



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY & ADV. ZOOLOGY

THIRD SEMESTER – NOVEMBER 2011

PH 3204 - PHYSICS FOR BIOLOGY

Date : 11-11-2011
Time : 9:00 - 12:00

Dept. No.

Max. : 100 Marks

PART – A

Answer **ALL** the questions

(10 X 2 = 20)

1. What is Piezo-electric effect?
2. What are cofactors? Name any one.
3. Differentiate between diffusion and osmosis
4. What is mass defect?
5. What are transducers?
6. Define Intensity of sound. What is its unit?
7. What are dark reactions?
8. Differentiate between isotones and isomers.
9. Define surface tension.
10. Define mean-life of a radioactive element.

PART – B

Answer any **FOUR** questions

(4 X 7.5 =30)

11. Derive the expression for angular magnification of a compound microscope.
12. Explain in detail, how Oswald viscometer is used to compare the viscosities of two liquids.
13. Calculate the binding energy of an α - particle and express the result both in MeV and joules. (mass of α - particle =4.001506 amu, mass of proton = 1.007276 amu , mass of neutron = 1.008665 amu)
14. Obtain an expression for the depression of freezing point.
15. Explain photo systems I and II

PART – C

Answer any **FOUR** questions

(4 X 12.5 =50)

16. Explain the glycolysis cycle in detail with all the intermediate steps.
17. Derive Poiseuille's formula for the flow of liquid through a capillary tube
18. Explain in detail the working of pressure and temperature transducers .
19. (i) Define induced radioactivity. Discuss the uses of radio isotopes.
(ii) Discuss how radiocarbon is used in archaeological dating
20. Explain in detail, the various imaging techniques and its applications.

