	Enrollmo	ent No:		Exam Seat No:			
		C.U.S	HAH !	UNIVERSIT	\mathbf{Y}		
	Summer Examination-2017						
	Subject Name: Physics - II						
	Subject	Code: 4SC02PHY1		Branch: B.Sc. (All)			
	Semester	r: 2 Date: 06	/05//2017	Time: 02:00 To 05:00	Marks: 70		
	(2) I (3) I	Use of Programmable ca	main answer be I figures (if ne	y other electronic instrume ook are strictly to be obey cessary) at right places.			
Q-1		Attempt the following	g questions:			(14)	
Atte Q-2	a) Distinguish between Longitudinal Waves and Transverse Waves						
	b) c)	stretched string.	•	gitudinal and transverse m	<u> </u>	(05)	
	C)	Discuss Meide s expe		Situatiai aia tansveise ii	oues of violation.	(03)	
Q-3	a)	Attempt all question Distinguish between (ids and Amorphous so	olids.	(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)			
	c)	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	(14)			
	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)	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.				
Q-6		Attempt all questions				
	a)	Explain the working of a NPN or a PNP transistor with the help of a proper	(04)			
		diagram.				
	b)	Name the different types of transistor configurations. Discuss in detail any one of	(06)			
		them.				
	c)	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.				
Q-7		Attempt all questions				
	a)	Discuss in detail the Principle-Construction-Circuit Diagram-Working-	(07)			
		Characteristic Graph-Voltage & Current formula, Advantages and Disadvanta				
		of Light Emitting Diodes.				
	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.				
Q-8		Attempt all questions	(14)			
	a)	Discuss: Newton's law of cooling.	(04)			
	b)	Discuss Stoke's law and derive its formula.	(06)			
		Discuss the measurement of viscosity by Stoke's method.				
	c)	Write a short note on Reynold's number.	(04)			

