

B. SC. GEOLOGICAL SCIENCES EXAMINATION, 2023

(2nd Year, 2nd Semester)

**PRINCIPLES OF STRATIGRAPHY AND PRECAMBRIAN
STRATIGRAPHY OF INDIA
PAPER – CORE/TH/09**

Time : Two hours

Full Marks : 40

(Use a separate Answer script for each Part)

PART – I (Marks: 20)

Answer question **no. 1** and **any one** from the rest.

1. Write short notes on : 5×2=10
 - a) Types of Biostratigraphic Zones
 - b) Index fossil
 - c) Law of Superposition
 - d) Ranks of Lithostratigraphic Units
 - e) Correlative conformity
2. i) What is a Lithostratigraphic unit? How do you define the basic unit of Lithostratigraphic classification? What are the advantages of lithostratigraphic classification over chronostratigraphic and biostratigraphic classification? What are Key beds? 1+2+2+1=6
 - ii) What is the importance of temporal and spatial variation for interpreting a stratigraphic sequence?

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- iii) What are the processes involved in the preservation of sediments in a rock record? 2
3. i) Define onlap and offlap. Illustrate stratal relationships developed during their formation. 3
- ii) What is Walther's Law? Does it hold good always? 3
- ii) What is the difference between unconformity and diastem surfaces? What are the effects of climate on sedimentation pattern? 2+2=4

PART – II (Marks: 20)

1. Answer *any four* questions : 4×4=16
- a) What is an Eparchean unconformity? Where is the Eparchean Unconformity in India? 3+1
- b) Discuss the major litho-tectonic units of the Bastar Craton. 4
- c) What are the differences between East and West Dharwar Craton. 4
- d) What are the characteristics of a Purana basin? Show the disposition of major Purana basins of India. 2+2
- e) Define craton, shield and fold belts with examples. 4
- f) Discuss the geological importance of the Eastern Ghats Mobile Belt. What are the dominant age and metamorphic facies of the Eastern Ghats Mobile Belt rocks? 3+1

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2. Match the followings : 0.5×8=4
- | | |
|--------------------------|-------------------------------|
| a) Singhbhum craton | i) Kaimur Group |
| b) Purana basin | ii) Iron Ore Group |
| c) Dharwar craton | iii) Dalma volcanics |
| d) Singhbhum Mobile belt | iv) Cuddapah |
| e) CITZ | v) Mahakosal group |
| f) Bastar Craton | vi) Sukma group |
| g) Vindyan Basin | vii) Western Charnockite zone |
| h) EGMB | viii) Closepet granite |