

No 003578

B-JGT-K-HFA

**GEOLOGY****Paper I**

Time Allowed : Three Hours

Maximum Marks : 200

**INSTRUCTIONS**

*Candidates should attempt questions 1 and 5 which are compulsory, and any THREE of the remaining questions, selecting at least ONE question from each Section.*

*All questions carry equal marks.*

*Marks allotted to parts of a question are indicated against each.*

*Answers must be written in ENGLISH only.*

*Suitable sketches may be drawn, wherever required.*

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**SECTION A**

1. Write critical notes, within 150 words each, on the following : 10×4=40
- (a) The working of Global Positioning System
  - (b) Discontinuities in the Earth's interior
  - (c) Transcurrent faults
  - (d) Gravity faults and their types

2. (a) What is continental drift ? Explain the evidence put forward in favour of the theory. How does the plate tectonic theory support this ? 30
- (b) Discuss the causes of volcanoes. 10
3. (a) What is mass wasting ? Give an account of the process of weathering and its types. 30
- (b) How does a geologist study the interior of the Earth ? 10
4. (a) Explain the criteria for the recognition of geological faults in the field. 25
- (b) Discuss the effects of these geological faults. 15

## SECTION B

5. Write critical notes, within 150 words each, on the following : 10×4=40
- (a) Evolution of suture lines in ammonoids
  - (b) Lameta beds
  - (c) Principle of lithostratigraphic classification
  - (d) Fauna and flora during the Gondwana period
6. (a) Discuss the utility of microfossils in exploration for petroleum. 30
- (b) Explain how foraminifers are useful in palaeoclimatic studies. 10
7. (a) Give an account of the Aravalli Bundelkhand Province. 25
- (b) Explain the evolution of the Himalayas. 15
8. (a) Write briefly on the economic importance of Precambrian rocks. 10
- (b) Critically examine the evolution of glabella of Trilobites. 10
- (c) What are the effects of folds in tunneling ? Explain the problems related to tunnels constructed near steep slopes. 20

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is essential for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent data collection procedures and the use of advanced analytical techniques to derive meaningful insights from the data.

3. The third part of the document focuses on the role of technology in data management and analysis. It discusses how modern software solutions can streamline data collection, storage, and analysis processes, thereby improving efficiency and accuracy.

4. The fourth part of the document addresses the challenges associated with data management, such as data quality, security, and privacy. It provides strategies to mitigate these risks and ensure that the data remains reliable and secure throughout its lifecycle.

5. The fifth part of the document discusses the importance of data governance and the role of various stakeholders in ensuring that data is used ethically and in compliance with relevant regulations and standards.

6. The sixth part of the document provides a detailed overview of the data lifecycle, from data collection and storage to data analysis and reporting. It emphasizes the need for a clear and consistent data lifecycle framework to support the organization's data management goals.

7. The seventh part of the document discusses the role of data in decision-making and the importance of providing timely and accurate data to support strategic planning and operational decision-making.

8. The eighth part of the document provides a summary of the key findings and recommendations of the study. It highlights the need for a comprehensive data management strategy that addresses all aspects of data collection, storage, analysis, and governance.

9. The ninth part of the document provides a list of references and sources used in the study. It includes books, articles, and other publications that provide additional information on the topics discussed in the document.

10. The tenth part of the document provides a list of appendices and supplementary materials. These materials include detailed data collection procedures, sample data sets, and other resources that are useful for understanding the study and its findings.