PUBLIC HEALTH OFFICER (PHO)

Total Marks: 100

Theory: 60

Practical 20

Interview: 10

Academic Credentials: 10

1. Purpose and Competency Profile

This curriculum assesses candidates' capacity to independently design and implement public health research, manage large datasets and databases, undertake statistical analysis, prepare professional and academic documents, manage projects, lead multidisciplinary teams and use modern computer applications.

Competency	Expected capability
Research design and execution	Develop protocols, select methods, supervise fieldwork, assure quality and uphold ethics.
Data management and analysis	Clean, link, validate and analyze large public health datasets using databases and statistical tools.
Scientific communication	Prepare research proposals, manuscripts, technical reports, policy briefs and presentations.
Programme management	Plan, budget, implement, monitor, evaluate and report on projects.
Leadership and coordination	Supervise teams, negotiate, collaborate and coordinate across institutions.
Digital proficiency	Use advanced office, database, analytics, data collection and collaboration applications.

2. Examination Scheme

Component	Marks	Suggested duration
MCQs (40 × 1)	40	45 minutes
Short-answer questions (2 × 5)	10	30 minutes
Long-answer question (1 × 10)	10	45 minutes
Computer-based practical	20	120 minutes
Structured interview	10	15–20 minutes
Academic Credentials	10	
TOTAL	100	

3. Theory Blueprint (60 Marks)

Subject area	MCQ	SAQ	LAQ	Total
I. Research methodology and epidemiology	10	5	0	15
II. Biostatistics, database management and big data	10	0	10	20
III. Scientific writing, ethics and evidence translation	6	0	0	6
IV. Programme and project management	6	0	0	6
V. Leadership, coordination and health systems	4	5	0	9
VI. Computer applications and digital public health	4	0	0	4
TOTAL	40	10	10	60

4. Detailed Theoretical Syllabus

I. Public Health Research Methodology and Epidemiology

Descriptive and analytical epidemiology; disease measures and interpretation. Cross-sectional, case-control, cohort, experimental and quasi-experimental designs.Qualitative and mixed-methods research; research questions, hypotheses and conceptual frameworks.

Sampling, sample size, statistical power, tool development, validity, reliability and pilot testing.

Field operations, data quality assurance, bias, confounding and causal inference. Systematic reviews, critical appraisal, ethics, informed consent and confidentiality.

II. Biostatistics, Database Management and Big Data

Variable types, descriptive statistics, data visualization and exploratory analysis.Probability, confidence intervals, hypothesis testing and appropriate statistical tests.Correlation, linear/logistic/Poisson regression and multivariable analysis.Complex survey data, missing values, longitudinal/panel/time-series data fundamentals.Relational database concepts, SQL queries, joins, aggregation and data dictionaries.Data cleaning, merging, reshaping, deduplication, reproducible scripts and automation.Data protection, backup, secure access and responsible use of sensitive information.

III. Scientific Writing, Research Ethics and Evidence Translation

Research proposals, progress reports, final reports and policy briefs.IMRAD manuscripts, structured abstracts, tables, figures and results interpretation.STROBE, CONSORT, PRISMA and other applicable reporting guidelines.Vancouver, APA and Harvard citation styles; Zotero/Mendeley.Authorship, plagiarism, research integrity and responsible generative AI use.

Professional correspondence, meeting minutes and scientific presentations.

IV. Public Health Programme and Project Management

Project life cycle, needs assessment and stakeholder analysis.Logical framework, theory of change, indicators, targets and work planning.Gantt charts, budgeting, resource allocation, procurement principles and risk management.Monitoring, evaluation, learning, supervision, accountability and donor reporting.

V. Leadership, Coordination and Health Systems

Leadership styles, delegation, motivation and team supervision.Human resource planning, performance management and conflict resolution. Stakeholder engagement, negotiation, partnerships and intersectoral coordination.Nepal's federal health system, health policy, governance and public health legislation.Ethical leadership, inclusion, safeguarding and meeting management.

VI. Computer Applications and Digital Public Health

Advanced Excel: formulas, pivot tables, Power Query, validation and visualization.Professional Word formatting, tracked changes, PowerPoint and presentation design.R/RStudio, SPSS, Stata or equivalent; KoboToolbox, ODK, DHIS2/HMIS and dashboard platforms.Cloud collaboration, file/version management, cybersecurity and responsible AI.

5. Practical Examination (20 Marks)

Task	Marks	Expected deliverable
A. Data cleaning and database operations	6	Cleaned and merged dataset; documented checks and database queries
B. Statistical analysis and interpretation	6	Tables, analysis output and justified interpretation
C. Research/scientific writing	3	Structured technical results summary
D. Advanced office applications	3	Pivot/chart or dashboard and two presentation slides
E. Project planning	2	Activity schedule, roles, risks and indicators
TOTAL	20	

Task A — Data management

Supply an anonymized dataset of approximately 5,000–20,000 records with duplicates, missing data, inconsistent categories and related tables. Assess cleaning, merging, validation, documentation and SQL or equivalent operations.

Task B — Statistical analysis

Ask candidates to produce descriptive results, choose and run an appropriate statistical test or regression, and interpret findings using approved software.

Task C — Scientific writing

Prepare a 300–400-word structured results summary with methods, principal findings, interpretation and recommendations.

Task D — Office applications

Create an Excel pivot table or dashboard, a clear chart and two professionally formatted slides.

Task E — Project management

Prepare a concise implementation schedule with assigned responsibilities, risks and monitoring indicators.

Administration: Provide equivalent scenarios, anonymized data, approved software and identical scoring rubrics. Require submission of working files as well as final outputs.

6. Structured Interview (10 Marks)

Criterion	Marks
Research experience and problem-solving	2
Leadership and team coordination	2
Professional communication	2
Digital proficiency and adaptability	2
Ethical judgment and accountability	2
TOTAL	10

Use the same core competency-based questions for all candidates; score independently against predetermined behavioral anchors and request concrete examples of prior work.

7. Examination and Quality Standards

MCQs: four options, one best answer, with correct responses evenly distributed across A/B/C/D.

SAQs: two compulsory applied questions worth 5 marks each; LAQ: one compulsory case-based question worth 10 marks.

Target cognitive levels: 20% foundational knowledge, 50% application and 30% advanced analysis/problem-solving.

Use standardized practical datasets and blinded/independent marking wherever feasible.

Consider a separate minimum qualifying score in the practical component, subject to approved recruitment rules.

Moderate questions for content validity, clarity, difficulty and consistency; keep answer keys and rubrics confidential.

8. Suggested Qualifications and Experience

Minimum academic qualification: Bachelor's degree in Public Health with one year experiences in relevant field