LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – **PHYSICS**

SECOND SEMESTER - APRIL 2016

PH 2956 – GEOPHYSICS

Date: 27-04-2016 Time: 01:00-04:00

PART A

(10x2=20 marks)

Max.: 100 Marks

1. What is seismology?

Answer ALL questions.

- 2. Differentiate geoid and spheroid surfaces?
- 3. Define magnetic renold's number?
- 4. List the significance of carbon -14 method of dating?

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- 5. Write a short note on resistivity meters?
- 6. What is meant by sea floor spreading?
- 7. If Th¹⁸² has a half-life of 21.5 hours, how many grams of a 10 g sample would have decayed after exactly three half-lives?
- 8. Define Richter scale of magnitude.
- 9. How earth shows magnetic behaviour?
- 10. What are the common earthquake damages in buildings? What measures do you suggest to prevent them?

PART B

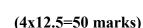
Answer any FOUR questions

- 11. What are the main characteristics of seismic waves?
- 12. In detail, explain seismic discontinuity?
- 13. Explain radioactive dating of rocks by rubidium-strontium method?
- 14. Obtain an expression for resistivity measurements by a) single current electrode at depth b) single current electrode at surface.
- 15. Discuss the origin of main field of earth.
- 16. Write a short note on horizontal seismograph.

PART C

Answer any FOUR questions

- 17. Discuss briefly the direct and indirect effect of an earthquake? How do human activities induce earthquake?
- 18. With neat sketch explain interior of earth and its compositions.
- 19. Discuss absolute and relative measurements of gravity analysis.
- 20. Briefly explain about the working of alkali vapour magnetometer.
- 21. Describe briefly
 - a. Size and shape of earth.
 - b. Temperature and pressure variations of earth.
- 22. Explain continental drift by plate tectonic theory.



(4x7.5=30 marks)

