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FEDERAL PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATION FOR RECRUITMENT TO POSTS IN PBS-17, UNDER THE FEDERAL GOVERNMENT, 2003

GEOLOGY, PAPER-I

TIME ALLOWED: THREE HOURS **MAXIMUM MARKS: 100**

NOTE: Attempt **FIVE** questions in all, including **QUESTION NO.8** which is **COMPULSORY**. All questions carry **EQUAL** marks. Illustrate your answer with the help of sketches and diagrams where needed.

1. What are Sedimentary Rocks? How are these classified?
2. How Earth came into being? Briefly discuss theories about its origin.
3. What are EARTHQUAKES? How are these produced? What measures need to be adopted to mitigate the damage caused by the earthquakes?
4. What is meant by CONTINENTAL DRIFT and PLATE TECTONICS? Discuss various tectonic elements of the Earth.
5. What are FOSSILS? How are these preserved? List the most important INDEX Fossils of Pakistan.
6. What is STRATIGRAPHY? Briefly describe various stratigraphic units? Summarize the Paleozoic stratigraphy of the Salt Rage.
7. What is a MINERAL? Discuss various ROCK-FORMING MINERALS with the help of examples.

COMPULSORY QUESTION

8. Write very short notes on the following:

(1)	Foraminifers	(2)	Pseudotachylite
(3)	Trachite	(4)	Magma
(5)	Seafloor spreading	(6)	Magnetic anomalies
(7)	Transform Faults	(8)	Strike slip faults
(9)	Graben	(10)	Trench
(11)	Island Arc	(12)	Sheet Volcanic Eruption
(13)	Liquefaction	(14)	Crystal
(15)	Salt pseudomorph structure	(16)	Cross Bed
(17)	Ripple Mark	(18)	Pyrope
(19)	Amphibole	(20)	Manganese Nodule

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GEOLOGY, PAPER-II

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NOTE: Attempt **FIVE** questions in all, including **QUESTION NO.8** which is **COMPULSORY**. All questions carry **EQUAL** marks. Illustrate your answer with the help of sketches and diagrams where needed.

1. Discuss METALLIC MINERAL RESOURCES of Pakistan? Suggest economically viable, mineral-based industries for various deposits?
2. What are the major COALFIELDS of Pakistan? Discuss their Rank and Quality, and propose their suitable industrial applications.
3. Briefly describe ORIGIN, MIGRATION AND OCCURRENCES of hydrocarbons. Discuss HYDROCARBON PROVINCES of Pakistan.
4. What are the important RADIOACTIVE MINERALS? Discuss their host rocks and occurrences in Pakistan.
5. What are LANDSLIDES? Discuss various hazards associate with them. Describe measures to control landslides.
6. Write any essay on the WATER RESOURCES OF PAKISTAN. Suggest measures to control water-logging and salinity.
7. Discuss GEOPHYSICAL PROSPECTING TECHNIQUES employed for the exploration of metals, water and hydrocarbons.

COMPULSORY QUESTION

8. Write Very Brief NOTES on the followings:
   (1) Confined and unconfined aquifer
   (2) Monocline
   (3) Orocline
   (4) Gemstones
   (5) Geochemical Exploration
   (6) Soils.
   (7) Any two engineering properties of Soils
   (8) Reservoir Rocks
   (9) Salt Dome
   (10) Porosity
   (11) Permeability
   (12) Rockslide
   (13) Any two properties of building stones
   (14) Avalanche
   (15) Point source of pollution
   (16) BOD
   (17) Bentonite
   (18) Wire line logs
   (19) Kerogen
   (20) Trace elements

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