

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)

