



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

**B.Sc. DEGREE EXAMINATION - PHYSICS**

FIFTH SEMESTER – NOVEMBER 2015

**PH 5410 - GEO PHYSICS**

Date : 13/11/2015  
Time : 09:00-12:00

Dept. No.

Max. : 100 Marks

**PART A**

Answer ALL Questions.

(10x2=20 marks)

1. Define focus and epicenter of earthquake.
2. What do you mean by "Liquefaction"?
3. Draw travel-time curves for seismic waves?
4. Write down Laplace's and Poisson's equation for gravitational potential?
5. Define magnetic Reynold's number.
6. Draw mechanism of earthquakes caused by faults.
7. State the advantages of using concrete over brick masonry for buildings in seismic areas.
9. Define "dip poles" of earth surface.
10. Find the radiation activity of 1mg of  $Sr^{90}$ . The half life period of  $Sr^{90}$  is 28 years.

**PART B**

Answer ANY FOUR Questions

(4x7.5=30 marks)

11. Discuss the composites of earth's interior.
12. With schematic representation, discuss briefly about Horizontal seismograph?
13. Give an account on the effect of major Seismic discontinuity?
14. Briefly explain the working of proton precession magnetometer.
15. With neat diagram explain gravity analysis using Worden gravimeter.
16. Distinguish between P-waves and S-waves?

**PART C**

Answer ANY FOUR Questions

(4x12.5=50 marks)

17. Differentiate between primary and secondary effects of Earthquake?
18. Briefly explain geological time scale.
19. In detail explain how to determine the age of rock by Potassium-argon method?
20. Write a short note on "Temperature and pressure" with in the earth.
21. Explain magnetic response of earth by dynamo theory.
22. Discuss in detail a) Richter scale of magnitude. b) Intensity of earthquake.

(6+6.5)

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