



ROLL NO

PUNJAB PUBLIC SERVICE COMMISSION
COMBINED COMPETITIVE EXAMINATION
FOR RECRUITMENT TO THE POSTS OF
PROVINCIAL MANAGEMENT SERVICE, ETC -2023
CASE NO. 1C2024

SUBJECT: GEOLOGY (PAPER-I)

TIME ALLOWED: THREE HOURS

MAXIMUM MARKS: 100

NOTE:

- i. All the parts (if any) of each Question must be attempted at one place instead of at different places.
- ii. Write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper.
- iii. No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
- iv. Extra attempt of any question or any part of the question will not be considered.

NOTE: Attempt Five Questions in all. Attempt in Urdu or English.
Where necessary, use neat sketches to elaborate the answers

- Q No. 1:** Discuss the different hypotheses and theories explaining the origin of the Earth and the Solar System. **(20 Marks)**
- Q No. 2:** Briefly describe theory of plate tectonics. Sketch and explain the following interaction within the earth plates and provide examples. **(20 Marks)**
- a) Oceanic - Oceanic Convergence
 - b) Oceanic - Continent Convergence
 - c) Continent - Continent Convergence
- Q No. 3:** Briefly discuss the various Taphonomic and Diagenetic evolution processes with examples. **(20 Marks)**
- Q No. 4:** Discuss the principles of stratigraphy and geological correlations? **(20 Marks)**
- Q No. 5:** Why Salt Range of Pakistan is called field museum of geology? Explain the Permian and Mesozoic rocks exposed in the Salt Range area with their characteristic features. **(20 Marks)**
- Q No. 6:** (a) Describe the textural classification of the Igneous rocks.
(b) Describe the classification of Igneous rocks on the basis of major element chemistry and give examples from Pakistan. **(10+10=20 Marks)**
- Q No. 7:** (a) Discuss the significance of banded iron formations in the evolutionary history of the earth.
(b) Discuss the classification of elements with respect to their geochemical affinity. **(10+10=20 Marks)**
- Q No. 8:** Discuss the polymorphic transformation in minerals. **(20 Marks)**



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SUBJECT: GEOLOGY (PAPER-II)

TIME ALLOWED: THREE HOURS

MAXIMUM MARKS: 100

NOTE:

- i. All the parts (if any) of each Question must be attempted at one place instead of at different places.
- ii. Write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper.
- iii. No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
- iv. Extra attempt of any question or any part of the question will not be considered.

NOTE: Attempt any FIVE Questions in all. Attempt in Urdu or English.

- Q No. 1:** Write a note on Uranium deposits of Pakistan. **(20 Marks)**
- Q No. 2:** Discuss the fundamental principles of Engineering Geology. **(20 Marks)**
- Q No. 3:** Describe the distribution of groundwater? Write down about ground water as one of the most valuable natural resources? **(20 Marks)**
- Q No. 4:** What is the difference between fracture and joints? Discuss importance of fracture and joint analysis? **(20 Marks)**
- Q No. 5:** Explain application of GIS and Remote sensing in mineral exploration. **(20 Marks)**
- Q No. 6:** What is raster and vector data? Write a difference between raster and vector data models. **(20 Marks)**
- Q No. 7:** Discuss in detail the concept and terminology of faults. Discuss criteria for identification of faults. **(20 Marks)**
- Q No. 8:** Discuss in detail classification, origin and occurrence of Conglomerates. **(20 Marks)**