

- (c) Explain the production of ultrasonic waves by piezoelectric and inverse piezoelectric effect. (07)
- Q-5 Attempt all questions (14)**
- (a) State Newton's laws of motion. (03)
- (b) State and derive the work-energy theorem. (04)
- (c) What is collision? What are elastic and inelastic collision? Obtain expression for the final velocity of bodies undergoing elastic collision. (07)
- Q-6 Attempt all questions (14)**
- (a) Explain bulk modulus. (03)
- (b) Derive the relation between angular momentum and torque. (04)
- (c) Name and define the three types of modulus of rigidity. (07)
Derive the formula connecting Y , K , η and σ .
- Q-7 Attempt all questions (14)**
- (a) Explain the principle construction and working of a compound pendulum. (07)
How can it be used in the determination of acceleration due to gravity?
- (b) Explain the growth and decay of current in a L-R circuit using proper diagram. (07)
- Q-8 Attempt all questions (14)**
- (a) State and explain Thevenin's theorem with necessary circuit diagram. (07)
- (b) Explain the detection of ultrasonic waves. (07)

