

2017

**GEOLOGY.**

*( Earth System Science Theory )*

[ **Honours** ]

( CBCS )

[**First Semester**]

PAPER –C1T

*Full Marks : 40*

*Time : 2 hours*

**Answer all questions**

*The figures in the right hand margin indicate marks  
Candidates are required to give their answers in their  
own words as far as practicable*

*Illustrate the answers wherever necessary*

**GROUP–A**

Answer any five of the following : 2 × 5

1. What is meant by asthenosphere and lithosphere?

2. State the 'Principle of uniformitarianism'.
3. What are Carbonaceous Chondrites ?
4. Define the terms, 'fossil' and 'fossilization'.
5. Define Island arc with suitable sketch.
6. Write down the names of two commonly used radio-active isotopes with their host minerals.
7. What do you mean by nucleosynthesis process ?
8. Why the innercore of the Earth is made up of solid iron.

GROUP-B

Answer any *four* of the following :      5 × 4

9. (a) Briefly state about different factors that control the rate of chemical weathering.      3
- (b) What are the differences between 'exfoliation' and 'spheroidal weathering' ?      2

10. (a) State the basic principle of radiometric dating. 3
- (b) Why is the radiometric dating the most reliable method of dating? 2
11. Give the geochemical classification of elements, defining each class. Name two most abundant elements, each in the earth's crust and mantle. 3 + 2
12. Draw a schematic cross-section of the internal structure of Earth and label it properly. 5
13. Draw the soil profile and describe each horizon. 5
14. Discuss the 'dynamotheroy' in explaining the origin of the Earth's magnetic field. 5

GROUP-B

Answer any *one* of the following : 10 × 1

15. (a) What is meant by Isostasy? 2
- (b) Explain the hypothetical models proposed to explain the condition of isostatic equilibrium. 5

- (c) What is the nature of Bauger anomaly over a high mountain and over the oceanic abyssal plain. 3
16. (a) Write down the Geological Time Scale in a chart form. 4
- (b) Write down the controlling factors of wind driven oceanic circulations. 3
- (c) Explain the eustatic rise and fall of sealevel. 3
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