

Syllabus for Public Health Bachelor's

Section 1: Subject Knowledge

Please Note: A Total of 40 Questions will be asked, combining the following topics, with the difficulty level commensurate to a Bachelor's Candidate.

Unit I: Basic Microbiology, Biochemistry, Biotechnology

Proteins and Lipids: Structure, function, folding, post-translational modifications, enzyme kinetics, and inhibition.

Microbiology: Cell structure, microbial metabolism, gene regulation, horizontal gene transfer, CRISPR-Cas, and mutagenesis.

Genetic Engineering: Restriction enzymes, cloning vectors, PCR, sequencing techniques, genome editing tools (CRISPR-Cas9), and molecular markers (RFLP, AFLP, SSR, SNP).

Unit II: Epidemiology, Social Science, Food & Nutrition

History, scope, and study designs (cohort, case-control, cross-sectional), Disease measures, biases, confounding, and public health applications, Nutrition fundamentals: macronutrients, micronutrients, dietary guidelines, food safety, and nutrition's role in public health.

Unit III: Communicable & Non-Communicable Disease (Prevention/Prediction)

Definitions, characteristics, and epidemiology of communicable and non-communicable diseases. Modes of transmission, risk factors, and biological mechanisms for diseases like HIV/AIDS, tuberculosis, influenza, cardiovascular diseases, diabetes, and cancer, Preventive strategies.

Unit IV: Public Health and Epidemiology

History and concepts of public health, determinants of health, and health inequalities, Principles of epidemiology: disease patterns, incidence, prevalence, risk factors, and study designs, Data collection, statistical interpretation, and application to disease prevention and health promotion.

Unit V: Biostatistics, Environmental Sciences

Descriptive statistics, probability distributions, hypothesis testing, confidence intervals, regression analysis, and ANOVA, Environmental science topics: biodiversity, ecosystem services, climate change, pollution, environmental policy, sustainability, and urbanization impacts on natural resources.

Section 2: Fundamental Skills

Please Note: A Total of 28 Questions will be asked, combining the following topics, with the difficulty level commensurate to a Bachelor's Candidate.

Unit I: Data Analysis

Unit II: Math and Statistics

Unit III: Lab skills

Unit IV: Reading and Writing

Section 3: Specific Skill Proficiency

This section has more than 30 skills. You can select the ones you are proficient in from the enrollment form. You can choose a maximum of 2 skills. Each skill contains 10 questions.