KERALA AGRICULTURAL UNIVERSITY

B.Tech (Agrl. Engg) 2015 Admission
Ist Semester Final Examination-February -2016

Cat. No: Phys .1101

Title: Engineering Physics (2+1)

Marks: 50.00

Time: 2 hours

I Fill up the blanks

(10 x 1=10)

1. Surface Tension _____ with rise of temperature (Increase/Decreases)

2. When a large drop is split to form few smaller drops ,then energy is _____ (absorbed/librated)

3. When a body moves through a liquid with terminal velocity ,, _____ acts on the moving body (no net force/gravitational force alone)

4. Raindrops fall with constant velocity due to _____ (surface tension/ viscosity)

5. Paramagnetic materials ,when subjected to an external magnetic field ,acquire a feeble magnetism _____ direction of the applied field (in the / opposite to)

6. Antiferromagnetism is exhibited by materials whose adjacent atoms have their spin magnetic dipole moments _____ (unequal antiparallel/equal and antiparallel)

7. Zeeman effect is the splitting up of spectral lines in _____ field(magnetic / electric)

8. When phosphorous is doped with Silicon we get a _____ type material (n/p)

9. In plane diffraction grating ,angle of diffraction _____ with the wavelength of light (increase / decrease)

10. Critical Temperature of a superconductor _____ with increase isotopic mass (increases /decreases)

II Write short notes on any FIVE questions

(5 x 2=10)

1. Optical resonator in a laser system

2. Josephson Effect

3. Energy cap in a superconductor at the BCS Ground State

4. Pumping in a He-Ne Laser

5. Single mode fiber

6. Stark effect

7. Effect of magnetic field on superconductor

III Write short essay on any FIVE questions (5 x 4= 0)

1. Soft and hard magnetic materials

2. Zeeman effect

3. Holography

4. Any five changes that take place in a conductor in the Superconducting transition state

5. Excess of Pressure in a soap bubble ...

6. Properties of Laser

7. Explain the BCS Theory of superconductivity

IV Write essay on any ONE (1 x 10=10)

1. Derive the expression for rise of a liquid in a capillary tube

2. Describe the construction and working of a diode Laser