

SEMESTER V
MAJOR COURSE – MJ 9
STRATIGRAPHY

Full Marks: 75	Time: 3 Hours
SET – II	Theory Paper

Instructions:

- Group A is compulsory.
- Question No. 1 contains five objective/MCQ questions of 1 mark each.
- Question No. 2 and Question No. 3 are single questions of 5 marks each.
- In Group B, answer any **four** questions out of six. Each question carries 15 marks.
- All questions are based on the prescribed syllabus of Major Course MJ 9 – Stratigraphy.

GROUP – A

Q.1. Choose the correct answer. (5 × 1 = 5)

1. Biostratigraphy uses which major criterion for correlation of rock units?
A) Fossils B) Grain size C) Magnetic susceptibility only D) Colour
2. Magnetostratigraphy is based mainly on variations in:
A) Earth's magnetic polarity recorded in rocks B) Sea level only C) Grain roundness D) Mineral hardness
3. Sequence stratigraphy primarily studies:
A) Depositional sequences and their bounding surfaces B) Crystal structures C) Metamorphic grade D) Igneous textures
4. The Vindhyan basin is mainly associated with:
A) Precambrian sedimentary succession B) Recent alluvium C) Deccan volcanism D) Jurassic marine rocks
5. The Deccan volcanic province is predominantly composed of:
A) Basaltic lava flows B) Granite C) Sandstone D) Limestone

Q.2. (5 Marks) Explain Walther's Law of Facies and discuss its application in stratigraphic interpretation.

Q.3. (5 Marks) Write a short note on sequence stratigraphy and its importance in reconstructing depositional history.

GROUP – B

Answer any four questions. (4 × 15 = 60)

Q.4. (15 Marks) Explain lithostratigraphy, biostratigraphy, chemo-stratigraphy, magnetostratigraphy and seismic stratigraphy. Discuss their applications in stratigraphic correlation.

Q.5. (15 Marks) Discuss the concept of stratotypes and G.S.S.P. Explain how standardized stratigraphic nomenclature helps in international correlation.

Q.6. (15 Marks) Explain sequence stratigraphy and its subdivisions with suitable Indian examples. Discuss the concept of facies and paleogeographic reconstruction.

Q.7. (15 Marks) Discuss the Precambrian geology and stratigraphy of Singhbhum and Dharwar. Give a comparative account of the Vindhyan and Cuddapah basins.

Q.8. (15 Marks) Describe the Mesozoic stratigraphy of India with special reference to the Triassic of Spiti, Jurassic of Kutch and Cretaceous succession of the Cauvery basin.

Q.9. (15 Marks) Discuss the Cenozoic stratigraphy and structure of India. Explain the Siwalik succession, Assam basin and the hydrocarbon potential of the Krishna-Godavari, Cauvery, Kutch and Saurashtra basins.