

Introduction to “*Geosciences of the Rajasthan basins*”

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Rajasthan basins have been quite important in last few decades for hydrocarbon exploration and academic research (e.g., Dasgupta and Mukherjee 2017; Biswas et al., 2022a,b; Kar et al., 2022; Dasgupta 2023; Dasgupta et al., 2023; Puniya et al., 2023a,b; Biswas et al., 2024). This edited book consists of seven chapters. In **Chapter 1, Ansari et al. (2024)** performed geophysical and morphometric studies from Barmer, Jaisalmer and Bikaner-Nagaur basins. The presence of neotectonics faults are perceived from the Bikaner Nagaur basin that led rivers to incise. From a few places, gravity lows were detected from the Jaisalmer basin. In **Chapter 2, Kumar et al. (2024)** reviewed lignites from different basins of Rajasthan. Huminite is dominantly found in all such seams. These lignites are thermally immature, contains type-III and mixed type-II-III kerogens. In **Chapter 3, Biswas et al. (2024a)** provided a morphometric analysis of the Proterozoic Bayana basin by considering six watershed-scale morphometric parameters. They deduced the *index of active tectonics* (IAT) for five watersheds. In **Chapter 4, Biswas et al. (2024)**.....In **Chapter 5, Ali et al. (2024a)** first reported fossil of palm fronds described as the fossil-genus *Amesoneuron* Göppert. from the Early Eocene sedimentary rock of the Gurha lignite mine. The fossil indicates a warm

humid climate during the Early Eocene. In **Chapter 6, Ali et al. (2024b)** reviewed Plant megafossil diversity in the Palaeogene sediments from the Rajasthan basins. Tropical warm and humid climate was deciphered based on this review. In **Chapter 7, Parihar et al. (2024a)** reported fourteen trace fossils from the Pokaran Sandstone (basal Ediacaran Jodhpur Group, Marwar Supergroup). A shallow marine environment of deposition of the Pokaran unit is indicated based on this study. In **Chapter 8, Parihar et al. (2024b)** first report more than a hundred specimens of an Ediacaran discoidal fossil *Aspidella* from Sonia Sandstone (Jodhpur Group, Marwar Supergroup, Sursagar area). This is the first report of *Aspidella* from India. We hope that this book will be useful to both resource geoscientists and academicians.

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