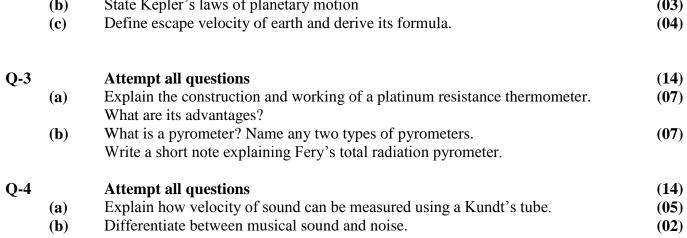
	Enrollm	ent No:	Exam Seat No:				
	12111 ()11111		H UNIVERSITY	_			
	Summer Examination-2018						
	-	Name: Physics-I Code: 4SC01PHC1 r:1 Date: 27/03/20	Branch: B.Sc. (All) 18 Time: 02:30 To 05:30 Marks: 70				
	(2) I (3) I	Use of Programmable calculator	r & any other electronic instrument is prohibited. swer book are strictly to be obeyed. (if necessary) at right places.				
Q-1		Attempt the following quest	ions:	(14)			
	a)	State the Universal Gravitatio	nal I aw				
	b)	Define the state of 'weightless					
	c)	Give the value and unit of acc					
	d)	Give the statement of Newton	- · · · ·				
	e)	What is Piezoelectric effect?	<u> </u>				
	f)	State some applications of ult	rasonic waves.				
	g)	Define work.					
	h)	What do you understand by 'c	conservation of energy'?				
	i)	Define stress.					
	j)	Give the statement of Hooke's					
	k)	Give the difference between l	•				
	1)	What are the applications of a					
	m)	State maximum power transfers Give the formula for the rms v					
Atten	n) npt any f	four questions from Q-2 to Q-					
Q-2		Attempt all questions		(14)			
	(a)		ational potential and field due to a solid sphere.	(07)			
	(b)	State Kepler's laws of planeta	•	(03)			
	(c)	Define escape velocity of eart	h and derive its formula.	(04)			
Q-3		Attempt all questions		(14)			
	(a)	Explain the construction and what are its adventages?	working of a platinum resistance thermometer.	(07)			
		What are its advantages?					





	(c)	Explain the production of ultrasonic waves by piezoelectric and inverse	(07)
		piezoelectric effect.	
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)

