FACULTY OF SCIENCE

SYLLABI

FOR

MASTER IN PUBLIC HEALTH

1ST TO 4TH SEMESTER

EXAMINATIONS 2011 - 2012

--:O:--
### SCHEME OF STUDY

#### SEMESTER - I

<table>
<thead>
<tr>
<th>SUBJECT CODE</th>
<th>NAME OF THE SUBJECT</th>
<th>L</th>
<th>T</th>
<th>P</th>
<th>HOURS PER WEEK</th>
<th>CREDITS</th>
<th>MARKS</th>
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<tbody>
<tr>
<td>MPH-101</td>
<td>Basic Concepts in Public Health</td>
<td>4</td>
<td>1</td>
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<tr>
<td>MPH-102</td>
<td>Basic Epidemiology-I</td>
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<tr>
<td>MPH-103</td>
<td>Maternal and Child Health/ Reproductive Health and Family Planning</td>
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<td>MPH-104</td>
<td>Basic Computing and Research Methodology</td>
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<td>Open Elective – Occupational Health and Safety Management</td>
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<td>MPH-106</td>
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**TOTAL**  
32 HOURS  
25  
600

#### PLEASE NOTE

There will be a Bridge Course (MPH-106 - Non-Credit) of 50 marks in the first semester, which is a deficiency course for eligibility only. Marks will not be included in the grand total.

#### SEMESTER - II

<table>
<thead>
<tr>
<th>SUBJECT CODE</th>
<th>NAME OF THE SUBJECT</th>
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<tr>
<td>MPH-201</td>
<td>Biostatistics</td>
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<td>Survey Methods</td>
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<td>MPH-204</td>
<td>Public Health in Emergencies, Disasters and Conflicts</td>
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**TOTAL**  
27 HOURS  
26  
650
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<th>SUBJECT CODE</th>
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<th>MARKS</th>
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<tbody>
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<td>MPH-301</td>
<td>Basic Epidemiology-II</td>
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<td>MPH-302</td>
<td>Health Services Planning and Management/Health Economics</td>
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<td>MPH-303</td>
<td>Medical Bioinformatics and Computational Sciences</td>
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<tr>
<td>MPH-304</td>
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<td>29 HOURS</td>
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<th>P</th>
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<th>MARKS</th>
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<tbody>
<tr>
<td>MPH-401</td>
<td>Public Health Law, Ethics and Human Rights</td>
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<tr>
<td>MPH-402</td>
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<td>34 HOURS</td>
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<table>
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<th>Open Elective</th>
<th>Department Elective</th>
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<tbody>
<tr>
<td>Occupational Health and Safety Management</td>
<td>Public Health in India and World</td>
</tr>
<tr>
<td>Genetics and Public Health</td>
<td>Health for Special Groups/Populations</td>
</tr>
<tr>
<td>Global Health</td>
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</tbody>
</table>

**TOTAL CREDITS = 100**

**TOTAL MARKS = 2250**

**PLEASE NOTE**

1. Internship will be for 45 days (between Mid of May to 1st week of July), arranged by the students themselves and they have to submit the report for the same period.
2. Only the internship with valid institution/organization will be recognized.
3. Dissertation work will begin in 3rd Semester and will be completed in 4th Semester. It will include synopsis presentation, submission and evaluation of dissertation and viva-voce.
DETAILED SYLLABUS OF STUDY

SEMESTER I

<table>
<thead>
<tr>
<th>MPH-101</th>
<th>BASIC CONCEPTS IN PUBLIC HEALTH</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>Final Exam</strong> 80 marks</td>
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<tr>
<td></td>
<td><strong>Internal Assessment</strong> 20 marks</td>
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It will introduce about the definition, concept, history, dimensions, determinants and interdisciplinary nature of Public Health.

**UNIT I**

**UNIT II**

**UNIT III**

**UNIT IV**
The infrastructure of Public Health, Human resources in Public Health, Information resources, Organizational resources, Social capital perspective of Public Health.

**NOTE:**
Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory question of short answer type, covering the whole syllabus. It will consist of eight short answer questions of 2 marks each. Students will attempt one question from each unit and the compulsory question. All questions may carry equal marks.

SUGGESTED READING


FURTHER READING


It will introduce about the history, definition, concept, determinants, applications, basic measurements and infectious disease epidemiology.

UNIT I
Historical aspects of epidemiology, Basic concepts, definition and significance, aims of epidemiology, Clinical versus epidemiological approach, The epidemiology triad, Applications and uses of epidemiology

UNIT II
Concept of diseases, concept of causation, Natural history of disease, spectrum of disease, Concept of control, frequency, distribution of disease, determinants of disease, Disease classification (ICD 10)

UNIT III
Basic measurements in epidemiology (rates, ratios and proportions), Measurements of mortality Measurements of morbidity (prevalence and incidence), Methods of descriptive epidemiology, analytical epidemiology, experimental epidemiology

UNIT IV
Infectious disease epidemiology, Disease transmission, Host defenses/immunizing agents, Issues and problems of epidemiology, Disease prevention and control

NOTE:
Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory question of short answer type, covering the whole syllabus. It will consist of eight short answer questions of 2 marks each. Students will attempt one question from each unit and the compulsory question. All questions may carry equal marks.

SUGGESTED READING

FURTHER READING
MPH-103  MATERNAL AND CHILD HEALTH/ REPRODUCTIVE HEALTH AND FAMILY PLANNING

<table>
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<tr>
<th></th>
<th>Final Exam</th>
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<td>Internal Assessment</td>
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</table>

It will introduce about the nutrition, health and diseases, Preventive and therapeutic concepts to reduce the morbidity and mortality among mothers and children and basic concepts of demography.

UNIT I  Demography: Definition and Concept Demographic cycle. Global trends in demography, Indian trends in demography (age pyramids, sex ratio, dependency ratio, density, family size, life expectancy, birth and death rates, growth rates). Family Planning: Definition, Scope, and Concepts, Health aspects of family planning, small family norms, eligible couple, target couple, couple protection rate, Contraceptive methods (Spacing methods and Barrier methods), and Hormonal contraceptive, Unmet need for family planning.

UNIT II  Relation between nutrition, health and disease. Malnutrition, nutrition related deficiencies, diseases and disorders. Recommended dietary allowances, Epidemiology, classification of nutrition risk factors. Amelioration of nutrition risk factors through public health measures.


UNIT IV  Factors specific to Indian situations leading to maternal and child health, Indicators of MCH care, Delivery and organization of MCH/FP services, Current strategies for improvement of maternal and child health. Integrated Management of Neonatal and Childhood Illnesses (IMNCI), Maternal and child nutrition, Breast feeding, nutrition requirement of pregnant and lactating mothers, Methods of promoting dietary change.

NOTE:  Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory question of short answer type, covering the whole syllabus. It will consist of eight short answer questions of 2 marks each. Students will attempt one question from each unit and the compulsory question. All questions may carry equal marks.

SUGGESTED READING

### FURTHER READING


### MPH-104 BASIC COMPUTING AND RESEARCH METHODOLOGY

<table>
<thead>
<tr>
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<th>Final Exam</th>
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<td>80 marks</td>
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</table>

It will introduce about the basics of computer system, software’s used in public health, and data processing.

#### UNIT I

Computer system concepts, computer system characteristics, capabilities and limitations, types of computers, personal computer (PCs). Basic components of a computer system – control unit, ALU, input/output functions and characteristics, memory – RAM, ROM and other types of memory. Storage fundamentals – primary vs secondary data storage and retrieval methods.

#### UNIT II

Software and its need, types of software – system software, application software, system software – operating system, utility program, programming languages, introduction to operating system. Application software and its types –Windows vista, window XP, window 7, Word, Excel:-Data entry, Statistical functions and Graphics capabilities. Power -point, characteristics, uses and examples and area of applications of each of them, virus working principles, types of viruses, virus detection and prevention.

#### UNIT III

Basic elements of research – research problem: selection and formulation of objectives; review of literature, on line search of literature, hypothesis, study design (Qualitative, Quantitative) Retrospective & Prospective studies, Long/Cross cases), sampling and methods of data collection

#### UNIT IV

Data processing: Editing, coding, classification and tabulation, Data analysis, thesis/dissertation writing, paper writing, Questionnaire Design, Interview technique, Proposal writing, Report writing

#### NOTE:

Examiner will set a total of *nine* questions comprising *two* questions from each Unit, and *one compulsory question* of short answer type, covering the whole syllabus. It will consist of *eight short answer questions* of 2 marks each. Students will attempt *one question from each unit and the compulsory question*. All questions may carry equal marks.
SUGGESTED READING


FURTHER READING


MPH-105

**OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT**

(OPEN ELECTIVE)

<table>
<thead>
<tr>
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<th>Final Exam</th>
<th>80 marks</th>
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<tr>
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<td>Internal Assessment</td>
<td>20 marks</td>
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</table>

It will introduce about the concepts of occupational health, hazards and safety management and various diseases related to the discipline.

UNIT I

Occupational health: definition, Occupational classifications, ergonomics, hazardous agents in the workplace, occupational hazards (physical, chemical, biological, mechanical, psychological), common occupational diseases (pneumoconiosis, Anthracosis, Byssinosis, Bagassosis, Asbestosis, Farmer’s lung and lead poisoning), occupational cancer (skin cancer, lung cancer, bladder cancer, leukemia).

UNIT II

Injuries: definition, types of injuries, intentional (homicide, assault, suicide etc.) and unintentional (motor vehicle crashes, falls, poisonings, fires, etc.) injuries, epidemiology of intentional and unintentional injuries, risk factors in intentional and unintentional injuries, prevention through epidemiology, community approaches to the prevention of unintentional injuries, violence in our society and resources for prevention, cost of injuries to society.

UNIT III

Safety and health in the workplace, importance of occupational safety and health to the community, occupational safety and health acts, overview of recent trends in workplace injuries and illness, unintentional injuries in the workplace, prevention and control of unintentional injuries in the workplace, intentional workplace injuries, occupational illness and disorders, resources for the prevention of workplace injuries and diseases.

UNIT IV

Extent of industrial pollution, public exposure from industrial sources, major chemical contamines of concern in the general environment and the workplace, the social context of occupational health and safety, dimensions of types of occupational health problems, Sickness absenteeism, causes of accidents in industry, industrial accidents (Bhopal gas tragedy and London fog smog), measures of health protection of workers in India, (medical, legislation, engineering and administration).

NOTE:

Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory question of short answer type, covering the whole syllabus. It will consist of eight short answer questions of 2 marks each. Students will attempt one question from each unit and the compulsory question. All questions may carry equal marks.
### SUGGESTED READING


### FURTHER READING

### MPH- 106 (A)  
**BASIC CONCEPTS IN LIFE SCIENCES (FOR NON-SCIENCE STUDENTS)**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UNIT I</strong></td>
<td>Levels of organization, cells, tissues, organs systems and organisms. Basis of ecology-principles of ecology, population ecology introduction to environment Principle classification of organisms, infections and diseases.</td>
</tr>
<tr>
<td><strong>UNIT II</strong></td>
<td>Body systems and related diseases- Digestive, Respiratory, Circulatory, Excretory, Reproductive, Nervous, Endocrine and Immune systems</td>
</tr>
<tr>
<td><strong>UNIT III</strong></td>
<td>Genetics: Introduction to molecular genetics, DNA, RNA and proteins, genetic disorders</td>
</tr>
<tr>
<td><strong>UNIT IV</strong></td>
<td>Microbiology: Microorganisms- Bacteria and Viruses. Their involvement in food borne diseases, diseases of various body systems caused by microorganisms.</td>
</tr>
</tbody>
</table>

**To develop basic understanding of science subjects in the non-science students.**

### MPH- 106 (B)  
**BASIC CONCEPTS IN SOCIAL SCIENCES (FOR SCIENCE STUDENTS)**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UNIT I</strong></td>
<td>Basic concepts in Sociology- Meaning of sociology, scope of sociology, sociological relevance of point of view, significance of sociology for students of Public Health. Basic concepts- Society, Culture, Group and Community.</td>
</tr>
<tr>
<td><strong>UNIT III</strong></td>
<td>Basic concepts in Philosophy- A General introduction to the nature, problems and branches of philosophy. Ethical Theories: Platonism, Aristotle’s, Golden Mean, Stoicism, Cynicism, Hedonism, Utilitarianism, Kant’s categorical Imperative, Good will and Maxeins of Morality. Applied aspect of Bio-ethical problems at a societal level.</td>
</tr>
<tr>
<td><strong>UNIT IV</strong></td>
<td>Basic concepts in human behavior- Introducing the state of health in India and the use of medical anthropology. The importance of culture in studying health. Studying the health of communities: Theories to understand the relationship between health illness and culture: social interaction as a tool for understanding health. Public health as being a part of society and culture. Use of case studies to improve understanding of health and culture.</td>
</tr>
</tbody>
</table>

**To develop basic understanding of the concepts of social science subjects to the science or medical students, thus helping them to gain knowledge about the importance of Social Science and apply their principles in Public Health.**
SEMESTER – II

MPH- 201  BIOSTATISTICS

<table>
<thead>
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<th>Final Exam</th>
<th>80 marks</th>
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<td>Internal Assessment</td>
<td>20 marks</td>
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</table>

To introduce students to the use of biostatistics in health sciences for analysis, interpretation and presentation of data. To train students to use statistical software and handle large data sets.

UNIT I

Biostatistics: its meaning and objectives, measurement scales, Population and Samples. Data presentation, Frequency tables, graphs, Diagrams. Measures of location, variability (box and whisker plot), Skewness and Kurtosis. Intuitive concept of probability, conditional probability (Bayes theorem), Specificity, Sensitivity and ROC Curve, cohort study, case control study, randomized control trials, relative risk, odds ratio (Practical using SPSS only)

UNIT II

Random variables, probability mass function, probability density function, distribution function, expectation and variance, Bernoulli trials, Binomial, Poisson and normal distributions. Scatter diagram, correlation and Spearman’s rank Correlation Coefficient, Regression and multiple regressions (Practical using SPSS only)

UNIT III

Sampling Techniques, Sample size, Distributions of sample mean, difference of means, sample proportion and difference of proportions, the basic idea of testing hypothesis, Tests of hypothesis for the parameters of a normal distribution (two sample problems also) including testing for population proportions, paired t-test, chi-square tests. Yates’ correction, goodness of fit, association & homogeneity. (Practical using SPSS only)

UNIT IV

Analysis of variance (ANOVA), one-way and two-way classification, Non-parametric: Sign-test, Wilcoxon Signed rank test, Mann-Whitney U-test. (Practical using SPSS only)

NOTE: Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory question of short answer type, covering the whole syllabus. It will consist of eight short answer questions of 2 marks each. Students will attempt one question from each unit and the compulsory question. All questions may carry equal marks.

SUGGESTED READING

<table>
<thead>
<tr>
<th>MPH-202</th>
<th>ENVIRONMENTAL HEALTH</th>
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<tr>
<td></td>
<td>Final Exam 80 marks</td>
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</table>

It will introduce about the basics concept of environmental health, Current and emerging issues in environmental health, Risk assessment, Risk Management.

**UNIT I**
Basic concepts and definition of Environment, Different aspects of Environment (Physical, Biological and Social) Basic requirements for a healthy environment, Impact of Environmental factors on health, Nature of environmental hazards (Biological, Chemical, Physical, Mechanical and Psycho-social), Role of environmental health professionals

**UNIT II**
Water pollution and surveillance of drinking water quality, Hardness in water, air pollution and health, Vehicle pollution, ventilation, Light, Noise, Radiation, Nature of adverse effects on health and interventions.

**UNIT III**
Meteorological environment, Housing and health, Factors causing increased urbanization, urbanization and health, Solid waste and Bio medical waste management, Sanitation, Pesticide pollution, Food quality criteria and assurance, Food borne diseases and food poisoning, Vector and rodent control.

**UNIT IV**

**NOTE:** Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory question of short answer type, covering the whole syllabus. It will consist of eight short answer questions of 2 marks each. Students will attempt one question from each unit and the compulsory question. All questions may carry equal marks.

**SUGGESTED READING**


### MPH-203 \textbf{SURVEY METHODS}

<table>
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<tr>
<th></th>
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<th>80 marks</th>
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<td>Internal Assessment</td>
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</table>

It will introduce about the basics concept of survey designing, methodology, its testing and report writing.

#### UNIT I
Surveys: Definition, survey methods, survey sample & design, self administrated questionnaires & interviews, questions & responses, planning for data analysis, pilot testing, response rate, reliability & validity, a survey continuum: from specific to general use. Open ended versus closed questions, rules for writing closed survey questions, rating scales: categorical, ordinal, numerical, additive, differential, summated scales.

#### UNIT II
Length of survey, questionnaire format- aesthetic & other concerns, branching questions or the infamous skip pattern, finding interviewers, training interviewers, conducting interviews, monitoring interviews quality, guidelines for pilot testing; ethics, privacy & confidentiality, informed consent, Sample size & responses rate, random sampling methods, systematic sampling, convenience sampling.

#### UNIT III
Survey design: cross sectional survey designs, longitudinal surveys or cohorts, comparison group survey designs: quasi & true experiments, normative & case control design, survey design validity, internal validity, external validity, content analysis, open-ended responses & comments, data management, creating a code book, entering the data, cleaning the data.

#### UNIT IV
Communicating the results, writing the report, oral presentation, planning and structuring a presentation, presenting the result, Public speaking and presentation, unplanned and planned presentation, informative and persuasive presentation, small group and large group presentation.

### NOTE:
Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory question of short answer type, covering the whole syllabus. It will consist of eight short answer questions of 2 marks each. Students will attempt one question from each unit and the compulsory question. All questions may carry equal marks.

### SUGGESTED READING
<table>
<thead>
<tr>
<th>FURTHER READING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Analysis of Health Surveys, Edward L. Korn, Barry I. Graubard</td>
</tr>
<tr>
<td>5. Michael Jay Polonsky and David S. Waller, 2009, Designing and managing a research project, saga publication</td>
</tr>
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</table>

**MPH-204 PUBLIC HEALTH IN EMERGENCIES, DISASTERS AND CONFLICTS**

<table>
<thead>
<tr>
<th></th>
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It will introduce about the fundamentals of emergencies, disaster and outbreak management.

**UNIT I**
Definition, Concept, Objectives, Elements and Significance of Disaster Management. Dimensions and typology of Disasters: Natural Disasters- include broad outlines regarding natural disasters such as; earthquakes, volcanic eruptions, floods, landslides, avalanches, tsunamis, cyclones, climatic change, droughts and epidemics. Manmade Disasters- include wars, industrial accidents, soil degradation, desertification, deforestation, radiation hazards, depletion of water resources, destruction of ecological, system, landslides, fire, oil spill, breakdown of essential services etc.

**UNIT II**
Aspects of Disaster Management, Response, Preparedness, Mitigation, Relief Phase, Role of union & state Governments., NGOs, International Agencies and friendly countries, Epidemiological Surveillance and disease control, Vaccination, Nutrition, Rehabilitation. Personal Protection in different emergencies.

**UNIT III**
Disaster management in health sectors, Disaster preparedness, Policy development, Disasters in India, Conflicts, Radiation Hazards, Stresses and Strains, Urban slum, Climate variations and public health. NDM Policy Disaster Management in India. Disasters Management Act 2005.

**UNIT IV**
Epidemics: Definition, Types of Epidemics, Major Epidemics, Control, Preventions. Outbreak investigation, Safe and Hygienic food, Maintenance of infection free environment, maintaining mental health during and after disasters. Rehabilitation after the outbreak.

**NOTE:** Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory question of short answer type, covering the whole syllabus. It will consist of eight short answer questions of 2 marks each. Students will attempt one question from each unit and the compulsory question. All questions may carry equal marks.
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>4. Ayaz Ahmad, <em>Disaster Management: Through the New Millennium</em>, Anmol Publications</td>
</tr>
<tr>
<td>7. Arvind Kumar, <em>Disaster Management - Recent Approaches</em>, Anmol Publications</td>
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**MPH-205 (A): GENETICS AND PUBLIC HEALTH (OPEN ELECTIVE)**

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It will introduce about the basics of genetics, community genetics, genetic abnormalities and their assessment.

**UNIT I**

General Principles of Heredity, Structures and Functions of DNA, Genes, Chromosomes, Inherited diseases caused by Chromosomal abnormalities (Brief description, cause of disease, symptoms/signs, frequency), Congenital defects, Inherited diseases caused by mutation, Chemicals that cause birth defects/mutagenic agents.

**UNIT II**

Complex multifactorial anomalies and diseases (common chronic diseases, diabetes, mental disease, major psychosis, alcoholism, cancers), Genetic variability (in relation to drugs, food other environmental factors, ecogenetics), Research methods for evaluating genetic influences on diseases (Twin studies, family studies, population based associated studies).

**UNIT III**

Community genetics (genetic screening, heterozygote screening), Assessment of genetic risks Preventing hereditary diseases- (Prenatal testing (non-invasive tests, invasive tests), Genetic testing, Genetic counseling) Procedure of amniocentesis, Treating hereditary disease (Gene therapy, Stem cells, Somatic cell nucleus transfer technique), Controversies in genetic therapies.
UNIT IV
Cloning (definition, technical procedure, controversies), Human genome project (Brief history, results, implications, impact on public health Indian scenario), Eugenics (definition, implications for public health, controversies), Euthenics (definition, implications for public health), Genetic discrimination

NOTE: Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory question of short answer type, covering the whole syllabus. It will consist of eight short answer questions of 2 marks each. Students will attempt one question from each unit and the compulsory question. All questions may carry equal marks.

SUGGESTED READING

FURTHER READING

MPH-205 (B): GLOBAL HEALTH (OPEN ELECTIVE)

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It will introduce about the health of populations in a global context and trends of various communicable and non communicable diseases.

UNIT I
Global health versus public health, critical global health concepts, global health priorities, MDGs, smallpox eradication, the determinants of global health, key global health indicators, the global burden of disease, causes of global deaths by: region, age and gender, the burden of global diseases & deaths within countries, demographic & epidemiological transitions

UNIT II
Global health education, global poverty, global economy, global health and equity, global health expenditure and health outcomes, public and private expenditure on global health, the cost-effectiveness of global health interventions, global health and development, the Copenhagen consensus, challenge of guinea worm in Asia and Sub-Saharan Africa, ethical and human rights concerns in global health.

UNIT III
Introduction to global health systems: the public, private and NGO sectors, health systems in high-income, middle-income and low-income countries, culture and global health, global health behaviors and behavior change, environment and global health, nutrition and global health, global scenario of maternal and child health, globalization and emerging infectious diseases, global health payers and players.
UNIT IV

Working together to improve global health, natural disasters and complex humanitarian emergencies, the characteristics and health burden of natural disasters, the characteristics and health effects of complex humanitarian emergencies, addressing the health effects of natural disasters and complex humanitarian emergencies, future challenges in meeting the health needs of disasters, role of United Nations in global health, Public-private partnerships and global health; science, technology and global health.

NOTE: 
Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory question of short answer type, covering the whole syllabus. It will consist of eight short answer questions of 2 marks each. Students will attempt one question from each unit and the compulsory question. All questions may carry equal marks.

SUGGESTED READING


FURTHER READING

To acquaint students with the concept of using basic knowledge of communicable and non-communicable diseases, so that student is encouraged to think epidemiologically and manage comprehensively.

**UNIT I**
Epidemiology of communicable diseases (Smallpox, chickenpox, Measles, Rubella, Mumps, Influenza, Diphtheria, Whooping cough, Meningococcal meningitis, Acute respiratory infections, SARS, Tuberculosis, Poliomyelitis, Viral hepatitis, Acute diarrhoeal diseases, Cholera, Typhoid fever, Food poisoning, Amoebiasis, Ascariasis, Hookworm infection, Dengue, Malaria.)

**UNIT II**
Epidemiology of communicable diseases (Rabies, Yellow fever, Japanese encephalitis, KFD, Chikungunya fever, Leptospirosis, Plague, Human salmonellosis, Rickettsial zoonoses, Scrub typhus, Murine typhus, Q Fever, Taeniasis, Leishmaniasis, Trachoma, Tetanus, Leprosy, STD, Yaws, AIDS.)

**UNIT III**
Epidemiology of Non-communicable diseases (CVD, Coronary heart disease, Hypertension, Stroke, Rheumatic heart disease, Cancer, Diabetes, Obesity, Blindness, Accidents and Injuries).

**UNIT IV**
Clinical epidemiology, normality, abnormality, Diagnostic tests, natural history and prognosis, Evidence based practice, prevention in clinical practice, Genetic epidemiology- Basic Genetics, Monogenic disorders, multifactorial disorders, methods in genetic epidemiology, human genome, Oral Health-dental caries, periodontal disease, Oral cancer

**NOTE:** Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory question of short answer type, covering the whole syllabus. It will consist of eight short answer questions of 2 marks each. Students will attempt one question from each unit and the compulsory question. All questions may carry equal marks.

## SUGGESTED READING


## FURTHER READING


11. Davidson's *Principles & Practice of Medicine*, 20th Edition
To acquaint the students with the health service planning and management techniques. To introduce about the health economics principles.

UNIT I
Assessing health needs Health needs and demands, Objectives, Targets and Goals, Health and Development.

UNIT II
Concept of Management, Management methods and techniques. Management themes (styles of management, accountability, systems approach, team work, sustainability), Medical Information System.

UNIT III

UNIT IV
Introduction to Macro and Micro economics. Demand and supply, Economic analysis in Health, Cost benefit analysis, Effectiveness analysis and Cost utility analysis, Budget and Health financing, National and District Health Accounts, Insurance (commercial, social security); User fees, Resource mobilization and utilization; Financial sustainability; DALY Vs. Health Care Cost, Medical Quality and Auditing, Economic evaluation of health care.

NOTE:
Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory question of short answer type, covering the whole syllabus. It will consist of eight short answer questions of 2 marks each. Students will attempt one question from each unit and the compulsory question. All questions may carry equal marks.

SUGGESTED READING

FURTHER READING
**MEDICAL BIOINFORMATICS AND COMPUTATIONAL SCIENCES**

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**To learn about biomedical informatics, health records and Electronic health records. To know the applications of computational science in field of Imaging Informatics and Telemedicine.**

**UNIT I**

Bioinformatics Overview, Evolution of the discipline of Bioinformatics, The discipline of Biomedical Informatics, Major Research Areas, Biomedical Computing, Application and Challenges for Biomedical Computing, Medical Bioinformatics education in India, Information Retrieval and Scholarly Communications, Information Retrieval: Concept, Performance Measure, Data Mining: Concept, Applications, Scholarly Communications: Definition, Challenges, Solutions: Digital Libraries, Subject Gateways and Open Access, Open access Medical Bioinformatics Information Resources

**UNIT II**


**UNIT III**


**UNIT IV**

Imaging Informatics and Telemedicine: Imaging in Health Care, Modalities of Imaging, Digital Imaging, Telemedicine: Concept & Applications, Telemedicine Infrastructure, Efficacy and Barriers of Telemedicine, Other Informatics: Consumer Health, Public Health, and Nursing, Consumer Health Informatics Overview, Consumer Information Access and Decision-Making, Consumer-Provider Communication, Personal Health Records (PHRs), New Models of Health Care, Public Health Informatics (PHI), Nursing Informatics

**NOTE:** Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory question of short answer type, covering the whole syllabus. It will consist of eight short answer questions of 2 marks each. **Students will attempt one question from each unit and the compulsory question.** All questions may carry equal marks.

**SUGGESTED READING**

UNIT I

UNIT II
Gerontology: Definition/concept and significance, health problems in the elderly (due to ageing process, associated with long term illness, psychological process) factors affecting health in the elderly- Addressing elderly public health issues, magnitude of problems, lifestyle, alternative medicine, treatment of old age health problem. Health status of the aged in India, Role of government and NGO’s

UNIT III
Mental health: Definition and classification, Epidemiology of mental illnesses, Causes of mental ill health, Factors affecting mental health, Preventive/rehabilitative aspects, Prevention and control of mental illness, National Institute of Social Defense, Mental Health Programme

UNIT IV
Disability-Epidemiology of disability, Impairment, Disability, Handicap, Inter-disciplinary Rehabilitation Process, nature of rehabilitation, Benefits of rehabilitation. Concept of women’s health, women rights, Problems of working women, IUCD

NOTE: Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory question of short answer type, covering the whole syllabus. It will consist of eight short answer questions of 2 marks each. Students will attempt one question from each unit and the compulsory question. All questions may carry equal marks.

SUGGESTED READING
### MPH-304 (B): PUBLIC HEALTH IN INDIA AND WORLD (ELECTIVE)

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It will introduce about the public health in India and health care delivery system. To be aware about current health policies and programmes like National Rural Health Mission (NRHM) and Integrated Disease surveillance Program (IDSP).

#### UNIT I
History of Public Health in India, Concepts of Ayurveda, Yoga, Unani, Sidha and Homeopathy (AYUSH). (Bhore committee, Mudaliar committee, Chadah committee, Mukerji Committee, Jungalwalla committee, Kartar Singh Committee, Shrivastav Committee, Rural Health Scheme and Health for all by 2000 AD) Concept of Health Care, Level of Health Care, Elements of Health care, Health Status. Health Administration System in India, Centre, State and local level. Role of Community Health workers. Health Planning in India, Planning Commission.

#### UNIT II

#### UNIT III

#### UNIT IV

**NOTE:** Examiner will set a total of **nine** questions comprising **two** questions from each Unit, and **one compulsory question** of short answer type, covering the whole syllabus. It will consist of **eight short answer questions** of 2 marks each. **Students will attempt one question from each unit and the compulsory question.** All questions may carry equal marks.

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# SEMESTER – IV

## MPH- 401
PUBLIC HEALTH LAWS, ETHICS AND HUMAN RIGHTS

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**To understand about public health laws, ethics, human rights and its application in the improvement of health of the community.**

### UNIT I
Public Health Ethics, Comparison of Ethics in medical care and Public Health, Health fascism, Health imperialism, Paternalism, Health commercialism, Ethics in research

### UNIT II
General concept of human rights; the linkage between Health and Human Right, Promotion of health through human right, Impact of violation of human rights on health. Role of National/International agencies in protection of human rights.

### UNIT III

### UNIT IV
Public Health Law in the area of AIDS/HIV, Disabled people, Human experimentation, Mental health, Organ transplant, Reproductive health.

**NOTE:**
Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory question of short answer type, covering the whole syllabus. It will consist of eight short answer questions of 2 marks each. Students will attempt one question from each unit and the compulsory question. All questions may carry equal marks.

## SUGGESTED READING


## FURTHER READING

**MPH-402 | HEALTH EDUCATION AND COUNSELLING**

| Final Exam | 80 marks |
| Internal Assessment | 20 marks |

To familiarize the students with the effective health information, education, communication and important public health issues by using latest technologies.

**UNIT I**
- Human behaviour, Defining behavior, Behavioral Diagnosis, Linkage between behaviour and health. Intention, Enabling factor, Social Pressure, (Significant others, Subjective norms) Culture. Traditions, Beliefs, Norms, Customs, Values, Attitudes. The Health Belief Model
- The BASNEF Model, Health Education, Health Promotion. Ethics of Health promotion

**UNIT II**
- Communication (Components, of communication, hindrances in Communication. The message content. Nonverbal communication, One to one communication, Group communication (Group dynamics, Problems), Patient education. Characteristics of effective health communication. Different learning strategies (Participatory, role play, problem-solving exercises, cares studies, games, other techniques) Using learning aids-Popular Media (storytelling, theatre, puppets, songs, visual art) Problems in popular media.

**UNIT III**
- Learning in adult. Working with children and young people. Health education in pre-school child, school aged child, adolescents, and young adults. Schools and Health education (significance, services, school health education programmes).Working with communities, community participation, (Benefits, process), Community and Health education (planning, objectives, needs, other sectors) Time Evaluation.

**UNIT IV**
- Practicing Health education. Planning and executing a complete programme on health education. (Aims, objectives, research, evaluation), work plan, Managing and organizing the programme/ training/workshop organizing.

**NOTE:** Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory question of short answer type, covering the whole syllabus. It will consist of eight short answer questions of 2 marks each. Students will attempt one question from each unit and the compulsory question. All questions may carry equal marks.

**SUGGESTED READING**

**FURTHER READING**