COURSE CODE (CREDITS): 18B11PH211 (4)　　　　　MAX. MARKS: 35

COURSE NAME: ENGINEERING PHYSICS-II

COURSE INSTRUCTORS: Prof. S.K. Khah　　　　　MAX.TIME: 2 Hours

Note: All questions are compulsory. Each question carry equal marks.

1. With the help of Graph, Explain the energies of interaction between atoms.

2. How does physical properties change in ionic, metallic, covalent and hydrogen bonding

3. Discuss the mechanism of X-ray diffraction and briefly give introduction to any of the methods for X-ray diffraction.

4. Define reciprocal lattice and find the same for simple cubic bravais lattice.

5. What is a fiber loss, how can these losses be minimized.

6. A single mode step index fibre is made with a core diameter 10 μm and is coupled to a laser that produces 1.8 μm light. Its glass core has a refractive index 1.55 and maximum cutoff number for the given fibre is 2.405. (a) Find the maximum value required for the normalized index difference. (b) Find the refractive index required for the cladding glass. (c) Find the fibre acceptance angle.

7. Write Maxell equations and explain how they can be used for deriving Poynting Theorm.