	Enrollmo	ent No:	Exa	nm Seat No:			
		C.U.SF	IAH UNI	<b>VERSIT</b>	$\mathbf{Y}$		
	<b>Summer Examination-2017</b>						
	Subject Name: Physics - II						
	Subject (	Code: 4SC02PHY1	Branch	: B.Sc. (All)			
	Semester	r: 2 Date: 06/05	//2017 Time: 0	2:00 To 05:00	Marks: 70		
	(2) I (3) I	ons: Use of Programmable calculustructions written on mai Draw neat diagrams and fig Assume suitable data if nea	n answer book are s gures (if necessary)	trictly to be obeye			
Q-1		Attempt the following of	uestions:			(14)	
Atte Q-2	a) Distinguish between Longitudinal Waves and Transverse Waves						
	<b>b</b> )	stretched string.  Discuss Melde's experim	•	•	J	(05)	
	c)	Discuss Meine & exhellil	ent for longitudillar	and transverse file	acs of violation.	(05)	
Q-3	<b>a</b> )	<b>Attempt all questions</b> Distinguish between Cry	stalline solids and	l Amorphous sol	ids.	(14) (04)	



**b)** Explain "The 7 Crystal Systems & 14 Bravais Lattices" with diagrams.

Discuss: Properties and characteristics of X-rays.

**Attempt all questions** 

**Q-4** 

a)

c) Distinguish between Streamline fluid-flow and Turbulent fluid-flow

(06)

(04)

**(14)** 

(05)

	b)	With a neat diagram, explain the production of X-rays using a Coolidge Tube.	(05)			
	<b>c</b> )	For X-ray production, a Coolidge tube is operated on 50 kV, find the following				
		(i) Maximum velocity for emitted electrons striking the target.				
		(ii) Minimum wavelength of X-rays produced.				
Q-5		Attempt all questions	<b>(14)</b>			
	a)	What is a P-N junction diode? Discuss the Forward and Reverse biasing of a	(07)			
		diode with circuit diagrams and explain its characteristics.				
	<b>b</b> )	What is a rectifier? Explain a full wave rectifier in detail with the help of a circuit	(07)			
		diagram giving its construction, working and mathematical analysis.				
<b>Q-6</b>		Attempt all questions				
	a)	Explain the working of a NPN or a PNP transistor with the help of a proper	(04)			
		diagram.				
	<b>b</b> )	Name the different types of transistor configurations. Discuss in detail any one of	(06)			
		them.				
	<b>c</b> )	In a Common Base connection, the current amplification factor is 0.9. If the	(04)			
		emitter current is 1 mA, determine the Collector current and Base current.				
<b>Q-7</b>		Attempt all questions				
	<b>a</b> )	Discuss in detail the Principle-Construction-Circuit Diagram-Working-	(07)			
		Characteristic Graph-Voltage & Current formula, Advantages and Disadvant				
		of Light Emitting Diodes.				
	<b>b</b> )	Discuss in detail the Principle-Construction-Circuit Diagram- Working and	(05)			
		Characteristic graphs of Photo –Diodes.				
	c)	What value of series resistance is required to limit the current through a LED to	(02)			
		20 mA with a forward voltage drop of 1.5 V when connected to a 10 V supply.				
<b>Q-8</b>		Attempt all questions	<b>(14)</b>			
	a)	Discuss: Newton's law of cooling.	(04)			
	<b>b</b> )	Discuss Stoke's law and derive its formula.	(06)			
		Discuss the measurement of viscosity by Stoke's method.				
	<b>c</b> )	Write a short note on Reynold's number.	(04)			

