Q.1. Discuss the main causes of vibrations.

Q.2. Distinguish between longitudinal, transverse and torsional vibration.

Q.3. What is the difference b\w determine & random vibration?give two practical example.

Q.4 Define and explain following tearms related to vibration

1 Natural frequency of vibrations

2 Foundamental mode of vibrations

3 Degree of freedom of vibrations system

Q.5 What are beats ?

OR

What is beat phenomenon ?

Q.6 The motion of a particular is represented by the equations x= 10 sin Ѡt

Show the relative positions and magnitudes of displacements velocity and accelartions vectors at

time t=O for the following two cases

1. Ѡ=2.0 rads/s 2. Ѡ=0.5 rad/s

Q.7 A harmonic force F0sin Ѡt acts an a displacement x sin (Ѡt-π/3 ) .if F0 =100 N,X0=0.02 M and Ѡ=2π rad/s, find the works done during

1. The first cycle 2. The first second

3. The first quarter second

Q .8 Determine the Fourier series expansion in exponential form the sawtooth curve shown fig .