

“Equipped with his five senses, man explores the universe around him and calls the adventure: Science.”

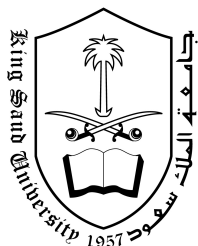
- Edwin Powell Hubble

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# 395 VIBRATIONS AND WAVE PHENOMENA LAB FINAL EXAM

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KING SAUD UNIVERSITY  
COLLEGE OF SCIENCE  
DEPARTMENT OF PHYSICS AND  
ASTRONOMY  
FIRST SEMESTER  
2014 – 2015

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

## STUDENT INFORMATION

Name: .....

ID: .....

Date: .....

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395 VIBRATIONS AND WAVE PHENOMENA LAB FINAL EXAM

NEWTON’S RINGS

PART 1: MEASURE THE DIAMETER OF THE RINGS.

n	d right ( )	d left ( )	diameter of the ring ( )	diameter squared ( )
1				
2				
4				
5				
7				
8				
10				
11				
13				
14				

PART 2: PLOT A GRAPH BETWEEN THE FRINGE NUMBER AND THE SQUARE OF THE DIAMETER AND FIND THE DIAMETER CORRESPONDING TO THE FOLLOWING FRINGE NUMBERS:

n	diameter squared ( )	diameter of the ring ( )
3		
6		
9		
12		

PART 3: GIVEN THAT THE REAL WAVELENGTH OF THE LIGHT USED IN THIS EXPERIMENT IS (5893 Å), CALCULATE THE FOLLOWING: (SHOW YOUR CALCULATIONS)

R (experimentally)	
R (theoretically)	50 cm
Error %	

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EXTRAS

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