

FEDERAL PUBLIC SERVICE COMMISSION



COMPETITIVE EXAMINATION FOR RECRUITMENT TO POSTS IN BS-17 UNDER THE FEDERAL GOVERNMENT, 2011

GEOLOGY, PAPER-I

TIME ALLOWED:	(PART-I MCQs)	30 MINUTES	MAXIMUM MARKS: 20
THREE HOURS	(PART-II)	2 HOURS & 30 MINUTES	MAXIMUM MARKS: 80
NOTE: (i) First attempt PART-I (MCQs) on separate Answer Sheet which shall be taken back after 30 minutes.			
(ii) Overwriting/cutting of the options/answers will not be given credit.			

(PART-I MCQs) (COMPULSORY)

- Q.1.** Select the best option/answer and fill in the **appropriate box** on the **Answer Sheet**. (1 x 20=20)
- (i) Following are the members of plagioclase family:
(a) Albite, Oligoclase, Andesine (b) Andesine, Labradorite, Bytownite
(c) Oligoclase, Andesine, Labradorite (d) Labradorite, Bytownite, Anorthite (e) All of these
- (ii) Chaman Transform Zone is characterized:
(a) Mainly by strike-slip faulting with minor subduction
(b) Mainly by dip-slip faulting with minor subduction
(c) Mainly by subduction with minor strike-slip faulting
(d) Mainly by obduction with minor strike-slip faulting (e) None of these
- (iii) A blocky and fragmented form of lava occurring in flows with fissured and angular surfaces is known as:
(a) Ad lava (b) Ac lava (c) Ab lava (d) Aa lava (e) None of these
- (iv) The following formations are known respectively as Upper, Middle and Lower Productus Limestone:
(a) Amb, Wargal and Chiddru (b) Chiddru, Wargal and Amb
(c) Wargal, Amb and Chiddru (d) Amb, Chiddru and Wargal (e) None of these
- (v) The following mineral shows two sets rhombic cleavage:
(a) Hornblende (b) Grunerite (c) Tremolite (d) Actinolite (e) All of these
- (vi) Physical weathering process in which sheets of rock are fractured and detached from an outcrop is termed as:
(a) Degeneration (b) Transpiration (c) Exfoliation (d) Deformation (e) None of these
- (vii) Mohorovicic Discontinuity is the boundary between:
(a) Crust and Lithosphere (b) Sima and Sial
(c) Crust and Mantle (d) Crust and Asthenosphere (e) None of these
- (viii) Type of foliation associated with very fine grained pelitic rocks metamorphosed to low grade is known as:
(a) Phyllitic Structure (b) Gneissic Structure
(c) Schistose Structure (d) Slaty Cleavage (e) None of these
- (ix) Which of the following statements is true?
(a) Apatite is harder than Fluorite (b) Quartz is harder than Calcite
(c) Corundum is harder than Quartz (d) Diamond is harder than all minerals (e) All of these
- (x) Among following which are classed as chronostratigraphic units:
(a) Era, Period, Epoch (b) Group, Formation, Member
(c) System, Series, Stage (d) Palaeozoic, Cretaceous, Miocene (e) None of these
- (xi) Which of the following group of rocks is known as basic igneous rocks?
(a) Monzonite, Syenite, Rhyolite (b) Granite, Diorite, Granodiorite
(c) Trachyte, Andesite, Dacite (d) Gabbro, Norite, Dolerite (e) None of these

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- (xii) Antistress and stress minerals are discussed in the context of:
 (a) Metamorphic rocks (b) Sedimentary rocks
 (c) Plutonic rocks (d) Volcanic rocks (e) All of these
- (xiii) Island Arc is a linear or arcuate chain of volcanic islands at:
 (a) Transform Plate Boundary (b) Convergent Plate Boundary
 (c) Mid-Oceanic Ridge (d) Divergent Plate Boundary (e) None of these
- (xiv) Axial Fold Belt is the dividing feature between two basins.
 (a) Indus and Kakar Khurasan (b) Lower and Upper Indus
 (c) Southern and Central Indus (d) Indus and Balochistan (e) None of these
- (xv) Current ripples are used to indicate:
 (a) Velocity of flow (b) Direction of flow
 (c) Line of flow (d) Gradient of flow (e) All of these
- (xvi) Floating invertebrates are known as:
 (a) Benthos (b) Nektons (c) Zooplanktons (d) Phytoplanktons (e) None of these
- (xvii) Zaluch Nala is situated in:
 (a) Eastern Salt Range (b) Western Salt Range
 (c) Surghar Range (d) Central Salt Range (e) None of these
- (xviii) Expression of the septum on the wall surface of Ammonoids is known as:
 (a) Growth lines (b) Suture (c) Ribs (d) Umbilicus (e) None of these
- (xix) Blue Schist is comprised of:
 (a) Smectite and Quartz (b) Glaucophanes, Lawsonite and Quartz
 (c) Epidote and Albite (d) Marble and Quartzite (e) None of these
- (xx) The hinge line of a doubly plunging syncline is:
 (a) Curvilinear (b) Rectilinear (c) Horizontal (d) Vertical (e) None of these

PART-II

NOTE:(i) **PART-II** is to be attempted on separate Answer Book.
 (ii) **Attempt ONLY FOUR questions from PART-II. All questions carry EQUAL marks.**
 (iii) **Extra attempt of any question or any part of the attempted question will not be considered.**

- Q.2.** Define fossil, discuss various modes of fossilizations. Describe main morphological features of class Trilobita of Phylum Arthropoda. (20)
- Q.3.** What are faults, how they are recognized in field? Give the classification of faults based on Slip types. (20)
- Q.4.** Describe the morphological and structural characters of Salt Range. Discuss its importance in geology of Pakistan. Give the lithological characteristics of Salt Range Formation. (20)
- Q.5.** In the context of earthquake, define epicentre and focus. Using P and S waves how the epicentre of an earthquake is located? (20)
- Q.6.** How rock-forming minerals are classified on the basis of silicate structure? Give example of each class. Write down the physical properties of mica group. (20)
- Q.7.** With examples, discuss the geological parameters which control the landforms of an area. Describe the landforms resulted by sedimentation through ice and meltwater. (20)
- Q.8.** Write notes on the following: (5+5+5+5 = 20)
 (a) Magmatic Differentiation (b) Diagenesis
 (c) Dolomitization (d) Metasomatism
