



'সমানো মন্ত্র: সমিতি: সমানী'

UNIVERSITY OF NORTH BENGAL

B.Sc. Honours 6th Semester Examination, 2022

DSE-P4-GEOLOGY

PHYSICS AND CHEMISTRY OF EARTH

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

1. Answer any **five** questions from the following: 1×5 = 5
 - (a) Mid-ocean ridges
 - (b) Slab pull
 - (c) Conrad hiscontinuity
 - (d) Hotspot
 - (e) Stable isotopes
 - (f) Urey's effect
 - (g) Sublithospheric mantle
 - (h) Polarity reversal.

2. Answer any **three** questions from the following: 5×3 = 15
 - (a) Define Isostasy. Explain free-air anomaly and Bouguer anomaly. 1+2+2
 - (b) What are the advantages of the potassium-argon dating (K-Ar method) for dating? What is the limitation of the K-Ar method for dating? 3+2
 - (c) What is Shadow zone? Does it give any idea about the internal configuration of the earth? 1+4
 - (d) Write a note on abundance of elements in the solar system.
 - (e) How are hot spots related to plate tectonics?

3. Answer any **two** questions from the following: 10×2 = 20
 - (a) What is Paleomagnetism? What is blocking temperature? How does Paleomagnetism and seafloor spreading help to explain plate tectonics? 2+2+6
 - (b) What caused continental drift? What are the evidences of continental drift? 4+6
 - (c) What is Tonalite-trondhjemite-granodiorite (TTG)? How does the TTG form? Define the sanukitoids and komatiite rocks. 2+4+2+2
 - (d) What do you mean by whole rock isochron? Why is zircon used for radiometric dating? What are the advantage and disadvantage of the Samarium-neodymium (Sm/Nd) method for dating? 2+3+3+2

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