

PUNJAB PUBLIC SERVICE COMMISSION
COMBINED COMPETITIVE EXAMINATION FOR
RECRUITMENT TO THE POSTS OF
PROVINCIAL MANAGEMENT SERVICE-2019

SUBJECT: GEOLOGY (PAPER-I)

TIME ALLOWED: THREE HOURS

MAXIMUM MARKS: 100

NOTE: Attempt Five Questions in All. Attempt in Urdu or English.

Q No. 1: Describe the geology, mode of occurrence and significance of uranium deposits of Pakistan. (20)

Q No. 2: Explain Remote Sensing and Geographic Information System (GIS) and discuss their application in mineral prospecting and engineering geology. (20)

Q No. 3: Describe the following: (10+10=20)

- i. Geothermal Energy
- ii. Geological Significance of Fossils

Q No. 4: Discuss various modes of slope failure and explain slope stability methods. (20)

Q No. 5: Describe the properties of natural occurring materials used as aggregate in cement concrete. (20)

Q No. 6: Discuss the following: (10+10=20)

- i. Site investigation of Dams
- ii. Climate changing phenomena

Q No. 7: What are the Principles of Stratigraphy? Discuss the Stratigraphy of Salt Range. (20)

Q No. 8: Writes short notes on the following: (4x5=20)

- i. Clastic Rocks
- ii. Types of Joints
- iii. Classification of Folds
- iv. Glacial Landforms

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SUBJECT: GEOLOGY (PAPER-II)

TIME ALLOWED: THREE HOURS

MAXIMUM MARKS: 100

NOTE: Attempt Five Questions in All. Attempt in Urdu or English.

- Q No. 1:** Make a sketch of cross section of the earth indicating the main subdivision of the earth's interior and also give their names, thickness of the various layers of the earth and discuss their major composition. **(20)**
- Q No. 2:** Define geological fold by giving its anatomy with the help of a sketch of the symmetrical anticline. Also discuss various types of folds. **(20)**
- Q No. 3:** Some sedimentary structures can be used to identify the tops and bottoms of beds, discuss with the help of figures how the following structures can be applied to determine the top and bottom. **(20)**
- a. Determination of anticline by Ripple marks
 - b. Determination of syncline by Cross bedding
- Q No. 4:** How clastic sedimentary rocks are produced give step wise procedure for formation of these rocks by giving examples from Pakistan. **(20)**
- Q No. 5:** Discuss the Pre-Cambrian and Cambrian sequence of Salt range of Pakistan. **(20)**
- Q No. 6:** What is a diagenesis, discuss what type changes and effects occur during deep burial. **(20)**
- Q No. 7:** Discuss in detail physical properties of minerals. **(20)**
- Q No. 8:** Write short notes on the following. **(5x4=20)**
- a. Laccolith and Phacolith
 - b. Metamorphic rocks
 - c. Convolute Bedding and Lamination.
 - d. Flaser and lenticular bedding