

UG 4TH SEMESTER EXAMINATION 2022

**INTERNAL ASSESMENT
KANDI RAJ COLLEGE
DEPARTMENT OF PHYSICS**

SEMESTER: 4TH

STREAM: Programme

PAPER CODE: PHY-G-CC-T-04

Paper: Solid State Physics

Full marks: 10

Answer any five questions:

5X2=10

1. What do you mean by Bravais lattice and Non-bravais lattice?
2. What are Miller indices?
3. What is packing factor? Determine the Atomic Packing factor of FCC lattice.
4. State Bragg's Law.
5. What is a phonon?
6. Show the direction of crystal along (0, $\frac{1}{2}$, 1) on a simple cubic lattice.
7. Determine the side of the body centered unit cell if the radius of atom is R.
8. What are lattice parameters?

PAPER CODE: PHY-G-SEC-T-02

Paper: APPLIED OPTICS

Full marks: 5

Answer Any Five questions of the following:

1×5=5

1. Distinguish between Spontaneous and Stimulated Emission?
2. What do you understand by population inversion? explain.
3. What are the differences between conventional light and laser?
4. What are the different types of Optical Fiber?
5. What are the difference between ordinary photography and Holography?
6. What are the steps to produce a 3D image by holography?