FACULTY OF SCIENCE

SYLLABI

FOR

MASTER IN PUBLIC HEALTH
(SEMESTER SYSTEM)

EXAMINATIONS 2014-15

--: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>
</tr>
</thead>
<tbody>
<tr>
<td>MPH-101</td>
<td>Basic Concepts in Public Health</td>
<td>4</td>
<td>1</td>
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<td>5</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>
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<tr>
<td>MPH-105</td>
<td><strong>Open Elective – Occupational Health and Safety Management</strong></td>
<td>4</td>
<td>1</td>
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<tr>
<td>MPH-106</td>
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<td></td>
<td>Seminar</td>
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<td>-</td>
<td>1</td>
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**PLEASE NOTE**

There will be a Bridge Course (MPH-106 - Non-Credit) of 50 marks in the first semester. Marks obtained in this course will not be included in the grand total.

## SEMESTER- II

<table>
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<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>MPH-202</td>
<td>Environmental Health</td>
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<td>MPH-203</td>
<td>Survey Methods</td>
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<tr>
<td>MPH-204</td>
<td>Public Health in Emergencies, Disasters and Conflicts</td>
<td>4</td>
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### SEMESTER- III

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<td>MPH-302</td>
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<td>MPH-304</td>
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<td>25 + 25</td>
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<td></td>
<td>Synopsis</td>
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### SEMESTER- IV

<table>
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<th>T</th>
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<th>MARKS</th>
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<td>MPH-403</td>
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<td>TOTAL</td>
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<td>38 HOURS</td>
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W* (Workshop)

**Total Credits = 100**
- Semester I = 26
- Semester II = 26
- Semester III = 24
- Semester IV = 24

**Total Marks = 2500**
- Semester I = 650
- Semester II = 650
- Semester III = 600
- Semester IV = 600

<table>
<thead>
<tr>
<th>Open Elective</th>
<th>Department Elective</th>
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<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>
<td></td>
</tr>
<tr>
<td>DETAILED SYLLABUS OF STUDY</td>
<td></td>
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<tr>
<td>-----------------------------</td>
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<td>SEMESTER I</td>
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### MPH-101 BASIC CONCEPTS IN PUBLIC HEALTH

<table>
<thead>
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<th>80 marks</th>
<th>Internal Assessment</th>
<th>20 marks</th>
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</thead>
</table>

It will introduce about the definition, concept, history, dimensions, determinants and interdisciplinary nature of Public Health.

#### UNIT I

#### UNIT II

#### UNIT III

#### UNIT IV

#### NOTE:
Examiner will set a total of nine questions comprising two questions from each Unit, and one compulsory questionof 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

1. K. Park, 20013 (22nd edition), Textbook of Preventive and Social Medicine, BanarsidasBhanot.
## FURTHER READING


## MPH-102 BASIC EPIDEMIOLOGY-I

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td>80 marks</td>
<td>50 marks</td>
<td>20 marks</td>
</tr>
</tbody>
</table>

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, Issues and problems of epidemiology, Applications and uses of epidemiology
Concept of diseases, concept of causation, natural history of disease, spectrum of disease, concept of control, frequency and distribution of disease, determinants of disease, disease classification (ICD 10/ICD 11)

### UNIT II

Basic measurements in epidemiology (rates, ratios and proportions), Measurements of mortality
Measurements of morbidity (prevalence and incidence), Demography: Definition and Concept

### UNIT III

Outline of various study designs. Methods of descriptive epidemiology, analytical epidemiology, experimental epidemiology. Bias, Confounding. Concept of diseases, concept of causation, Natural history of disease, spectrum of disease, Concept of control, frequency and distribution of disease, determinants of disease, Disease classification (ICD 10).

### UNIT IV

Infectious disease epidemiology, Disease transmission. Disease prevention and control, Screening, Host defenses/immunizing agents, Vaccines under National Immunization Schedule, Newer Vaccines.

**Practical**

- Basic measurements in epidemiology (rates, ratios and proportions).
- Measurements of mortality and morbidity (prevalence and incidence).
- Applied aspects of study designs.

**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>
<th><strong>SUGGESTED READING</strong></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>FURTHER READING</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. K. Park, 2013 (22nd edition), Textbook of Preventive and Social Medicine, BanarsidasBhanot.</td>
</tr>
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</table>
**MPH-103 MATERNAL AND CHILD HEALTH/ REPRODUCTIVE HEALTH AND FAMILY PLANNING**

<table>
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<tr>
<th></th>
<th>Theory</th>
<th>80 marks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Internal Assessment</td>
<td>20 marks</td>
</tr>
</tbody>
</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**
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, Delivery and organization of MCH/FP services

**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, Over nutrition.

**UNIT III**
Public health problems facing pregnant women and babies. Linkage between health of women and babies. Preventive and therapeutic concepts of reduction of morbidity and mortality among mothers and children, Human growth (definition), factors affecting growth, age dependent and age independent Anthropometry, methods of studying child growth, growth monitoring/assessment. Road to Health chart (concept of utility), growth standards/norms

**UNIT IV**
Factors specific to Indian situations leading to maternal and child health, Indicators of MCH care, 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**

5. K.Park, 2013 (22nd edition), Textbook of Preventive and Social Medicine, BanarsidasBhanot.

**FURTHER READING**

## MPH-104  BASIC COMPUTING AND RESEARCH METHODOLOGY

<table>
<thead>
<tr>
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<td>50 marks</td>
</tr>
<tr>
<td>Internal Assessment</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 and its components, 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’s Application, software and its application 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. Application of software – SPSS, EPIINFO, STATA

### UNIT III
Basic elements of research – research problem: selection and formulation of objectives; Research Process: review of literature, on line search of literature, hypothesis, Types of research: Qualitative and quantitative. Study designs: Observational; cross sectional, longitudinal, case control, cohort. Retrospective & Prospective studies, Long/Cross cases), sampling and methods of data collection. Experimental: Randomized control trial, clinical trial designs including cross over trials, factorial trials. Qualitative research techniques: case study, interviews, focus group discussions, grounded theory

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

### Practical Computers
- Using various editing and formatting features of Microsoft Word, Design one page notice to invite entries from students for a co-curricular activity being organized by your department.
- Using various editing and formatting features of Microsoft Word, Design a project report (comprising minimum 4 pages) containing first page for title, second page for table of contents, remaining pages should contain details. Also include picture, table, header/footer, margin, flow/process diagram etc.
- Using Microsoft Excel, prepare a worksheet for a class containing student names, marks in various subjects with appropriate labels. The total marks of each student and the class averages for each test must be calculated using functions/formulas. Format your sheet suitably using various features.
- Using Microsoft Excel, prepare a worksheet for financial budget of an organization containing details about various heads of expenditure, amount etc. Also include details of previous years. Draw appropriate charts for comparative analysis.
- Using Microsoft PowerPoint, design a presentation to create awareness about hygiene among kids. Make use of interesting pictures and animations.
- Using Microsoft PowerPoint, design a presentation for your academic seminar. Make use of hyperlinks, buttons, custom animations etc.
**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>
<th></th>
<th>Theory</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>80 marks</td>
<td>50 marks</td>
<td>20 marks</td>
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</tbody>
</table>

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

**UNIT I**  

**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, preventions 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 contaminates 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).

**Practical**
- Health Risk assessment from different industries.
- Study on Dropsy Epidemics
- Assessment of exposure to Lead and Cadmium
- Study on Trace Elements in Community Environment
- Organize / participate in various teaching / training programmes for various population groups such as PG students/academicians/industrials medical officer.

**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


BRIDGE COURSE

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

<table>
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<th>UNIT</th>
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<tbody>
<tr>
<td>UNIT I</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>
<td></td>
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<tr>
<td>UNIT II</td>
<td>Body systems and related diseases- Digestive, Respiratory, Circulatory, Excretory, Reproductive, Nervous, Endocrine and Immune systems</td>
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</tr>
<tr>
<td>UNIT III</td>
<td>Genetics: Introduction to molecular genetics, DNA, RNA and proteins, genetic disorders</td>
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</tr>
<tr>
<td>UNIT IV</td>
<td>Microbiology: Microorganisms- Bacteria and Viruses. Their involvement in food borne diseases, diseases of various body systems caused by microorganisms.</td>
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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>
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<tr>
<td><strong>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.</strong></td>
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</table>

<table>
<thead>
<tr>
<th>UNIT I</th>
<th>Basic concepts in Sociology- Meaning of sociology, scope of sociology, sociological perspectives, significance of sociology for students of Public Health. Basic concepts- Society, Culture, Group and Community.</th>
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</thead>
<tbody>
<tr>
<td>UNIT III</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>UNIT IV</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>
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### MPH- 201 BIOSTATISTICS

<table>
<thead>
<tr>
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<th>Theory</th>
<th>Practical</th>
<th>Internal Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>80 marks</td>
<td>50 marks</td>
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</tbody>
</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, measures of dispersion, variability (box and whisker plot), skewness and kurtosis

#### UNIT II
Intuitive concept of probability, conditional probability (Bayesian theorem), Specificity, Sensitivity and ROC Curve, cohort study, case control study, randomized control trials, relative risk, odds ratio. Scatter diagram, correlation and Spearman’s rank Correlation Coefficient, Regression and multiple regressions, logistic regression, Random variables, probability mass function, probability density function, expectation and variance, normal distributions. (Practical using SPSS only)

#### UNIT III
Vital statistics (standardized rates, morbidity, mortality, fertility rates) 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 normal testing for population proportions, paired t-test, chi-square tests (Practical using SPSS only)

#### UNIT IV
Analysis of variance (ANOVA). Non-parametric: Sign-test, Wilcoxon Signed rank test, Mann-Whitney U-test. Kappa Coefficient of Agreement, Survival Analysis (Kaplan Meir Estimates, Life Table Method) (Practical using SPSS only)

#### Practical
- Frequency Tables, Graphs, Measure of location, dispersion, skewness and Kurtosis.
- ROC curves, relative risk, odds ratio
- Scatter Diagram, correlation, Spearman’s rank correlation
- Regression, Multiple Regression, Logistic Regression
- Test of hypothesis, Parametric and Non-parametric
- Survival Analysis
- ANOVA (one way and two way classification) (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
4. Sylvia Wassertheil-Smoller, 2004 (3rd edition), Biostatistics and Epidemiology: A Primer for Health and Biomedical Professionals.


FURTHER READING


MPH-202 ENVIRONMENTAL HEALTH

<table>
<thead>
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<th>Theory</th>
<th>80 marks</th>
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</thead>
<tbody>
<tr>
<td>Practical</td>
<td>50 marks</td>
</tr>
<tr>
<td>Internal Assessment</td>
<td>20 marks</td>
</tr>
</tbody>
</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 Psychosocial), Role of environmental health professionals

UNIT II Air pollution and health, water pollution and surveillance of drinking water quality, Hardness in water, 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 problems in India, Solid and Bio medical waste management, Pesticide pollution, Food quality criteria and assurance, Food borne diseases and food poisoning, Vector and rodent control.

| Practical | • Visit for Bio-medical waste management  
• Air pollution and water pollution monitoring and visit to Pollution control board  
• To know about common food adulterants and their estimation and health effect  
• Fluorosis and Iodine deficiency disorder related case studies  
• Lathyrism case study |

**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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<tr>
<th><strong>SUGGESTED READING</strong></th>
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<tr>
<td>4. Nancy Irwin Maxwell 2010(1st edition), Understanding Environmental Health, Jones and Bartlett Publishers</td>
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<tr>
<td>5. K. Park, 2013 (22nd edition), Textbook of Preventive and Social Medicine, Banarsidas Bhanot.</td>
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### MPH-203 | SURVEY METHODS

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

**UNIT I**
Questionnaire and Form design: Definition and objective of a questionnaire, questionnaire design process, types of interviewing methods, question structure, wording, order of questions, Form and layout.

**UNIT II**
Sampling: Design and Procedures, objectives; sample or census, target population, sampling frame, sampling technique, sample size, sampling process, Non-probability sampling-convenience, judgment, quota, snowball sampling
Probability sampling: simple random sampling (with and without replacement), Systematic sampling, stratified sampling, cluster sampling and probability proportional to size sampling.

**UNIT III**
Research design: Exploratory research design; secondary data, qualitative research, Descriptive research design; Causal research design, measurement and scaling; fundamental and comparative scaling and non-comparative scaling technique.

**UNIT IV**
Communicating the results, writing the report, Technical writing, 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, Practical exercise and demonstration.

**Practical**
- To design a questionnaire for specific type of Survey
- To calculate sample size to get a representative sample
- To understand different sampling methods in a particular survey
- To understand qualitative and quantitative research design
- Uses of different scales in survey (e.g. Likert scales)
- Referencing in report writing (e.g. APA style, MLA Style, Harvard Style, Chicago Style, Vancouver Style)

**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


5. Michael Jay Polonsky, David S. Waller, 2010 (2nd edition), Designing and managing a research project, saga publication


MPH-204 PUBLIC HEALTH IN EMERGENCIES, DISASTERS AND CONFLICTS

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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 IV Epidemics: Safe and Hygienic food, Maintenance of infection free environment, maintaining mental health during and after disasters. Rehabilitation after the outbreak.

Field Visit
- SDMA
- Meteorological Deptt.

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

4. Ayaz Ahmad, 2003 (1st edition), Disaster Management: Through the New Millennium, Anmol Publications

### Further Reading

4. Textbook on Disaster Management, Together Towards A Safer India III, 2008. NCERT Publication,
<table>
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<tr>
<th><strong>MPH-205 (A):</strong></th>
<th><strong>GENETICS AND PUBLIC HEALTH (OPEN ELECTIVE)</strong></th>
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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**

**Concept of Globalization- Global health and 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, child health 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.

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### SUGGESTED READING


### FURTHER READING

SEMESTER – III

MPH- 301  BASIC EPIDEMIOLOGY-II

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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, Rickettsialzoonoses, Scrub typhus, Murine typhus, Q Fever, Taeniasis, Leishmaniasis, Trachome, Tetanus, Leprosy, STD, Yaws, AIDS. various steps for investigation of outbreaks.

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


Practical (Three)
- Investigation of an outbreak of diarrhea/cholera/food poisoing (Any one)
- Investigation of an outbreak of dengue/malaria/chikungunya fever (Any one)
- Screening of Non-communicable disease

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-302 HEALTH SERVICES PLANNING AND MANAGEMENT/HEALTH ECONOMICS

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To acquaint the students with the health service planning and management techniques. To introduce about the health economics principles.

**UNIT I**

**UNIT II**
Health Planning in India, Various Committees (from Bhore Committee to Health for All 2000), Planning Commission, Health Sector Plans, Investments and Achievements during the Five Year Plans, 11th Five Year Plan. Health Systems in India at the Centre, the State and the District Level.

**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.

### SUGGESTED READING

FURTHER READING


4. Issel, L.M., 2009 (2nd edition), Health Program Planning and Evaluation: A practical systematic approach for community health, Sudbury, Jones and Barlett Publishers


MPH-303 HEALTH INFORMATICS

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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

UNIT II
Health records management: Health records, definition, classification, features, clinical data, its application, challenges, solutions, clinical data management system, clinical research informatics, nursing informatics. Electronic Health Records: Definition, features, potential benefits and cost benefit analysis of EHR, EHR adoption, steps in its implementation, Electronic medical records, personal health records, EHR/EMR software, application and resources. Health Care quality: definition and explanation, medical errors and patient safety, computerized provider/physician order entry, functions and application, privacy and confidentiality of patient data/records.

UNIT III
Standards and Regulations: Concepts, various standards and regulations in health/medical informatics, standards and interoperability, identifiers and transaction standards, maintaining confidentiality of health information exchange. Evidence based medicine: Definition, concepts, advantages, applications, EBM process, quality of evidence, evidence based practice, medical decision making, clinical decision support system, limitation of evidence based medicine.

UNIT IV

Practical
- Practical aspects of Electronic Health Records and Computerized Provider Order Entry (CPOE)
- Application of Telemedicine in transfer of health records
- Development of a health related web portal
- Using open access resources and evidence based practice
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-304 (A) HEALTH FOR SPECIAL GROUPS/ POPULATIONS (ELECTIVE)

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The course will help in acquiring knowledge about health needs of adolescents as well as for graceful ageing and problems of elderly, Health for Special Groups & population.

UNIT I  

UNIT II  

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 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
Field Visits

- Field visit to health center for exposure regarding adolescent health/elderly health. (Any one)
- Field visits to old age home/regional institute of mental health/blind home. (Any one)

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-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, Jugalwalla 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.

### SUGGESTED READING

### FURTHER READING
### 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

#### 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

#### Workshop
To be conducted by students on given topics and evaluated by the teachers.

#### 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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<th>MPH-402 HEALTH EDUCATION AND COUNSELLING</th>
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To familiarize the students with the effective health information, education, communication and important public health issues by using latest technologies.

**UNIT I**
Human behavior, Defining behavior, Linkage between behavior 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), 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)

**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)

**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, IEC (information education communication) methods, Handout, teaching material. Generating teaching material in vernacular language.

Workshop
To be conducted by students on given topics and evaluated by the teachers.

**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


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