LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

**B.Sc.** DEGREE EXAMINATION – **PLANT BIOLOGY & BIO TECH.**

THIRD SEMESTER – **APRIL 2012**

# PH 3204 - PHYSICS FOR BIOLOGY

 Date : 02-05-2012 Dept. No. Max. : 100 Marks

 Time : 9:00 - 12:00

**PART - A**

**Answer ALL questions: (10x2=20)**

1. State the significance of Reynold’s number of a liquid.
2. Define coefficient of viscosity and write its unit
3. What are cofactors? Name any one.
4. Define ‘range’ and ‘stopping potential’ of an alpha particle
5. Differentiate between diffusion and osmosis
6. Define the resolving power of a microscope
7. What are transducers?
8. What are structure borne noises? How can it be insulated?
9. What is meant by photosynthesis?
10. What is linear magnification?

**PART - B**

**Answer any FOUR questions: (4x7.5 = 30)**

1. Define induced radioactivity with example. Describe how radio carbon is used in age estimation or dating.
2. Explain the working of a piezo-electric oscillator.
3. Describe in detail the carbon fixation cycle.
4. Give a detailed account of biosensors.
5. Write in detail, the molecular theory of surface tension

**PART - C**

**Answer any FOUR questions: (4x12.5 =50)**

1. Derive Poiseuille’s formula for the flow of liquid through a capillary tube
2. (i) Discuss the energies of beta decay.

(ii) Explain the uses of radio isotopes.

1. Explain with neat circuit diagram, the working of a magnetostrition oscillator and Galton whistle.
2. Give a detailed account on temperature and pressure transducers.
3. Explain the Kreb’s cycle in detail with all the intermediate steps.

\*\*\*\*\*\*\*\*\*\*