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B.E. (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2011

MECHANICAL ENGINEERING BRANCH

FOURTH SEMESTER

ML 285 – SOLID STATE PHYSICS

(REGULATIONS 2008)

Time : 3 hr

Max Mark : 100

Answer ALL Questions

Part – A (10 × 2 = 20 Mark)

1. What are the characteristics of the wave function Ψ .
2. What is Heisenberg's uncertainty principle?. Write the equations relating uncertainty in Position - Momentum and Energy – Time.
3. What is Weidmann – Franz ratio?.
4. Write the expression for effective mass of an electron.
5. What is Claussius – Mosotti relation?.
6. What is Curie- Weiss law? .
7. What is the reason for magnetism?
8. Write the Bloch equations?
9. What are Cooper pairs in superconductivity?
10. What is Coherence length?

(P.T.O)