	Enrollmo	ent No:					
		C.U.SF.	HAH UNIVERSITY				
	Summer Examination-2018						
	Subject Name : Physics - II						
	Subject (Code: 4SC02PHY1	Branch: B.Sc. (All)				
	Semester	r: 2 Date:27/04/	/2018 Time: 10:30 To 01:30 Marks: 70				
	Instructio		culator & any other electronic instrument is prohibited.				
		•	in answer book are strictly to be obeyed.				
		· ·	igures (if necessary) at right places.				
	(4) A	Assume suitable data if nee	eded.				
Q-1		Attempt the following q	questions:	(14)			
	a) Differentiate between scalars and vectors.						
	b) Name any two vector quantities.						
	c)	What do you mean by vo	olume integration?				
	d) Define unit cell.e) Define crystals.						
f) How many types of solids exist?							
	 g) State the divergence theorem. h) Define Viscosity. i) What are Adhesive forces? 						
	j) Define surface tension.						
	k) Define specific heat.						
	l) What are N type semiconductors?						
	m) Define a diode.						
	n) What is a transistor?						
Atte	mpt any f	four questions from Q-2 t	to Q-8				
Q-2		Attempt all questions		(14)			
	(a)		tes theorem considering the example of a vector field	(07)			
		given by $\vec{A} = \hat{K} \cdot \frac{1}{\pi} \cos \theta$.					
	(b)	Differentiate Crystalline		(07)			
	(~)		gures what primitive cells are?	(01)			
Q-3		Attempt all questions		(14)			
-	(a)	Explain the procedure to		(05)			
	(b)	Write a note on NaCl cry		(05)			
	(c)	Explain Body centered B	Bravais lattice with proper diagram.	(04)			



Q-4		Attempt all questions		
	(a)	Explain the principle, construction and working of the apparatus used for the production of X-Rays.	(09)	
	(b)	State and derive the Bragg's law of Diffraction	(05)	
Q-5		Attempt all questions	(14)	
	(a)	Write a note on PN junction diodes.	(07)	
	(b)	Define the following	(03)	
		i) Lattice, ii) Basis and iii) coordination number		
	(c)	Give the difference between continuous and line spectra.	(04)	
Q-6		Attempt all questions		
	(a)	What are synclastic and anticlastic surfaces?	(07)	
	(b)	Explain how viscosities of fluids vary with temperature?	(07)	
Q-7		Attempt all questions	(14)	
	(a)	Explain the construction and working of light emitting diode.	(07)	
	(b)	Explain the working of a photodiode and also describe the characteristics of a photodiode.	(07)	
Q-8		Attempt all questions	(14)	
	(a)	Explain the working principle of NPN transistor.	(04)	
	(b)	What is Common emitter configuration? Establish the relation between α and β .	(10)	

