

Department of Physics
Government Degree College Kishtwar

Question paper for B.Sc. Sem 6th CBCS private 2021

Subject: PHYSICS

Course Code: UPYTC-601

Note: Attempt any three questions from section-1, three questions from section-2 and one question from section-3.

The soft copy of answer book is to be sent to ajay595shan@gmail.com within 3 hours after the commencement of exam.

Section-1

(6x3=18)

1. Why X-rays are used for analysis of crystals?
2. What is meant by Miller indices? Explain with examples.
3. Explain Meissner Effect.
4. Give the general principle of operation of small signal amplifiers.
5. Write a note on application of optical fibres.
6. Explain i) Light Amplification ii) Population Inversion.

Section-2

(6x7=42)

1. Show that reciprocal lattice for a simple cubic structure is also simple cubic.
2. Show that the five fold rotational axis is not permissible in lattices.
3. Define the following terms: i) Magnetic susceptibility ii) permeability iii) magnetic flux density.
4. Explain distortions in amplifiers.
5. What is feedback? Define positive and negative feedback with the help of neat and clean diagram.
6. What is the basic principle of LASER? Explain with the help of diagram

Section-3

(2x10=20)

1. Discuss Einstein's model of specific heat of solids. What are its drawbacks?
 2. Discuss the principle, construction and working of a He-Ne laser.
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