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REVISED SYLLABUS 2022

DEPARTMENTAL PROMOTION EXAMINATION FROM SENIOR RESEARCH OFFICER TO SUPERINTENDING RESEARCH OFFICER (STAT/MATH)

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)

Introduction: Origin of Statistics, meaning and Nature of Statistics, Importance of Statistics

Measures of Central Tendency: Introduction, Arithmetic and weighted Mean, Median & Mode, the Range, The Mean Deviation, Standard Deviation, Variance, Properties of measures of Central Tendency.

Frequency Distributions: Tabulation, Frequency Distribution, Class Intervals, Histograms, Types of Histograms, Frequency Polygons, Applications, Standard Deviation, Coefficient of Variation

Curve Fitting: Introduction, Straight Line Equation and Curves. Fitting a straight line by Method of least square, Time Series, Regression-Explained/unexplained variance

Correlation & Regression: Introduction, Scatter Diagram, Coefficient of Correlation (i) Computation of (r) for grouped and ungrouped data; Testing Hypothesis, Use of t Distribution fisher (Z) Transformation, Non Linear Regression Partial and Multiple Correlation, Multiple Linear Regression Rank correlation.

Index Number: Introduction, Index Number Theory, Price Indices

Design of Experiment: Randomized Block Design, Completely Randomized Block Design, Split Plot Design Latin Square Design

Estimation: Introduction Biased and Unbiased Estimation, Consistent Estimates, Confidence Limits and intervals

Decision theory: Tests of Hypothesis, level of significance type I&II Errors, Samples Differences, other Statistical Tests for Decision Making.


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

Reference Books

- Statistical Methods by George W. Snedecor (1952).
- Elements of Statistical Methods by Albert e. Waugh (1952).
- Statistical problems by L.H. Longley – Cook (1962).
- Applied Statistics and Probability for Engineers 3rd ed. By Douglas C. Montgomery.
- 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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