

6

REVISED SYLLABUS 2022

DEPARTMENTAL PROMOTION EXAMINATION FROM SENIOR RESEARCH OFFICER TO DIRECTOR (ENVIRONMENTAL)

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

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)

General: Definition and concept of environment, definition and concept of ecology, ecosystems, components of ecosystems, succession, biogeochemical cycles, aquatic and terrestrial ecosystems, major ecosystems of Pakistan, renewable and non-renewable resources, degradation and depletion of resources, man's impact on environment, pollution.

Climate: Climate and weather, climate zones, seasons in Pakistan, climatic elements, effects of climate on people, floods, storms, impacts on global warming, ozone depletion.

Forests: Productive forests, protected forests, the importance of forests, forest types in Pakistan, determinants, mangroves, forest products, causes of deforestation, reforestation, forest conservation and afore-station programs.

Environmental Impact and Requirements of Water Resources Development Projects: Dam/reservoirs projects. Environmental Impacts, case study of Basha, Dasu and Mohmand Dam Projects, Monitoring, Purpose of EIA, EIA Steps, EIA statement (EIS), EIA and Project Cycle, Introduction to natural resources, the importance of rivers in Pakistan, the Indus system, ground water, uses of water, irrigation, the Indus Water Treaty, siltation of reservoirs, barrages, water logging and salinity, water pollution.

Director (Exams) WAPDA
323-WAPDA House, Lahore

20

St [Signature] [Signature] [Signature]

Power Resources: Non-renewable energy resources, natural gas, nuclear energy, thermal energy, renewable energy resources, hydro-electric power, solar energy, biogas.

Introduction to Environmental Legislation in Pakistan: Development of environmental law in Pakistan, the environmental movement, history of environmental laws in Pakistan, environmental treaties effective in Pakistan, types of environmental laws in Pakistan.

Pakistan Environmental Protection Act, 1997: Definitions, powers of the Federal Agency, powers and functions of the Provincial Environmental Protection Agencies (EPAs), prohibition of certain discharges and emissions, Initial Environmental Examination (IEE), and Environmental Impact Assessment (EIA).

Regulations for Submission of Environmental Reports for Projects: Projects which require an IEE, projects which require an EIA, Projects which do not require an IEE or EIA, preparation of IEE and EIA, review fees, filling of IEE and EIA.

Review and Approval of Environmental Reports: Preliminary scrutiny, public participation, review, decision, conditions of approval, confirmation of compliance, deemed approval, extension in review period, validity period of approval, entry and inspection, monitoring, cancellation of approval, environmentally sensitive areas.

Sensitive and Critical Areas: Protected areas, protected areas in Pakistan, approach to ecosystems, the importance of protection, policies and legislation, notified protected ecosystems in Pakistan, classification of ecosystems in Pakistan, approach to archaeological sites and monuments, the importance of protection, geological sites in Pakistan, notified archaeological sites and monuments, checklist of procedures for environmental assessment, World Heritage Sites in Pakistan.

Preparation of Environmental Reports (IEE and EIA) – Introduction: Integrated environmental assessment, making environmental assessment credible and fair, relationship between environmental assessment and good design, inter agency coordination, early consideration of strategic content.

Environmental Assessment: the purpose of the IEE, steps in preparation of an IEE, format of the IEE, scoping, roles of stakeholders in the scoping process, generating alternatives, site selection checklists, overlays, matrices, networks and ad hoc methodologies.


Impact Assessment: Impact assessment, impact identification, impact analysis and prediction, baseline data collection, characteristics of impacts, impact prediction, social impacts, health impacts, economic and fiscal impacts, impacts significance, the environmental impact of energy generation.

Environmental Management Plan (EMP): purpose of mitigation measures, different ways of achieving mitigation, preparing an EMP.

Reviewing and decision making by responsible authorities: The role of the review process, a consistent and systematic approach, steps in reviewing an Environmental Report, determining remedial options, the decision making process.

Monitoring and Auditing: need for systematic follow up, definition and purpose of monitoring, effective data collection and management, environmental monitoring committees, environmental auditing.

Computer (Information Technology): Introduction to Computer System, M.S. Word and M.S. Office: Characteristic of computer, types of computer, computer hardware and software, types of memory and functions, operating systems, input/out and storage devices, types of computer languages,


Director (Exams) WAPDA
323-WAPDA House, Lahore

21




programming and functions of compiler, main features of utility of MS Word, MS Excel, MS Power Point, Internet and E-mail.

Reference Books

- Pakistan's Environmental Laws and their Compliance, by Dr. Shoaib Qadar, Athar Rafique Dogar, and Asif Shuja Khan, Lahore Law Times Publications.
- Environmental Planning and Management by D.B.N. Murthy.
- Freshwater Ecology: Concepts and Environmental Applications by Walter K. Doods.
- 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.


Director (Exams) WAPDA
623-WAPDA House, Lahore

22

