. 20

2. Discuss the Duhamel's integral impulse responses function with suitable example. 20

3. Explain Un damped Dynamic Vibration Absorber with both cases. 20

4. What is modal damping in forced vibration discuss this with the help of suitable example. 20

5. Discuss the effect of rotary inertia and shear deformation in the continuous system. 20

6. Explain the various vibration exciters and measuring devices. 20

7. Split the harmonic motion $x = 10 \sin (\omega t + \pi/6)$, into two Harmonic motions one having a phase angle of zero and other of 45°. 20

8. Write short notes on : 20

(a) Forced Vibration

(b) Over damping

(c) Vibrating String