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)**

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