

**FIRST SEMESTER B.Sc. DEGREE EXAMINATION
JANUARY 2014**

(UG-CCSS)

Core Course – Geology

GL 1B 01 – EARTH SYSTEMS AND PROCESSES

(2013 Admission onwards)

Three Hours

Maximum : 30 Weightage

Illustrate your answers with neat sketches wherever necessary.

I. Objective type questions. Answer all *twelve* questions :

Choose the correct answer :

- The atmospheric layer which is rich in ozone :
 - Ionosphere.
 - Stratosphere.
 - Mesosphere.
 - Exosphere.
- The hypothesis put forward by Chamberlin and Moulton in 1904 :
 - Tidal hypothesis.
 - Double star hypothesis.
 - Nebular hypothesis.
 - Planetesimal hypothesis.
- Which of the following is not the synonym for L-waves ?
 - Rayleigh waves.
 - Secondary waves.
 - Surface waves.
 - Love waves.
- The rock fragments ejected during volcanic eruptions are called :
 - Solfataras.
 - Calderas.
 - Pyroclasts.
 - Pahoehoe.

Fill up the blanks :

- The most abundant oxide constituting the chemical composition of the lithosphere is _____.
- The _____ is the largest ocean on the earth, both in surface area and volume.
- The half life of _____ is about 4.47 billion years.
- _____ is the process of scaly peeling off of rocks as thin layers or shells.

Turn over

Answer the following in single word / words :

9. The boundary between 'Sial' and 'Sima'.
10. The study of Earth's atmosphere and its processes, particularly its upper layers.
11. The doctrine which states that wherever equilibrium exists in the earth's surface, equal mass must underlie equal surface areas.
12. The downslope movement of a mass of regolith or bedrock under the influence of gravity.

(12 × ¼ = 3 weights)

II. Short answer type questions. Answer all *nine* questions :

- | | |
|----------------|-----------------------|
| 13. Biosphere. | 14. Glaciers. |
| 15. Asteroids. | 16. Tidal hypothesis. |
| 17. Epicentre. | 18. Richter scale. |
| 19. Orogeny. | 20. Geosynclines. |
| 21. Regolith. | |

(9 × 1 = 9 weights)

III. Short essay type questions. Answer any *five* questions :

22. Composition of sea water.
23. Nebular hypothesis.
24. Radioactive methods of dating.
25. Major earthquakes in India.
26. Types of volcanoes.
27. Chemical weathering.
28. Causes of landslides.

(5 × 2 = 10 weights)

IV. Essay type questions. Answer any *two* questions :

29. Give an account of the structure of the earth's atmosphere.
30. Describe the origin, distribution and environmental significance of earthquakes. Add a note on the prediction of earthquakes.
31. Describe the various types of physical and biological weathering of rocks.

(2 × 4 = 8 weights)