

Enrollment No: \_\_\_\_\_

Exam Seat No: \_\_\_\_\_

# C.U.SHAH UNIVERSITY

## Summer Examination-2016

**Subject Name: Physics - II**

**Subject Code: 4SC02PHC1**

**Branch: B.Sc(All)**

**Semester: 2**

**Date: 09/05/2016**

**Time: 10:30 To 1:30**

**Marks:70**

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

**Q-1**

**Attempt the following questions:**

**(14)**

- a) Enlist the names of interference devices formed by wave-front.
- b) Which material is used as target material in collidge tube?
- c) What is the use of electrometer in Bragg's X-ray spectrometer?
- d) Write down the range of atomic number of radio-active elements occurring naturally.
- e) What is the effect of electric and magnetic field on alpha particle?
- f) What is the mass of beta particles?
- g) Define: Doppler effect in light.
- h) Define: Basis.
- i) Give the full form of LED and draw its symbol.
- j) Define: Voltage Regulation.
- k) What is unit cell?
- l) Draw the symbol of PNP transistor.
- m) What is rectifier?
- n) Give the demerits of half wave rectifier.

**Attempt any four questions from Q-2 to Q-8**

**Q-2**

**Attempt all questions**

**(14)**

- 1 Explain about the low of refraction form Fermat's principle. (7)
- 2 Give the statement and proof of Bragg's law with diagram needed. (7)

**Q-3**

**Attempt all questions**

**(14)**

- 1 What is constructive and destructive interference? Explain with figure. (5)
- 2 Determine the construction and working of Liyod's single mirror. (5)
- 3 State the applications of X-rays. (4)



<b>Q-4</b>	<b>Attempt all questions</b>	<b>(14)</b>
1	Write a note on: Doppler effect in light.	<b>(10)</b>
2	Give the formula of radioactive decay constant and explain.	<b>(4)</b>
<b>Q-5</b>	<b>Attempt all questions</b>	<b>(14)</b>
1	Explain Melde's experiment with figure. State its special cases too.	<b>(7)</b>
2	What is Bravais lattice? Describe in detail the fourteen bravais lattices and seven crystal systems for space lattices.	<b>(7)</b>
<b>Q-6</b>	<b>Attempt all questions</b>	<b>(14)</b>
1	Explain the construction and working of half wave rectifier in detail.	<b>(5)</b>
2	Write a short note on: Capacitor filter	<b>(5)</b>
3	Write a short note on: Unit cell.	<b>(4)</b>
<b>Q-7</b>	<b>Attempt all questions</b>	<b>(14)</b>
1	What is LED? Explain its construction and working. Also state its advantages.	<b>(7)</b>
2	Explain the principle, construction and working of a photodiode.	<b>(7)</b>
<b>Q-8</b>	<b>Attempt all questions</b>	<b>(14)</b>
1	Give the names of transistor connections and explain the common base connection in detail.	<b>(7)</b>
2	Explain in detail the CE connection.	<b>(7)</b>

