



c) A mass is suspended from a spring as shown in Fig.Q8(c). Determine the natural frequency of the system.

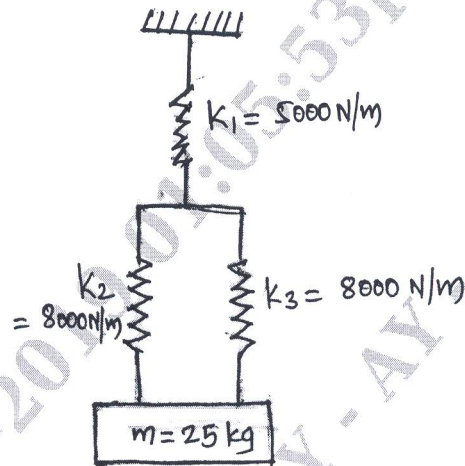


Fig.Q8(c)

(05 Marks)

Module-5

- 9 a. List different type of damping. Explain any two type of damping. (06 Marks)
- b. Determine:
- The critical damping coefficient
 - The damping factor
 - The natural frequency of damping vibrations
 - The logarithmic decrement
 - The ratio of two consecutive amplitudes of a vibrating system which consists of a mass of 25 kg, a spring stiffness 15 kN/m and a damper. The damping provided is 15% of the critical value. (10 Marks)

OR

- 10 a. What is magnification factor? Explain. (05 Marks)
- b. Explain the terms vibration isolation and transmissibility ratio. (04 Marks)
- c. The support of a spring-mass system is vibrating with an amplitude of 5 mm and a frequency of 1150 cycle/min. If the mass is 0.9 kg and the spring has a stiffness of 1960 N/m, determine the amplitude of vibration of the mass. What amplitude will result if a damping factor of 0.2 is included in the system? (07 Marks)
