

**Ordinance Governing
Master of Public Health
Epidemiology
Syllabus / Curriculum
2021-22**



Accredited 'A' Grade by NAAC (2nd Cycle)

Placed in Category 'A' by MHRD (GoI)

**KLE ACADEMY OF HIGHER EDUCATION AND
RESEARCH**

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SECTION – I

PREAMBLE

There is a dearth of core Epidemiologists in the government health machinery. It is estimated that more than 10,000 Public Health Professionals would be required on an annual basis to equip the government machinery with an appropriately trained and qualified public health workforce. With a rapid health transition taking place, India faces two threats, one being the rising disease burden and the other is the poor allocation of government funds; both can be effectively managed by personnel trained in public health through appropriate public health training, i.e. ability to involve communities, work in multidisciplinary teams, and lobbying with government and community leaders with a deep understanding of epidemiologists determinants of health.

Why Master of Public Health in Epidemiology (MPH)?

Most widely recognized professional credential for leadership in public health is MPH degree. MPH in epidemiological program specifically prepares candidates to be competitive on a global level in the vast area of epidemiology and community health. It emphasizes on acquisition of epidemiological skills essential for application in the field of Public Health. It equips students to apply epidemiological and bio statistical research methods to solve problems of the community to keep population healthy. Public Health (Epidemiology) Professionals can function as epidemiologists, policy analysts and health planners.

SECTION – II

VISION:

To be a premier Public Health Department for Quality Education, Research and Leadership.

MISSION:

The Department of Public Health is committed to:

- Train and Create a Cadre for Public Health Leadership
- Promote Positive Health across Population
- Ensure Collective Commitment to Quality Research

This shall be achieved by following objectives:

OBJECTIVES:

By the end of the MPH program the candidates will achieve the following learning objectives under ten different areas listed below.

I. Epidemiology skills:

Candidates shall be able to:

- Define, assess and understand the health status of populations, determinants of health and illness, factors contributing to health promotion and disease prevention and factors influencing the use of health services.
- Identify and apply the research methods used in all basic public health sciences, including epidemiology, health and policy administration, behavioral and social sciences, biostatistics and environmental and occupational public health to prevent illness and injury.
- Describe the correlation and interactions among multiple determinants of health at intra & interpersonal organizational, community and societal levels (i.e., ecological model).

II. Analytic skills:

Candidates shall be able to:

- Define, identify and resolve public health problems by using appropriate data and statistical methods.
- Select and define variables relevant to defined public health problems, use data to illustrate ethical, political, scientific, economic and overall public health issues.

- Use rigorous critical thinking to analyze public health problems and apply public health knowledge to translate theory into public health practice by effective planning, implementation and evaluation.

III. Ethics:

Candidates shall be able to:

- Use and apply ethical analysis to inform decision-making in public health.
- Apply ethical issues involved in conducting research.

IV. Information and technology:

Candidates shall be able to:

- Define a focused research question and conduct electronic and hand literature searches for issues of concern in public health.
- Use one of several statistical packages (e.g., EPI Info, SPSS) to analyze data and graphic software package (e.g., PowerPoint) to develop presentations for public health problems.
- Use information systems in improving the effectiveness of public health activities.

V. Communication skills:

Candidates shall be able to:

- Present accurately and effectively demographic, statistical and scientific public health information for professionals and lay audiences.
- Lead and participate in groups, communicate effectively both in writing and orally to address specific public health issues and use the media to communicate important public health information.

VI. Cultural skills:

Candidates shall be able to:

- Demonstrate an understanding of the dynamic forces that cultural diversity plays in public health, both within India and internationally.
- Identify cultural, demographic and socio-economic factors in determining disease, disease prevention, health promotion and health care services organization and delivery.
- Develop approaches to public health that take into account cultural differences.

VII. Policy development:

Candidates shall be able to:

- Understand the historical development and structure of national, state & local public health-related agencies including communities.
- Describe processes and strategies used to inform and influence policy makers as they develop evidence-based decision-making policies, laws and regulations that have an impact on the public health.

VIII. Community practice:

Candidates shall be able to:

- Establish and maintain professional relations with key stakeholders in community-based initiatives to address public health issues.
- Develop, implement and evaluate a community public health programme.
- Practice ethical community-based research.

IX. Financial planning and management:

Candidates shall be able to:

- Develop and justify a budget through cost-effectiveness, cost-benefit and cost utility analysis.
- Monitor & evaluate public health programs.

X. Leadership and systems thinking:

Candidates shall be able to:

- Describe public health and health care delivery systems and will develop skills to assess a Public health organization's structure and performance
- Exercise strategic planning in public health and describe the elements of organizational leadership including coordinating teams, managing conflicts, motivating staff and continuous quality improvement.

SECTION-III

Regulations Governing MPH Degree Semester Course

3.1. Eligibility for Admission:

3.1.1 A Graduate in Medicine, Dentistry, Physiotherapy, Nursing, Pharmacy, Ayurveda, Homoeopathy, Social Sciences, Nutrition, Life Sciences, Commerce, Law, or any other degree courses recognized as equivalent by KLE Academy of Higher Education & Research. Preference shall be given to candidates from health sciences.

3.1.2 The degree should have been obtained from any University recognized by UGC, established by law in India and the medium of instruction for the degree should be English. For international candidates their degree should be recognized by AIU and where medium of instruction may not be English they should have passed any International proficiency test like IELTS, TOEFL etc.

3.1.3 A Candidate who has scored a minimum of 50% of the marks (aggregate of three/four years for graduate degree holders) prescribed for the qualifying examination shall be eligible for the admission to the MPH Course.

3.2. Proposed Intake of Candidates: 40

3.3. Duration of the Course:

The course of study including submission of dissertation on the topic registered shall be semester based, that includes 4 semesters each extending for six months from the commencement of academic semester. At the end of each semester, there shall be a University examination. At the end of Semester IV, there shall be a Final University Examination. Candidate shall submit a dissertation on the topic approved by the University five months prior to Semester IV Examination.

Medium of Instruction and Examination shall be English

3.4. Requirement to Complete the Course:

Semester I	+	Semester II	+	Semester III	+	Semester IV	+	Dissertation	+	Intern ship	=	MPH Degree
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3.5. Training, Teaching and Learning Activities:

A candidate pursuing the course shall work in the Department as a full time candidate. No candidate shall be permitted to run a clinic/ laboratory/ nursing home while studying.

Every candidate shall take part in seminars, group discussions, journal review meetings etc. Every candidate shall attend teaching and learning activities during each semester as prescribed by the Department and not absent himself /herself without valid reasons.

A list of teaching and learning activities designed to facilitate acquiring of essential knowledge and skills outlined is given below:

Lectures: For all subjects lectures shall be conducted by the faculty.

Journal Club: Recommended to be held twice a week. All the MPH candidates are expected to attend and actively participate in discussion and enter the relevant details in the log book. Further, every candidate must make a presentation from the allotted journal(s), selected articles with special emphasis on public health related topics, at least two times a year.

Subject Seminar: Recommended once a week. All the MPH candidates are expected to attend and actively participate in discussion and enter in the log book the relevant details. Further, every candidate shall present a seminar on selected topics at least four times a year and have a total of eight seminars in two years. The presentations would be evaluated using checklist and would carry weightage for internal assessment. A timetable with the subjects and the names of the candidate and the moderator will be scheduled at the beginning of each semester.

Field Visit : PHC, Subcenter, DHO office, KLE Hospital, Sewage treatment plant, Water purification plant, milk dairy, HLL Industry, Campbell factory, Pollution Control Board, CDPO office, IDSP, and other institutions of Public Health importance.

3.6. Attendance and Monitoring Progress:

3.6.1 Attendance:

3.6.1.1 A candidate pursuing MPH Course shall study for the entire period as full time candidate. No candidate shall join any other course of study or appear for any other examination conducted by this University or any other University in India or abroad during the period of registration.

3.6.1.2 Each semester shall be considered as a unit for the purpose of calculating attendance.

3.6.1.3 Every candidate shall attend symposia, seminars, conferences, journal review meetings, dissertation review meetings and lectures during each year as prescribed by the Department/College/University and not absent himself / herself without valid reasons.

3.6.1.4 Candidate who has put in a minimum of 75% of attendance in the theory and practical assignments separately shall be permitted to appear for University examination at the end of each semester.

3.6.1.5 Candidate will be allowed to appear the Semester IV examination only if the dissertation submitted is accepted.

3.6.1.6 Any candidate who fails to complete the course in the manner stated above shall not be permitted to appear for the semester University examinations.

3.6.2 Monitoring Progress of Studies

3.6.2.1 *Log Book:* Every candidate shall maintain a log diary and record his/her participation in the training programs conducted by the Department such as journal reviews, seminars, etc. Special mention shall be made of the scientific presentations in conference by the candidate as well as details of assessment works like essay writing, etc submitted by the candidate. The work diary shall be scrutinized and certified by the Head of the Department and presented in the University viva-voce examination.

3.6.2.2 *Sessional Examination:* Records and marks obtained in sessional test shall be maintained by the Head of the Department and sent to the University, when called for.

3.6.2.3 *Records:* Records and marks obtained in sessional tests, seminars, journal club, field activities, and weekly written assignments which shall be maintained by the Head of the Department and shall be made available to the University.

3.7. Dissertation

3.7.1 *Synopsis:* Every candidate shall submit a synopsis of the intended dissertation work **in epidemiological field. It has to be submitted** through the guide to the Director Academic Affairs of KLE Academy of Higher Education & Research through the HOD and Head of the institution, not later than

five months from the date of admission to MPH. The date will be notified by KLE Academy of Higher Education & Research.

3.7.2 Such synopsis will be reviewed and the dissertation topic will be registered by the University. No change in the dissertation topic or guide shall be made without prior approval of the University.

3.7.3 Every candidate pursuing MPH course is required to carry out work on a selected research project under the guidance of a recognized guide. The results of such work shall be submitted in the form of a dissertation.

3.7.4 The dissertation is aimed to train the candidate in research methodology. It includes identification of the problem, formulation of a hypothesis, review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis and comparison of results and drawing conclusions.

3.7.5 Dissertation shall require approval of the Institutional Ethics Committee (IEC) prior to initiation of any dissertation work. Candidate shall work under the supervisor to attain IEC approval. Student shall maintain regular contact with the guide during his/her dissertation work.

3.7.6 The dissertation should be written under the following headings:

- Introduction
- Objectives
- Review of literature
- Material and Methods
- Results – including tables & graphs
- Discussion
- Conclusion
- Summary
- References
- Annexures

3.7.7 The written text of dissertation shall not be less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and other annexures. It should be neatly typed with double line spacing on one side of the bond paper (A4 size, 8.27” x 11.69”) and bound properly. Spiral binding is not permitted. The dissertation shall be certified by the guide and co-guide if any, Head of the Department and Head of the Institution.

3.7.8 The dissertation shall be valued by examiners appointed by the University.

3.7.9 A guide shall be a full time postgraduate teacher of a constituent college of KLE Academy of Higher Education & Research and recognized by KLE Academy of Higher Education & Research as a guide for supervision of dissertation work.

3.7.10: Change of Guide: Guide may be changed with prior permission from the University.

3.7.11 Submission of Dissertation: Two copies of the dissertation duly certified by the Guide, the Head of Department of Public Health shall be submitted to the Controller of Examinations, KLE Academy of Higher Education & Research, through the Head of the Department at least five months before University Examination of semester IV.

3.8 Internship:

Every candidate shall undergo field training for a period of two months in fourth semester at an organization of national recognition for field experience

Candidate should submit two copies of the training report duly certified by the authorities of the training center in which he/she has undergone training duly accepted and certified by the Head of the Department.

3.9. Schedule of Examination

There shall be a University examination at the end of each semester for all four semesters and viva-voce at the end of semester II (subjects of semester I&II) & semester IV (subjects of semester III & IV). There shall be a dissertation presentation at the end of semester IV in addition to viva voce.

3.10. Scheme of Examination

3.10.1 Sessional Examination

There shall be a minimum of two sessional examinations in each subject conducted by the Department at midterms and before term end in theory and viva-voce.

The sessional marks shall be awarded out of a maximum of 80 for theory and 50 for viva-voce separately as follows and shall be calculated out of 20 marks and 10 marks respectively.

Theory

Written examination 80 marks

The total marks obtained have to be calculated out of 10.

Seminar 10 marks

Journal Club 10 marks

Reports of field visits 10 marks

Models/Essay writing/Project work 10 marks

Camps/ Group activities 10 marks

The total marks obtained have to be calculated out of 10.

2 marks will be given to candidates who make scientific presentations in National Conferences

A cumulative total will be calculated out of 20 as “Internal Assessment” (IA) marks

3.10.2 University Examinations

3.10.2.1 Theory:

There shall be four University examinations for the entire course namely I, II, III, IV semester examination. The examination will be conducted at the end of each semester. There shall be three (3) core theory papers and elective papers. All core subjects will have University exam and electives will have college exam. Each theory paper shall be of 3 hours duration carrying 80 marks each.

3.10.2.2 Practical: There shall be practical examination for Biostatistics and Epidemiological exercise in semester II

3.10.2.3 Viva-voce: - Each candidate shall give viva-voce examination for semester II (subjects of semester I&II) & semester IV (subjects of semester III &IV).

SCHEME OF EXAMINATION FOR THEORY

Question	Number of Questions	Marks	Maximum Marks	Total Marks
Long Essay Questions	2	15	30	80
Short Essay Questions	5	10	50	

(A) MPH Semester I Theory:

Paper No.	Paper	Max. Sessional marks	Max. University marks	Total maximum marks	Minimum Marks to pass
MPH-I-1 T	Research Methods (Qualitative & Quantitative)	20	80	100	50
MPH-I-2 T	Bio – Ethics	20	80	100	50
MPH-I-3 T	Health Care Delivery System	20	80 (45 + 35)	100	50
MPH-I-E T	Elective(s) as per selection	20	80	100	50

(B) MPH Semester II Theory:

Paper No.	Paper	Max. Sessional marks	Max. University marks	Total maximum marks	Minimum marks to pass
MPH-II-1 T	Epidemiology (Part I & II)	20	80	100	50
MPH-II-2 T	Biostatistics (Part I & II)	20	80	100	50
MPH-II-3 T	Epidemiology of Infectious & Non Communicable Diseases	20	80 (35 + 45)	100	50
MPH-II-E T	Elective(s) as per selection	20	80	100	50

Practical Examination

Paper No.	Paper	Max. Sessional marks	Max. University marks	Total maximum marks	Minimum marks to pass
MPH-II-1-P	Biostatistics Exercise	10	40	50	25
MPH-II-2-P	Epidemiological Exercise	10	40	50	25
Total				100	50

Viva Voce Examination

MPH-II-3 P	Viva-voce	-	100	100	50
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C) MPH Semester III Theory:

Paper No.	Paper	Max. Sessional marks	Max. University marks	Total maximum marks	Minimum marks to Pass
MPH-III-1 T	Planning & Management	20	80	100	50
MPH-III-2 T	Occupational & Environmental Health	20	80 (35 + 45)	100	50
MPH-III-3 T	Public Health Legislation & Public Health Information Systems	20	80 (45 + 35)	100	50
MPH-III-E T	Elective(s) as per selection	20	80	100	50

(D) MPH Semester IV Theory

Paper No.	Paper	Max. Sessional marks	Max. University marks	Total maximum marks	Minimum marks to Pass
MPH-IV-1 T	Maternal & Child Health and Nutrition (Part I & II)	20	80	100	50
MPH-IV-2 T	Demography & Family Planning	20	80 (45 + 35)	100	50
MPH-IV-E T	Elective(s) as per selection	20	80	100	50

Viva Voce Examination

MPH-IV-1 P	Viva-voce & Dissertation Presentation	-	100	100	50
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VIVA VOCE

At the end of semester II (subjects of semester I & II) & semester IV (subjects of semester III & IV) candidate will appear for University viva-voce examination.

Practical (College Exam): A college level practical exam will be conducted at 5 months after the commencement of MPH Semester II in which the candidate has to obtain at least 50% marks to appear for University Examination of semester II and semester III

(D) College Practical Exam

Practical No.	Paper	Max. College marks	Total maximum marks	Minimum marks to Pass
CE 1P	Critical Appraisal	40	40	50

3.10.3. Dissertation Valuation:

The examiners appointed by the University shall evaluate the dissertation. Approval of dissertation work is an essential prerequisite for a candidate to appear in the semester IV University examination. The dissertation shall be valued by two evaluators (examiners) one within the University and one outside. Any one-evaluator acceptance will be considered as a prerequisite for eligibility to take up the examination.

3.10.3.1 Viva-Voce and Defense Examination: The viva-voce and defense examination shall aim at assessing the depth of knowledge, logical reasoning, confidence and oral communication skills.

The viva – voce and defense examination shall be held after the submission of dissertation. If a candidate fails to submit the dissertation on or before the date prescribed, his/her viva-voce and defense shall be conducted during the subsequent University examination.

3.10.3.2 Examiners: There shall be at least two examiners, out of them one shall be external examiner and the other internal examiner.

3.11. Criteria for Declaring Pass

3.11.1 A candidate shall be declared to have passed MPH if all the conditions below are fulfilled:

MPH-Semester I:

- Candidate who secures Grade B or above in each subject in theory of University & Sessional examinations considered together

MPH-Semester II

- Candidate who secures Grade B or above in each subject in theory of University & Sessional examinations considered together.
- Candidate shall further obtain Grade B or above in viva-voce
- Candidate shall pass practical and theory separately.(e.g. If candidate passes in theory and fail in practical, he/she shall appear only practical examination)

MPH-Semester III

- Candidate who secures Grade B or above in each subject in theory of University & Sessional examinations considered together.

MPH-Semester IV

- Candidate who secures Grade B or above each subject in theory University & Sessional examinations considered together.
- Candidate shall further obtain Grade B or above in viva-voce.

3.11.2 Carry over:

At any given point of time a candidate shall have subjects pending to clear of only previous semester in addition to the subjects of the current semester that he is appearing for. e.g:

- If the candidate has not cleared semester I, he can appear for semester II and pending subjects of semester I simultaneously.
- For appearing for semester III he should have cleared semester I and can appear for papers pending from semester II along with semester III subjects.
- For appearing for semester IV he/she should have cleared semester II completely and can appear pending papers of semester III simultaneously.

Cumulative Grade Point Average (CGPA)

Letter Grades and Grade Points equivalent to percentage of Marks and performances

10 Point Grade Scale

Percentage of marks obtained	Letter Grade	Grade Point	Performance
91.00 - 100	O	10	Outstanding
80.00 -89.99	A+	9	Excellent
70.00-79.99	A	8	Good
60.00-69.99	B+	7	Fair
50.00-59.99	B	6	Average
Less than 50	F	0	Fail
Absent	AB	0	Fail

1. Conversion of Grades in to GPA:

GPA= Credits x Grade Points / Total Credits

2. **Cumulative Grade Point Average (CGPA)** of all 4 Semester will be calculated as:

Total No. GPA / No. of Semester

**SECTION-IV
COURSE CONTENT**

4.1 SEMESTER I

S. No.	Core Subjects	Credits
MPH-I-1 T	Research Methods (Qualitative & Quantitative)	2
MPH-I-2 T	Bioethics	2
MPH-I-3 T	Health Care Delivery System	4
MPH-II-1 T	Epidemiology (Part I)	4
MPH-II-2 T	Biostatistics (Part I)	4 (3 +1)
MPH-I-1 P	Under Five Clinic posting & Community Project (Practical)	2
MPH-I-2 P	Dissertation (Synopsis development practical)	2
MPH-I-E T	Electives*	3
TOTAL:		23

**Note- Choose electives (from List of Electives) amounting to total of 3 CREDITS*

THEORY

MPH-I-1 T Research Methods (Qualitative & Quantitative)

Quantitative Research Methods:

Introduction to Research Methodology

Developing a Research Plan

- Research Problem
- Research Question
- Research Hypothesis
- Variables

Data Collection Tool Development

Epidemiological study designs: Cross Sectional, Cohort, Case Control

Experimental Design: Randomized, Non randomized, Parallel, Factorial, Cross Over

Qualitative Research Methods:

Overview of Qualitative Research Methods

- Comparing Quantitative and Qualitative Research
- Sampling in Qualitative Research
- Recruitment in Qualitative Research

Theories

- Grounded Theory
- Phenomenology
- Case studies
- Ethnography

Participant Observation

- Logistics of Participant Observation
- How to Take Field Notes

In-Depth Interviews

- Logistics of interviewing
- Interview Steps and Tips for Taking Interview Notes.

Focus Groups

- Logistics of Focus Groups
- Skills of Effective Moderator and Note Taker
- Steps in Focus Group Note Taking
- Steps in Moderating a Focus Group

Data Documentation and Management: Organizing and storing Data

- Converting Raw Data to Computer Files
- Organizing Data Storage list
- Data Archiving Steps
- Data Management Check

Importance Experimental Designs

- Before and after Without Control Design
- After only Control Design
- Before and after With Control Design
- Completely Randomized Designs
- Randomized Block Designs
- Latin square Design
- Factorial Design

MPH-I-2 T Bio –Ethics:

Historical Perspectives

General Principles on Ethical Considerations Involving Human Participants

Statements of Specific Principles for Epidemiological Studies

- Nuremberg Code
- Belmont Report
- Declaration of Helsinki
- General Consideration for Clinical Trials
- International Conference on Harmonization & Good Clinical Practices
 - Structure & Contents of Clinical Study Report
 - Good Clinical Data Management Practices
 - Investigator Brochures
 - Essential Documents
 - Composition & Functions of Ethical Committee/ IRB
 - Duties & Roles of Principal Investigator
 - Roles & Duties of Sponsor
 - Good Clinical Practice India- DCGI
 - ICMR Guidelines
 - Revised Schedule Y
- Informed Consent process and informed consent form
- Ethical Principles Related to Animal Experiments.

MPH-I-3 T Health Care Delivery System

Introduction to Public Health

- Evolution of Public Health
- Ancient India and Public Health

- Founders of Modern Public Health

Changing concepts of Health Care

- Comprehensive Health Care
- Basic Health Care
- Primary Health Care

Levels of Health Care

- Primary Health Care
- Secondary Health Care
- Tertiary Health Care
- Three tier system of health care: Sub centre, Primary Health Centre, Community Health Centre
- Function, Staffing pattern with job responsibilities of each staff at each of the above levels
- Assessing "Health Status" and "Health Needs"
- Assessing the "Health Impact"
- Community Diagnosis
- Health Administration in India
 - Central Level
 - State level
 - District Level - Panchayat Raj Institutions
- Health for all- Millennium Development Goals & Sustainable Development Goals
- Voluntary & International Health Agencies
- Global Health:
 - Globalization,
 - Health disparities between developed and developing countries,
 - Global Health Agenda for 21st Century.
- Health Insurance Plans
- National Health Policy
 - National Health Policy 2002
 - National Population Policy 2000
- National Health Programs
 - Integrated Child Development Scheme
 - RNTCP
 - NACO
 - RCH
 - NHM: NRHM & NUHM
 - NVBDCP
 - IDSP
 - NIDDCP
 - NLEP
 - NPCB
 - Pulse Polio Immunization Program
 - National Mental Health Program
 - National Cancer Control Program
 - National Program for Prevention and Control of Diabetes, Cardio-vascular Diseases and stroke
 - INAP

MPH-II-1 T Epidemiology (Part I)

- Concept of Health & Disease
 - Concepts and dimensions of health, well being
 - Quality of life, spectrum of health
 - Determinants of Health
 - Indicators of Health
 - Epidemiological triad
 - Dynamics of Disease Transmission
 - Natural history of diseases
- Measuring the Occurrence of Diseases
 - Morbidity
 - Mortality
- Epidemiology Definition, Principles, Uses
- Identification of Health Problems
 - Survey methods
 - Planning, Designing and Conducting of Epidemiological Surveys
- Screening for Diseases
 - Types of screening test
 - Assessing the validity and reliability of diagnostic and screening tests

MPH-II- 2 T: Biostatistics (Part I)

- Introduction to Biostatistics
- Application of Statistics to problems in Clinical and Public Health Settings
- Data
 - Classification
 - Presentation – Tables AND Graphs
 - Collection
- Sampling Designs
- Sample Size Calculation
- Descriptive statistics
 - Measures of Central Tendency
 - Measures of Dispersion
 - Measures of Kurtosis and Skewness

PRACTICAL

MPH-I-1 P: Under Five Clinic posting & Community Project (Practical)

MPH-I-2 P: Dissertation (Synopsis Development)

4.2 SEMESTER II

S. No.	Core Subjects	Credit
MPH-II-1 T	Epidemiology (Part II)	6(4+2)
MPH-II-2 T	Biostatistics (Part II)	3 (2+1)
MPH-II-3 T	Epidemiology of Infectious & Non-Communicable Diseases	4
MPH-II-1 P	Critical Appraisal (Practical)	2
MPH-II-2 P	Field Visit – Community Activities	3
MPH-II-3 P	Dissertation (Data collection)	4
MPH-II-E T	Electives*	3
TOTAL :		25

*NOTE: Choose electives (from List of Electives) amounting to total of 3 CREDITS

THEORY

<p>MPH-II-1 T Epidemiology (Part II)</p> <ul style="list-style-type: none"> • Surveillance • Association and causation • Bias • Confounding • Interaction • Investigation of an epidemic • Using Epidemiology to Identify the Cause of Diseases • Applying Epidemiology to Evaluate Health Services & Policy
<p>MPH-II-2 T Biostatistics Part II</p> <ul style="list-style-type: none"> • Probability and Probability Distribution (Binomial, Poisson and Normal Distribution) • Testing of Hypothesis: Parametric Tests (z test, t test, Analysis of variance – One way), • Non Parametric Tests (Mc Neimar test, Fisher Exact test, Median test, Sign test, Wilcoxon signed matched pair test, Mann Whitney test, Kruskal Walli test) • Correlation Analysis • Regression Analysis: Simple, Multiple, Logistic • Estimation: Point and Interval
<p>MPH-II-3 T Epidemiology of Infectious & Non-Communicable Diseases General control measures of communicable diseases Epidemiology & control of Infectious Diseases</p> <ul style="list-style-type: none"> • Acute diarrheal diseases • Cholera • Typhoid fever (Enteric fever) • Brucellosis • Leptospirosis • Plague • HIV/AIDS • Leprosy • Malaria, Filaria, Yellow fever Dengue, Chikungunya, Kala-Azar, Japanese Encephalitis • KFD

- Epidemiology and control of vaccine preventable diseases: Tuberculosis, Diphtheria, Whooping Cough, Measles, Tetanus, Poliomyelitis, Hepatitis.
- ARI
- Influenza
- SARS
- Viral Hepatitis- A,B,C,E
- Food Poisoning
- Parasitic infections, Ascariasis, Hookworm infestations
- Rabies
- STDs

Epidemiology & control of Non Communicable Diseases

- Cardiovascular Diseases
 - Rheumatic Heart Disease
 - Coronary artery disease
 - Hypertension
- Neoplasm
- Diabetes
- Mental Health Problems
- Obesity
- Blindness
- Accidents
- Emerging & Re-emerging infectious Diseases

PRACTICAL

MPH-II-1 P Critical Appraisal

Critical appraisal of published articles

MPH-II-2 P Dissertation

Data Collection and Entry.

4.3 SEMESTER III

S. No.	Core Subject	Credit
MPH-III-1 T	Planning & Management	4
MPH-III-2 T	Occupational & Environmental Health	4
MPH-III-3 T	Public Health Legislation & Public Health Information System	4
MPH-IV-1 T	Maternal & Child Health & Public Health Nutrition (Part I)	4
MPH-III-1 P	Dissertation (Data collection & analysis)	4
MPH-III-E T	Electives*	3
TOTAL :		23

* NOTE: Choose electives (from List of Electives) amounting to total of 3 CREDITS

THEORY

MPH-III-1 T Planning & Management

- Introduction to Planning & Management: Aims and Objectives
- Seven Steps and Predisposing Factors in Planning & Management.
- Planning Cycle
- Strategies/ Methods in Planning
- Skills on Making Effective Planning
- Alma-Atta Declaration
- Jakarta Health Declaration
- Ottawa Charter
- Need Assessment-Identifying Health Promotion Needs
- Audit
- Budget Allocation

Public Health Management

- General Concepts in Management Sciences
- Organizational Concepts & Behavior
- Time Management
- Materials Management
- Self-Management
- Modern Management Techniques
- Personnel Management & Human Resource Development
- Health Outcome Research

MPH-III-2 T Occupational & Environmental Health

Occupational Health

- Occupational Hazards
 - Risk vs Hazard
 - Types
 - Prevention & control
- Pneumoconiosis
- Lead Poisoning
- Occupational Cancers
- Occupational Dermatitis

Occupational Hazards in Agricultural Workers

- Accidents in Industry
- Sickness Absenteeism
- Ergonomics
- Problems of
 - Urbanization
 - Industrialization

Environmental Health

- Public Health Aspects of Extreme Hot and Cold Environment
- Food Sanitation and safety
- Vector & Rodent Control
- Solid waste disposal
- Excreta Disposal
- Environmental Health Policy
- Hospital Waste Management
- Water & Sanitation:
 - Characteristics of Safe Water
 - Water Distribution System
 - Water Pollution
 - Purification Of Water
 - Water Quality Standards
 - Water Problems In India
 - Water Conservation,
 - Rain Water Harvesting
- Environment Pollution:
 - Air Pollution
 - Soil Pollution
 - Noise Pollution
 - Thermal pollution
 - Housing & Ventilation
 - Nuclear Hazards
 - Role of an Individual In Prevention of Pollution
 - Disaster Management
 - Social Issues and the Environment

MPH-III-3 T Public Health Legislation & Health Information Systems

Public Health Legislation

- Legislation related to Quality of Professional Education and Services
 - Indian Medical Council Act
 - Indian Nursing Council Act
 - The Dentist Act
 - The Indian Medicine Central Council Act
- Legislation related to Census, Birth and Death
- Legislation related to control of Epidemics
- Legislation related to Tobacco and Drug Control
 - COTPA

- The Narcotic drugs and Psychotropic Substance act 1985
- The Transplantation of Human Organs Act 1994
- The Prevention of Food Adulteration Act 1959
- Food safety and standard Act
- The Protection of Human Rights Act 1993
- Legislation for Women Empowerment and Health
 - The dowry Prohibition Act 1961
 - Protection of Women from Domestic Violence Act 2005
 - Maternity Benefit Act
 - Immoral traffic(Prevention) Act 1956
 - The medical termination of pregnancy act 1971
 - PCPNDT Act 1994
- Legislation for Child Protection and Health
 - Child labor prohibition Act 1986
 - The Juvenile Justice Act 2000
- Legislation related to the Welfare Rehabilitation of Disadvantaged
 - PWD Act
 - Mental Health Act 2017
 - Welfare of Parents and senior citizens Act 2007
 - Citizenship Amendment Act 2019
- Occupational Health & Legislation
 - The Factory Act
 - ESI Act
 - Minimum wages Act
- Environment Health Legislations
 - Environmental Protection act 1986,
 - Air pollution
 - Water pollution
 - Biomedical waste management & handling rules 1998
 - Municipal solid waste management rules 2000
 - Plastic waste management and handling rules 2011
 - Disaster management Act 2005
- International Health Regulations
- Universal Declaration of Human Rights

Health Information Systems

- Evolution of Health Information System
- Principles of HIS
- Health Information System: Sources, Uses
- Application of Information System
- Managing Health information system
- Importance of data
- e-Health, telemedicine and m-health
- DIKW Hierarchy

MPH-IV-1 T Maternal and Child Health & Public Health Nutrition (Part I)

Maternal and Child Health

- Introduction to
 - Health Status of Women in General
 - Reproductive Health in particular
- Health Problems of Women across the Life Span
- Determinants of maternal & child health
- Preventive-Promotive Strategies and Indicators of Maternal and Child Health
- Maternal Health Care
 - Antenatal
 - Intranatal
 - Postnatal care
- Maternal Death Review
- Risk Approach in MCH
- Marriage, Preconception, Conception, Pregnancy

Public Health Nutrition

- Introduction to Nutrition in Public Health
- The Proximate Principles of food
- Micronutrients: The Vitamins and minerals
- Major Foods and their Nutritive Value
- Nutritional Requirements of Special Groups:
 - Pregnant women & Lactating Mothers
 - Children
 - Elderly & their prevention
- Nutritional Indicators
- Nutritional Programmes in India
- Nutritional status assessment of a Community
- Nutritional Surveillance
- Nutritional Deficiency Diseases of Public Health Importance:
 - Protein Energy Malnutrition
 - Iodine deficiency disorders
 - Vitamin A deficiency
 - Role of Fluorine in health and disease

PRACTICAL

MPH-III-1 P Dissertation

Data Collection and Entry.

4.4 SEMESTER IV

S. No.	Core Subject	Credit
MPH-IV-1 T	Maternal and Child Health and Public Health Nutrition (Part 2)	4
MPH-IV-2 T	Demography & Family Planning	4
MPH-IV-1 P	Dissertation writing & submission	10
MPH-IV-2 P	Internship	10
MPH-IV-E T	Electives*	3
TOTAL :		31

* NOTE: Choose electives (from List of Electives) amounting to total of 3 CREDITS

MPH-IV-1 T Maternal and Child Health and Public Health Nutrition (Part II):

Maternal and Child Health

- Child Health Care
- Child abuse, child prostitution, child trafficking, street children, child labour, child protection and child rights and child laws.
- Major causes of infants and child morbidity and mortality in India
- Socio-economic, educational and cultural factors affecting child rearing practices and child health care activities in India.
- Community based management of child health
 - Care of Infants
 - Care of Under Five Children
 - Growth and Development of Children
 - Children's Right to Health
 - Child placement
 - School Health Services
- Definition, classification, social and emotional development aspects
- Problems, social issues, programmes.
- Sexual health
- Sexual behaviour
- Early pregnancy and early marriage
- Sex education
- Mental health, Substance abuse and social crime
- Adolescent Health
- Tribal Health
- Geriatric Health
- Baby Friendly Hospital Initiative
- Under Five Clinic & Well Baby Clinic
- Programs for Health Problems of Women including RCH program (I & II) and NRHM
- Organization of MCH Services in the community

Public Health Nutrition

Public Health Aspects of Food Hygiene & Sanitary Regulation of Eating Establishments

Food Processing, Food Adulteration, Food Additives, Preservatives, Food Toxicants and Food Fortification

Methods for Establishing the Causal Role of Nutritional Factors on Health and Disease Status

Planning, Implementation & Evaluation of Nutrition programs

Nutrition & Non-communicable diseases

Nutrition during special situations:

- Disasters
- Fairs and Festivals

Community Feeding of Children

MPH-IV-2T Demography & Family**Planning****Demographic cycle**

- Population Census
- Demographic Trends – World & India
 - Age & Sex Composition
 - Age Pyramids
 - Sex ratio
 - Dependency ratio
 - Family Size
 - Urbanization
 - Life expectancy
- Demographic transition
- Migration
- Fertility & Fertility Indicators
- Mortality:
 - The determinants of population health
 - The life table
- Causes and implications of social inequality

Family Planning:

- Scope of family planning services
- Health aspects of Family Planning
- Small family norm
- Eligible couples
- Target couples
- Couple protection rate (CPR)
- Evaluation of contraceptive methods
- Unmet need for Family Planning
- National Family Welfare Programme
- Sociology of Family Planning
- Evaluation of Family Planning
- National Population Policy – 2000
- Contraceptive Methods
- MTP Act 1971

LIST OF ELECTIVES

Sl.No.	Elective	Credit
1.	Health Behaviour and Sociology	2
2.	Health Economics	2
3.	Health Education & Health Promotion	2
4.	Language	1
5.	NSS (I,II,III,IV)	3
6.	Global Health	1
7.	Computer Skills	2
8.	Scientific Writing Skills	2
9.	Communication Skills	2
10.	Leadership Skills	2
11.	Disaster Management Project	3
12.	Library Dissertation	2
13.	Dental Public Health (I,II,III,IV)	3

<p>1. Health Behaviour and Sociology Health Belief Model (HBM)/ Risk Perception Theory of Reasoned Action/ Theory of Planned Behavior Social Cognitive Theory (SCT)/ Self-Efficacy (SE) Trans Theoretical Model (TTM) Motivation and Self-Efficacy; Stress, Coping, and Social Support Self-Determination Theory (SDT) Motivational Interviewing Behavior Modification Goal Setting, Attributions, Self-Regulation Building Conceptual Frameworks Elaboration Likelihood Model/ Cognitive Load Theory Theory-Informed Interventions</p>	<p>2. Health Economics: Supply and Demand for Health Services The Role of Insurance in the Medical Care Industry Public Policy, Issues of Cost and Quality Regulation Measurements and Evaluation of Costs and Benefits Policies and Strategies for the Developing World</p>
<p>3. Health Education and Health Promotion Introduction to Health Education and Health Promotion: Definition & principles Theories of Health Education Health Promotion Needs Assessment Planning, Implementation and Evaluation of Health Promotion Programs</p>	<p>4. Language (Kannada & English) Kannada: Conversational skills English: Comprehension skills</p>

5NSS

5.1 NSS I

UNIT 1: Introduction and Basic Concepts of NSS (4)

- History, philosophy, aims & objectives (1)
- Emblem, flag, motto, song, badge (1)
- Organizational structure, roles & responsibilities of various NSS functionaries (2)

UNIT 2: NSS Programmes and Activities (10)

- Concept of regular activities, special camping, day camps (3)
- Basis of adoption of village/slums, methodology of conducting survey (2)
- Financial pattern of the scheme (1)
- Other young prog./schemes of GoI (2)
- Coordination with different agencies (1)
- Maintenance of the diary (1)

UNIT 3: Understanding Youth (5)

- Definition, profiles, categories of youth (2)
- Issues, challenges and opportunities of youth (2)
- Youth as an agent of social change (1)

UNIT 4: Health, Hygiene & Sanitation (7)

- Definition, needs and scope of health education (1)
- Food and nutrition (1)
- Safe drinking water, water borne diseases and sanitation (SBA) (2)
- National Health Programme (2)
- Reproductive Health (1)
-

UNIT 5: Volunteerism and Shramdaan (7)

- Indian Tradition of volunteerism (1)
- Needs & importance of volunteerism (2)
- Motivation and constraints of volunteerism (2)
- Shramdaan as part of volunteerism (2)

5.2 NSS II

UNIT 1: Importance and Role of Youth leadership (6)

- Meaning and types of leadership (2)
- Qualities of good leaders; traits of leadership (2)
- Importance and role of youth leadership (2)

UNIT 2: Life Competencies (11)

- Definition and importance of life competencies (2)
- Communication (3)
- Inter Personal (3)
- Problem-solving and decision-making (3)

UNIT 3: Social Harmony and National Integration (9)

- Indian history and culture (2)
- Role of youth in peace-building and conflict resolution (5)
- Role of youth in Nation Building (2)

UNIT 4: Youth Development Programmes in India (9)

- National Youth Policy (3)
- Youth development programmes at the National level, State level and voluntary sector (4)
- Youth-focused and Youth-led Organizations (2)

5.3 NSS III

UNIT 1: Citizenship (7)

- Basic Features of Constitution of India (2)
- Fundamental Rights and Duties (2)
- Human Rights (1)
- Consumer awareness and legal rights of consumer (1)
- RTI (1)

UNIT 2: Family and Society (6)

- Concept of family, community, (PRIs & other community-based organizations) and society (2)
- Growing up in the family- dynamics and impact (1)
- Human Values (1)
- Gender Justice (2)

UNIT 3: Community Mobilization (9)

- Mapping of community stakeholders (3)
- Designing the message in the context of the problem and culture of community (1)
- Identifying methods of mobilization (3)
- Youth-adult partnership (2)

UNIT 4: Environment Issues (11)

- Environment conservation, enrichment and sustainability (2)
- Climate change (2)
- Waste management (2)
- Natural resource management (5)

UNIT 5: Project Cycle Management(10)

- Project Planning (2)
- Project Implementation (3)
- Project monitoring (2)
- Project evaluation: impact assessment(3)

UNIT 6: Documentation and Reporting (7)

- Collection and analysis of data (3)
- Preparation of documentation/ reports (2)
- Dissemination of documents/reports (2)

UNIT 7: Additional Life Skills (7)

- Positive Thinking (1)
- Self Confidence and Self Esteem (2)
- Setting Life Goals and working to achieve them (2)
- Management of Stress including Time Management (2)

5.4 NSS IV

UNIT 1: Youth Health and Yoga (15)

- Healthy lifestyles (yoga as a tool), substance abuse, HIV, home nursing, first aid (8)
- Yoga: history, concept, misconceptions, traditions, impacts (5)
- Yoga as preventive, promotive and curative method (2)

UNIT 2: Youth and Crime (7)

- Sociological and psychological factors influencing youth crime (2)
- Peer mentoring in preventing crimes (1)
- Awareness about anti-ragging (1)
- Cyber crime and its prevention (2)
- Juvenile Justice (1)

UNIT 3: Civil/ Defense (5)

- Positive Thinking (1)
- Self Confidence and Self esteem (2)
- Setting Life Goals and working to achieve them (2)
- Management of Stress including Time Management (2)

UNIT 4: Entrepreneurship Development (8)

- Definition & Meaning (1)
- Qualities of good entrepreneur (2)
- Steps/ ways in opening an enterprise (3)
- Role of financial and support service institutions (2)

UNIT 5: Resource Mobilization (3)

- Writing a Project Proposal (2)
- Establishment of SFUs (1)

UNIT 6: Disaster Management (7)

- Introduction to Disaster Management, classification of disasters (4)
- Role of youth in disaster management (3)

<p>8. Global Health Globalization of Health Global healthcare and critical analysis of global healthcare systems: India, USA, UK, Canada, Europe, Pakistan, Nepal, Australia, China, Japan, Africa, Cuba, Switzerland Universal Health Coverage International Health Organizations</p>	<p>7. Computer Skills Introduction to Information Technology Introduction to MS Office: MS Word, MS Excel, MS PowerPoint Presentation Skills Internet <ul style="list-style-type: none"> ▪ Search Strategies ▪ Email and Email etiquettes ▪ Online survey development tools </p>
<p>8. Scientific Writing Skills Application writing for Grants: <ul style="list-style-type: none"> ▪ Introduction to information systems and sources of intelligence ▪ Format of writing a concept paper and mini protocol ▪ Critical issues and common errors in grant applications Essay Writing: Candidates will submit 1 essay of 5000 words each on selected topics</p>	<p>9. Communication Skills Communication: definition, process, its application in health education. Models of communication process. Communication: Theories and principles. Methods & media of communication. Behaviour change communication. IEC Strategy</p>
<p>10. Leadership Skills SWOC Analysis Leadership Qualities and Challenges Motivation Ethics and responsibilities Communication Management Team Building</p>	<p>11. Library Dissertation Conducting a systematic literature review on the topic given Submission of the dissertation (5000 words) in bind</p>

SECTION-V

Recommended Books (Latest Editions)

TITLE	AUTHOR(S)	PUBLISHER
Practical Statistics for Medical research	Altman D	Chapman & Hall
An Introduction To Medical statistics.	Bland M	Oxford Medical Publications
Statistical Methods In Clinical and Preventive Medicine.	Hill.S.A.B.	E.& S. Livingstone Ltd.
Textbook Of Preventive And Social Medicine.	Gupta.M.C; Mahajan.B.K.	Jaypee Brothers.
Topics In Public Health.	Mackintosh.J.M.	E.& S. Livingstone Ltd.
Textbook Of Preventive And Social Medicine.	Park.K; Park.J.E.	Banarsidas Bhanot
Industrial Injuries.	Featherstone.D.F.	John Wright & Sons.
Environment problems & solutions	Asthana & Asthana	S.Chand & Company Ltd.
Environmental Biology	P.D.Sharma	Rastogi Publication
Earth science	Edward J.Tarback	Prentice Hall
Environmental Issue-Measuring Analyzing, evaluating	Robert L.Mc.Connell & Lanniel C.Abel	Prentice Hall
Environmental Protection & law	C.S.Mehta	Ashish Publishing House.
Environmental Pollution,	Timmy Katyal & M.Satake	Anmol Publication
Promoting Health: A Practical Guide To Health Education	Ewles ,L Simnet,I	Scutari Press
Human Rights In Health.	Found.C.	Elsevier Publishing Co.
Public And Community Health.	Parker.W.S.	Staples Press London.
Public Health Informatics and Information systems	O'Carroll, P.W., Yasnoff, W.A., Ward, M.E., Ripp, L.H., Martin, E.L. (Eds.)	Springer
Public Health Informatics and Information systems	J.A. Magnuson, Jr., Paul C. Fu	Springer

TITLE	AUTHOR(S)	PUBLISHER
Sex, Disease, And Society: A Comparative History Of Sexually Transmitted Diseases And HIV/AIDS In Asia And The Pacific	Milton Lewis, Scott Bamber, Michael Waugh	Greenwood Press,
Living With HIV: Experiment In Courage	Mary Elizabeth O'Brien	Auburn House, 1992
The Unending Frontier: An Environmental History Of The Early Modern World	John F. Richards	California Press
Communicable Diseases Control	Anderson, Arnstein, Lester	The Macmillan Company
Encyclopedia Of Disaster Management	Goel, S. L.	Deep & Deep
Disaster Management	G.K. Ghosh	A.P.H.
Emergency Medical Services And Disaster Management: A Holistic Approach	P.K. Dave	Jaypee Brothers
Disaster Management - Recent Approaches	Arvind Kumar	Anmol Publication
The New Public Health: An Introduction For The 21st Century.	San Diego, CA:	Academic Press
Handbook Of Health Economics.	Culyer A.J. And J.P. Newhouse.	Elsevier
Biostatistical Aspects Of Health And Population	Edited By Arvind Pandey.	Hindustan Pub
Essentials Of Dental Public Health	Daly	Oxford
Community Dentistry	Cynthia Pine	Oxford
Community Oral Health Practice For The Dental Hygienist	Kathy Voigt Geurink,	Elsevier Science
Concepts In Dental Public Health	Jill Mason	Lippincott Williams & Wilkins
Essential Dental Public Health	Blanaid Daly, Richard Watt, Paul Batchelor, Elizabeth Treasure	Oxford Univ Press
Dental Public Health And Community Dentistry	Anthony Jong	C.V. Mosby Co
The Theory And Practice Of Public Health.	Hobson.W.	Oxford University
Oxford Textbook Of Public Health. Vol. Ii.	Holland.W.W.	Oxford University
Oxford Textbook Of Public Health. Vol. Iii.	Holland.W.W.	Oxford University
Oxford Textbook Of Public Health. Vol. Iv.	Holland.W.W.	Oxford University

TITLE	AUTHOR(S)	PUBLISHER
Man Adapting	Dubos, Rene	Yale University Press
Doing Your Research Project	Bell, J.	Open University
The Limits Of Medicine	Illich, I.	Pelican Books
The Role Of Medicine	Mckeown, T.	Blackwell