

**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**



**B.Sc. DEGREE EXAMINATION – PHYSICS**

**FIFTH SEMESTER – APRIL 2013**

**PH 5403 - GEOPHYSICS**

Date : 10/05/2013  
Time : 1:00 - 4:00

Dept. No.

Max. : 100 Marks

**PART A**

Answer **ALL** questions

10 x 2 = 20

1. What are S- waves?
2. Write down Laplace's equation for gravitational potential?
3. Explain how earthquake is induced by human activities ?
4. What are various layers of Earth?
5. Draw time travel curve of Seismic waves?
6. What is the merit of age determination of rocks by Carbon -14 method?
6. What is Magma?
7. Write a short note on Wegner's theory of continental drift.
8. How do Tsunamis originate?
9. Define epicenter of earthquake?
10. What do you mean by Mohorovicic discontinuity ?

**PART B**

Answer any **FOUR** questions

4 x 7.5 = 30

11. Explain how the subduction zone forms and what occurs at such a plate boundary?
12. Describe in brief Love waves and Rayleigh waves?
13. Write a short note on Alkali vapour magnetometer
14. Explain the working principle of Worden gravimeter?
15. How do you determine the age of rock by Rubidium-Strontium method?

**PART C**

Answer any **FOUR** questions

4 x 12.5 = 50

16. Obtain seismography equation for horizontal seismograph with damping correction.
17. Explain primary and secondary effects of earthquake.
18. What are plate tectonics and how are they related to continental drift and seafloor spreading?
19. Write brief notes on, a) earth as bar magnet and b) temperature and pressure variation on different layers of earth.
20. With neat sketch, explain geological time scale.