



'সমানো মন্ত্র: সমিতি: সমানী'

UNIVERSITY OF NORTH BENGAL
B.Sc. Honours 4th Semester Examination, 2023

CC9-GEOLOGY

PRINCIPLES OF STRATIGRAPHY AND INDIAN STRATIGRAPHY

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

1. Answer any **five** questions of the following: 1×5 = 5
- (a) Indian shield
 - (b) Charnockite and Khondalite
 - (c) Nagri Formation, Haimanta Group, Rajmahal Trap, Muth Quartzite, Lipak Formation — Arrange in chronological order.
 - (d) *Belemnopsis gerardi*, *Fenestella sp*, *Redlichia neotlingi*, *Meekoceras varah*, *Productus sp*. — Arrange in chronological order.
 - (e) Characteristics of index fossils
 - (f) Global Boundary Stratotype Point (GBSP)
 - (g) Walther's Law
 - (h) Sequence stratigraphy.
2. Answer any **three** questions from the following: 5×3 = 15
- (a) What is Gondite? Which Formation of the Sausar group is important for Manganese ore? Where is the Great Boundary Fault in India? 2+1+2
 - (b) Differentiate 'normal' and 'forced' regression. 5
 - (c) Write a short note on Biostratigraphy. 5
 - (d) Describe the chronostratigraphic units. Write a short note on the palaeogeography of Umia Formation. 2+3
 - (e) Describe the basic tools used in lithostratigraphic correlation. What is sedimentary environment? 3+2

3. Answer any *two* questions from the following: 10 × 2 = 20
- (a) Write a note on the Singhbhum Shear Zone. Briefly describe the lithologies of the Proterozoic mobile belt of the North Singhbhum. What is the “mobile belt”? Where is the Sukinda thrust situated and what is the economic importance of the Sukinda thrust? 3+4+1+1+1
- (b) Write the lithostratigraphic classification of Gondwana Supergroup in Domodar Valley. Explain the absence of coal in the Barren Measure Formation. Describe the lithological characteristics of Talchir Formation and its significance. 3+4+3
- (c) Describe how the Permo-Traissic Boundary can be ascertained in extra peninsular India. Comment on the deposition environment of Spiti Shale in the context of Indian plate convergence. 7+3
- (d) Describe the lithostratigraphic classification (both shelf and deep basinal) of Bengal basin and the sedimentation history of the basin. 4+6

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