

REVISED SYLLABUS 2022

DEPARTMENTAL PROMOTION EXAMINATION FROM JUNIOR GEOLOGIST TO SENIOR GEOLOGIST

PAPER-I CURRENT AFFAIRS & RULES & REGULATIONS **100 marks**
(Note: Passing in each part is mandatory to clear paper-1) (Pass marks 47)

Part-I Current Affairs **33 marks**
(Pass marks 40%)

Current Affairs paper will be set from leading issues published in the newspaper for the last 3 months. The following books may be consulted.

- Monthly Current Affairs Digest by Tariq Mahmood Dogar
- Monthly Current Affairs Digest by Dr. Safdar Mahmood
- Any other Current Affairs Digest

Part-II Rules and Regulations (Books allowed) **67 marks**
(Pass marks 50%)

- The Pakistan WAPDA Employees (E&D) Rules, 1978
- The Pakistan WAPDA Employees (Retirement) Rules, 1979
- The Pakistan WAPDA Leave Rules for WAPDA Employees 1982
- The Pakistan WAPDA TA Rules 1982
- WAPDA Act
- Conduct Rules
- Medical Attendance Rules

Reference Books

- WAPDA Manual of General Rules amended upto 2014 (including addendums)

PAPER-II TECHNICAL **100 Marks**
(Pass marks 50)

Engineering Geology, petrology, fault, fold, RQD, SPT, Permeability Test, Strike, Dip, major Rock types, Stratigraphy, Unconformity and Discontinuity, Geological investigation for selection of dam site, adit, tunnels, shaft, selection of barrow areas for construction materials (soils & rocks as construction materials), identification of faults at site, fault types, types of drilling, importance of permeability tests in dam foundation, importance of logging for civil structures, importance of hydro geology, aquifer testing, importance of earthquakes for dams, origin and types of earthquake waves, identification and types of joints, importance of joints in hydraulic structures, Surface and sub-surface geological exploitations and sequence for dams etc. (Adits, Pits, Trenches, Shafts, Drilling etc.)

Rock and rock types, general Engineering properties of common rocks, Engineering geological investigations for hydraulic structures, Rock as a construction material, Board classification of sedimentary rocks, Field permeability tests in bore holes, water pressure tests and standard penetration test, Purpose of logging and its importance, aquifer testing, Aquifer aquitard, aquiclude aquifuge and storage coefficient of aquifers and Quality criteria for Groundwater use.

Definitions of Natural Hazards and Disasters, Classification of Natural Hazards, Geo Hazards, Disaster Risk Reduction and Disaster Risk Transfer, Plate Tectonics and Plate Boundaries, Global Distribution of Earthquakes and Volcanoes, Folding, Faulting and Fault Lines, Types of Geo-hazards of Earthquake, Volcanoes, Tsunami, Landslide/Mass wasting, Mitigation and Preventive Measures, Geo-hazards Risk Assessment, Early Warning System for Geo-hazards.

Computer (Information Technology): Introduction to Computer System, M.S. Word and M.S. Office: Characteristic of computer, types of computers, computer hardware and software, types of memory and functions, operating systems, input/output and storage devices, types of computer languages, programming and functions of compiler, main features of utility of MS Word, MS Excel, MS Power Point, Internet and E-mail.

Reference Books

- DAMON, P. C. (2006) Introduction to International Disaster Management. Butterworth-Heinemann, UK. 7.
- DILLEY, Maxx (2005) Natural Disaster Hotspots: A Global Risk Analysis. World Bank and University of Columbia, US. Plate Tectonics: Continental Drift and Mountain Building, Wolfgang Frisch, Martin Meschede, Ronald C. Blakey, 2010, Springer.
- Economic Geology and Geotectonics, Donald Harvey Tarling, 1981,
- Wiley Engineering Geology and Geo-techniques by F.G. Bell.
- Design of small dams. A Water Resources Technical Publication.
- Geo-dynamics of Pakistan by Abdul Farah & De Jong.
- Geological Exploration by Dovbin.
- Earth Manual by United State, Department of Interior, Bureau of Reclamation.
- Soil Testing by T. William Lambe.
- Microsoft Office 2007/2010, by Gary B. Shelly, Thomas J. Cashman and Misty E. Vermaat.
- Window 7 Step by Step by Joan Lambert and Joyce Cox (Available Online).

NOTE (1) One question from Computer (Information Technology) is **compulsory** to be included in Paper-II (Technical).

NOTE (2): The paper will be 50% objective and 50% subjective.


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