

	c)	Write the applications of the ultrasonic waves.	4
Q-5		Attempt all questions	(14)
	a)	Explain in details maximum power transfer theorem.	5
	b)	Discuss the condition for resonance in a series L-C-R circuit. What is quality factor?	5
	c)	Explain about the Bulk modulus.	4
Q-6		Attempt all questions	(14)
	a)	What is a linear restoring force? Derive an expression for the potential energy of a spring.	7
	b)	What is Pyrometer? Give their types. Explain Fery's total radiation pyrometer.	7
Q-7		Attempt all questions	(14)
	a)	What is Escape velocity? Derive its formula.	5
	b)	The resistance of a platinum wire of a PRT at the ice point is 4Ω and at the boiling point 4.4Ω . When this thermometer is inserted in a hot bath, the resistance of the platinum wire is found 4.75Ω . Calculate the temperature of the bath.	5
	c)	Prove the relations $K=Y/3(1-2\sigma)$ and $Y=9\eta k/3k+\eta$.	4
Q-8		Attempt all questions	(14)
	a)	Explain Compound pendulum with neat and clean diagram. Also derive formula for the same.	7
	b)	Write a short note on Disappearing filament optical pyrometer.	7

