Highlighted on 3,7

MGM INSTITUTE OF HEALTH SCIENCES

(Deemed to be University u/s 3 of UGC Act, 1956)
Grade 'A++' Accredited by NAAC
Sector-01, Kamothe, Navi Mumbai -410 209
Tel 022-27432471, 022-27432994, Fax 022 -27431094
E-mail: registrar@mgmuhs.com; Website :www.mgmuhs.com

CHOICE BASED CREDIT SYSTEM

(CBCS)

(with effect from 2022-23 Batches)

Curriculum for
Master in Public Health

Amended upto AC-44/2022, Dated 09/12/2022

Amended History

1. Approved in AC-42/2022, Resolution No. 4.4, Dated 26/04/2022.
2. As Amended in AC-42/2022 [Resolution No. 10.4.i], Dated 26/04/2022.
3. As Amended in AC-44/2022 [Resolution No. 6.6], Dated 09/12/2022.

Resolution No. 4.4 of Academic Council (AC-42/2022): Resolved to accept synchronization of Semester I syllabus of Master in Public Health (MPH) Program & Master in Hospital Administration (MHA) Program and revision of syllabus for Semester II for MHA & MPH with effect from batch admitted in AY 2022-23, onwards. [ANNEXURE-45A]

Annexure-45A of AC-42/2022

MGM SCHOOL OF BIOMEDICAL SCIENCES
(A constituent unit of MGM INSTITUTE OF HEALTHSCIENCES)
(Deemed to be University u/s 3 of UGC Act 1956)
(Grade "A" Accredited by NAAC)
Sector 1, Kamothe, Navi Mumbai- 410209
Tel.No.:022-27437631, 27437632, 27432890
Email: sbsnm@mgmuhs.com/ Website: www.mgmsbsnm.edu.in

CHOICE BASED CREDIT SYSTEM (CBCS)

With effect from Academic Year 2022 – 23

Curriculum for Master in Public Health

First year
(Semester I & II)

ACADEMICS

MASTER IN PUBLIC HEALTH

(CHOICE BASED CREDIT SYSTEM)

Duration of the Programme: The Course shall extend over a period of 2 years with four semesters. Each year consist of 2 semesters with examinations at the end of every semester.

Program pattern:

First Semester:	July - December
Second Semester:	January - June
Third Semester:	July - December
Fourth Semester:	January - June

Eligibility for admission: Graduates in Medicine/ AYUSH/ Dentistry/ Veterinary Sciences/ Nursing/ Nutrition/ Sociology/Paramedical from a recognized University, with minimum 50% marks in qualifying (graduation) examination will be eligible for admission. The candidates having demonstrated experience in healthcare related field will be given preference.

Scheme of Examinations: There shall be examination at the end of each semester, which will be consisting of theory, practical, dissertation and Internal Assessments.

Clinical Posting: There will be mandatory clinical posting at Urban Health Training Centre, Rural Health Training Centre and in the Department of Community Medicine in each semester.

Requirement to Appear for the Examination: A candidate shall be permitted to appear for the university examination of any semester, if he/ she secure not less than 75% of attendance in the number of instructional days and not less than 35% Marks in Internal Assessment, failing which he/ she should redo that course of study.The criterion for appearing in last semester examination is to qualify all subjects of I, II and III semesters.

Medium of Instruction and Examination: The medium of instruction throughout the course and the examinations shall be English only.

Passing:A Candidate shall be declared to have passed the examination in a subject if he/she secured not less than 50% in aggregate internal and external examinations.

Conferment of Degree: A candidate, who has passed all the examinations as prescribed, shall be eligible to receive the degree of –"Masters in Public Health" from the MGM Institute of Health Sciences.

For any query visit the website: www.mgmsbsnm.edu.in

Programme Outcome:

1. Nurture the scientific and/or clinical knowledge and skills for development of health care practices, industrial/ community applications and entrepreneurship.

2. Develop the ability of critical thinking to analyze, interpret problems in health care and to find out systematic approach for solution.

3. Impart decision making capability for handling various circumstances in their respective areas.

4. Demonstrate research skills for planning, designing, implementation and effective utilization of research findings for community.

5. Develop an ability to function as an efficient leader as well a team player in multidisciplinary sectors for effective outcomes demonstrating managerial skills.

6. Demonstrate an effective written and oral communication skills to communicate effectively in health care.

7. Inculcate code of ethics in professional and social circumstances to execute them in daily practices and research in respective areas of specialization.

8. Develop lifelong learning attitude and values for enhancement of professional and social skills for an overall development.

Program Outline:

Semester I

Course Code	Course Name	Credits / Week				Hrs./ Semester				Marks		
		Lecture (L)	Seminar / Self Directed Learning (SDL)	Practical/ Clinical Posting (P)	Total Credits (C)	Lecture (L)	Seminar / Self Directed Learning (SDL)	Practical/ Clinical Posting (P)	Total Hrs. (H)	Internal Assessment	Semester Exam	Total
MPH 101 (T)	Introduction to Human Biology, Environment, Public Health& Hospital Industry	3	1	-	4	45	15	-	60	20	80	100
MPH 102 (T)	Introduction to Epidemiology & Biostatistics	3	1	-	4	45	15	-	60	20	80	100
MPH 103 (T)	Introduction to Health Care System in India and Demography	3	1	-	4	45	15	-	60	20	80	100
MPH 104 (T)	Introduction to Concepts & Principles of Management, Health Economics and Business Communication	3	1	-	4	45	15	-	60	20	80	100
MPH 105 (CP)	Practice of Public Health (Basic)	-	-	24	12	-		360	360	-	50	50
TOTAL		12	4	24	28	180	60	360	600	80	370	450

Semester II

Course Code	Course Name	Credits / Week				Hrs./ Semester				Marks		
		Lecture (L)	Seminar / Self Directed Learning (SDL)	Practical/ Clinical Posting (P)	Total Credits (C)	Lecture (L)	Seminar / Self Directed Learning (SDL)	Practical/ Clinical Posting (P)	Total Hrs. (H)	Internal Assessment	Semester Exam	Total
MPH 201 (T)	Reproductive, Maternal, Child, Adolescent &Geriatric Health	3	1	-	4	45	15	-	60	20	80	100
MPH 202 (T)	Epidemiology of Communicable & Non-Communicable Diseases	3	1	-	4	45	15	-	60	20	80	100
MPH 203 (T)	Health Planning, Health Management, Health Communication & Health Care	3	1	-	4	45	15	-	60	20	80	100
MPH 204 (CP)	Practice of Public Health (Advance)	-	-	20	10	-	-	300	300	-	50	50
CC 001 L	Research Methodology & Biostatistics (Core Course)	4	-		4	60	-	-	60	20	80	100
CC 001 P	Research Methodology & Biostatistics (Core Course)	-	-	4	2	-	-	60	60	10	40	50
TOTAL		13	3	24	28	195	45	360	600	90	410	500

FIRST YEAR
Master in Public Health (MPH) SEMESTER–I

Code No.	Core Subjects
Lectures, Self-Directed Learning& Clinical Posting	
MPH 101 T	**Introduction to Human Biology, Environment, Public Health & Hospital Industry**
MPH 102 T	**Introduction to Epidemiology & Biostatistics**
MPH 103 T	**Introduction to Health Care System in India and Demography**
MPH 104 T	**Introduction to Concepts & Principles of Management, Health Economics and Business Communication**
MPH 105 CP	**Practice of Public Health (Basic)**

MPH	Semester I
MPH 101 T **(60 Hrs. / Credits –04)**	**Introduction to Human Biology, Environment, Public Health & Hospital Industry**

MPH 101 T: Course Contents / Syllabus

Human Biology

- Introduction--A Human Perspective, Chemistry of Life
- Cell Structure and Function, Tissues, Organ Systems, and Homeostasis
- Introduction to Anatomy & Physiology of Digestive System and Nutrition
- Introduction to Anatomy & Physiology of Respiratory and Cardiovascular System
- Introduction to Composition and Function of Blood
- Introduction to Anatomy & Physiology of Urinary System and Excretion
- Introduction to Anatomy & Physiology of Musculoskeletal System
- Introduction to Anatomy & Physiology of Nervous System
- Introduction to Anatomy & Physiology of Endocrine System
- Introduction to Reproductive System
- Introduction to Medical Genetics

Environment

- Environment & Health
- Water – Sources, Pollution, Purification, Quality
- Air – Composition, Pollution, Ventilation,
- Light – Requirement, Measurement and Standards
- Noise – Sources, Effects, Control
- Radiation – Sources, Effects, Protection
- Introduction to Meteorology
- Housing and Health
- Disposal of Waste
- Disposal of Bio Medical Waste
- Visit to Water Treatment Plant
- Visit to Sewage Treatment Plant
- Visit to Bio Medical Waste Disposal Unit

Public Health

- History of Medicine
- Changing Concepts of Health
- Dimensions of Health
- Determinants of Health
- Concept of Disease
- Iceberg of Disease
- Changing Concepts in Public Health
- Concept of Control
- Concept of Prevention
- Levels of Prevention and Modes of Intervention
- Hospitals & Community
- Health Indicators
- Public Health Approach

- Public Health Problems in India
- Limitations of Public Health

Hospital Industry

- Global Overview
- Hospital Industry in India
- Regulatory Councils, Accreditation and Laws related to hospital
- Opportunities, Issues and Challenges in hospital industry

MPH	Semester I
MPH 102 T **(60 Hrs. / Credits – 04)**	**Introduction to Epidemiology & Biostatistics**

MPH 102 T: Course Contents / Syllabus

Epidemiology

- History of Epidemiology
- Measurements in Epidemiology
- Incidence and Prevalence
- Descriptive Epidemiology
- Cross sectional study design
- Analytical Epidemiology
- Case control study design
- Cohort study design
- Experimental Epidemiology
- Randomized control trials
- Non-randomized control trial
- Introduction to confounding and bias
- Interpretation of association
- Causation and association
- Screening
- Screening tests –Sensitivity & Specificity
- Introduction to Infectious Disease Epidemiology
- Disease surveillance
- Outbreak investigation

Biostatistics

- Biostatistics – Scope / Use
- Types of variables
- Scales of measurement
- Measures of central tendency
- Measures of dispersion
- Types of distribution
- Normal Distribution
- Sampling Methods
- Type1 and type 2 error
- Concept of P - value and 95% confidence Interval
- Chi Square Test
- T Test
- Choosing appropriate statistical test
- Concept of Correlation
- Concept of regression
- Data Visualization
- Histogram
- Bar Chart
- Pie Diagram
- Introduction to SPSS
- Introduction to EpiInfo

MPH	Semester I
MPH 103 T **(60 Hrs. Credits –04)**	**Introduction to Health Care System in India and Demography**

MPH 103 T Course Contents / Syllabus

Health Care System

- Concept of Health Care
- Levels of Health Care
- Global overview of Health Care Systems
- Health Care System in India
- Health Care Delivery Infrastructure in India
- Health Care Delivery Workforce in India
- National Strategy for Health for All
- National Health Policy
- National Health Mission
- Overview of National Health Programmes
- Private Sector in Health Care

Demography

- Demographic Processes
- Demographic Cycle
- World Population Trends
- Demographic Trends in India
- Census
- Demographic Indicators
- Age Pyramid
- Sex ratio
- Population Density
- Migration
- Urbanization
- Literacy & Education
- Life Expectancy
- Fertility and factors associated
- Fertility Indicators
- Measures of Mortality
- Growth rate
- Vital Statistics
- Concept of Life Table

MPH	Semester I
MPH 104 T **(60 Hrs. Credits – 04)**	**Introduction to Concepts & Principles of Management, Health Economics and Business Communication**

Course Contents / Syllabus

Concepts & Principles of Management

- Concept of Management
- Principles of Management
- Managerial functions
- Contemporary Management Practice
- Management & Administration
- Roles and Skills of Manager
- Time Management
- Strategic Management
- Health Planning&Planning Cycle
- Management methods based on Behavioral Sciences
- Quantitative Management Methods
- Organizing, Directing & Staffing
- Management Control System
- Use of Information System

Health Economics

- Basic concepts in health economics
- Micro and Macro economics
- Production Function
- Determinants of demand, supply and costs of production
- Supply & Demand for Health Care Personnel
- Concepts of efficiency, effectiveness, equity, elasticity of demand
- Concept of costing, marginal cost analysis, and opportunity cost
- Short term and long-term cost
- Budgeting
- Measuring health outcomes
- Principles and application of economic evaluation in health care
- Cost Benefit Analysis (CBA)
- Cost-Effective Analysis (CEA)
- Lorenz's Curve
- Genie's Coefficient
- Universal health coverage and role of health care financing
- Health Insurance& Health Care Financing
- Health sector reforms

Business Communication

- Principles of Effective Writing
- Frequently Made Mistakes in Business Writing
- Conventions of Letter Writing
- Approaches to Writing Claims and Responses
- Memoranda
- E-Mail Etiquette

- Agenda and Minutes of Meeting
- Report Writing
- Business Proposals
- CVs and Applications
- Presentation Skills

MPH	Semester I
MPH 105 CP **(360 Hrs. Credits – 12)**	**Practice of Public Health (Basic)**

Sr.No.	**Clinical Posting**	**No. of Hrs.**
1	***UNDER the Supervision of Community Medicine Faculty*** • Clinical Posting in Department of Community Medicine • Clinical Posting at Rural Health Centre • Clinical Posting at Urban Health Centre	**360**
Total		**360 Hrs.**

FIRST YEAR
Master in Public Health (MPH) SEMESTER – II

Code No.	CoreSubjects
Lectures, Self-Directed Learning& Clinical Posting	
MPH 201 T	**Reproductive, Maternal, Child, Adolescent & Geriatric Health**
MPH 202 T	**Epidemiology of Communicable & Non-Communicable Diseases**
MPH 203 T	**Health Planning, Health Management, Health Communication & Health Care**
MPH 204 CP	**Practice of Public Health (Advance)**
CC 001 L	**Research Methodology & Biostatistics (Core Course)**
CC 001 P	**Research Methodology & Biostatistics (Core Course)**

MPH	Semester II
MPH 201 T **(60 Hrs. / Credits – 04)**	**Reproductive, Maternal, Child, Adolescent & Geriatric Health**

MPH 201 T: Course Contents / Syllabus

- Fundamentals of reproductive biology
- Adolescent Sexual and Reproductive Health
- Reproductive Health Policy
- Family Welfare and Contraceptives
- Reproductive Health programs in India
- Introduction to maternal, new-born and child health programs and their behavioural basis
- Historical developments in MCH in India
- Introduction to the RMNCH+A services – historical context, evolution, coverage and innovations
- Various components of service delivery under RMNCH+A (including GoI programs)
- MCH Care service delivery
- Evolution of RCH services in the country – Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs)
- Framework for evaluation of services
- Reproductive & Perinatal Epidemiology
- Prenatal and Infant Growth and Development
- Issues in the Reduction of Maternal and Neonatal Mortality
- Preventing peri-natal and infant mortality
- Infectious Disease and Child Survival
- Nutrition and Growth in Maternal and Child Health
- Legislations and programs in MCH
- Overview of population health approaches for adolescents
- Adolescent Health and Development
- The Social Context of Adolescent Health and Development
- Adolescent Health status in India
- Adolescent Health Development - policy and systems
- Health issues specific to adolescents: anemia, teenage pregnancy, menstrual hygiene, obesity, mental health promotion and illness prevention, substance use prevention, violence, media etc.
- Define concepts - Gender, vulnerable populations, gender equality and equity and emerging issues
- Explain the difference between sex and gender and how these variables, combined with other forms of social exclusion impacts on health
- To increase understanding of the importance, benefits and urgency to identify and reduce barriers and address the needs of women and socially excluded groups, and promote their agency in the context of accessing health care and related information
- To identify good practices in Gender and Social Inclusion (GSI) within India
- Rights of the Child
- National Policy for Children
- School Health Services
- Integrated Child Development Services (ICDS)
- Health problems of Aged
- Health status of Aged in India
- Potential for disease prevention in elderly
- Old Age Homes

MPH	Semester I
MPH 202 T **(60 Hrs. / Credits – 04)**	**Epidemiology of Communicable & Non-Communicable Diseases**

MPH 202 T: Course Contents / Syllabus

- Communicable disease epidemiology
- Recognize the burden of communicable diseases (CD) affecting the population
- Examine factors contributing to the persistence of infectious diseases
- Understand reasons for emergence and re-emergence of infectious diseases
- Key concepts - Incubation periods, Epidemic patterns, Modes of transmission, Transmission dynamics. Measures of infectiousness Secondary attack rates
- Analyze the transmission dynamics of diseases and design appropriate control measures
- Apply basic infectious diseases epidemiological skills to address major emerging and re-emerging communicable diseases
- Surveillance: Case in point: Integrated Disease Surveillance Program (IDSP)
- Epidemiology of common communicable diseases like TB, Malaria, Leprosy, Polio, STIs, AIDS, Meningococcal meningitis, Hepatitis B, and Measles (mathematical models of infection dynamics, outbreak investigation and non-randomized control trialsurveillance, schedules, adverse reactions, contraindications, vaccine efficacy, impact assessment)
- Live outbreak investigation
- Adverse Event Following Immunization (AEFI) investigation
- Non-communicable diseases (NCD) epidemiology:
- Describe and understand the epidemiology of NCDs - Cardiovascular diseases, Hypertension, Diabetes mellitus, Cancers, Mental health, Stroke, Burns/trauma/ accidents etc.
- Comprehend the upstream and downstream determinants of NCDs
- Understand the Individual approaches/or high-risk approaches and population based/ or public health approaches to prevent NCDs
- Recognize the risk factor approach to prevent non-communicable diseases
- Comprehend the Population based/public health approaches to prevention of common NCD risk factors (physical inactivity, tobacco and unhealthy diet)
- Familiarize with the current projects on targeting the prevention of NCDs, including, innovations in prevention
- How prevention of NCDs interlinks with Communicable diseases. How women and child health, health of the girl child links to prevention of NCDs
- Recognize Economic burden of NCDs and benefits of prevention
- Comprehend how sustainable development and prevention of NCDs go hand in hand
- Comprehend the power of policy and role of environment in the prevention of NCDs
- Population-based screening
- Surveillance of cancers including cancer registry
- Use of EpiInfo & GIS for Disease Surveillance
- Covid 19 Pandemic Global & Local Scenario
- Epidemiology of Corona Virus
- Covid 19 Pandemic Control Measure
- Covid 19 Vaccination

MPH	Semester II
MPH 203 T **(60 Hrs. Credits – 04)**	**Health Planning, Health Management, Health Communication & Health Care**

MPH 203 T Course Contents / Syllabus

- Policy framework
- Stake holders in policy making
- Translating research in policy making
- Effects of national and international affairs on health policy
- Introduction to different national population, disease control, tobacco control, nutrition, maternal and child health policies
- Short term versus long term policies
- Design and evaluation of public health programs
- Concepts underlying the design of health programs;
- Concepts of Governance and Institutions
- Critical appraisal of issues in health policy and financing
- Theory explaining public health action, its evolution and application in health policy
- Methods of assessing the health impact of different types of policy; national and global perspective
- Assessing health impacts of different policies across sectors
- Impact of health threats and interventions to counter health threats including crisis management
- Role of Non-governmental Organizations (NGOs) in health care
- Inter-sectoral coordination in health including Public Private Partnership
- Advocacy and planning in health care
- Strategy: various definitions
- Major concepts and frameworks in strategic management: SWOT, experience curve, portfolio theory, value chain
- Strategic thinking and decision making
- Strategic planning: Environmental, scenario, implementation and evaluation
- Sustainability
- Innovations in public health
- Health informatics, e-Health
- Telemedicine, m-Health
- Business modelling: preparing your own business model
- **O**peration**al R**esearch and
- Safety, Acceptability, Feasibility and Effectiveness (SAFE) in designing Public Health Interventions
- Objectives, Targets & Goals
- Planning Cycle
- Management methods and techniques
- Health Planning in India
- Health Care System in India
- Evaluation of Health Services
- Concept, Elements and Principles of Primary Health Care
- Indian Public Health Standards
- Communication Process
- Health Communication
- Health Education

MPH	Semester II
MPH 204 CP **(300 Hrs. Credits – 10)**	**Practice of Public Health (Basic)**

Sr. No.	**Clinical Posting**	**No. of Hrs.**
1	***UNDER the Supervision of Community Medicine Faculty*** • Clinical Posting in Department of Community Medicine • Clinical Posting at Rural Health Centre • Clinical Posting at Urban Health Centre	**300**
Total		**300 Hrs.**

Name of the Course	Research Methodology & Biostatistics (Core Course)
Course Code	CC 001 L

Course Outcome	Student will be able to understand develop statistical models, research designs with the understating of background theory of various commonly used statistical techniques as well as analysis interpretation & reporting of results and use of statistical software.

Sr. No.	Topics	No. of Hrs.
A	**Research Methodology:**	
1	Scientific Methods of Research: Definition of Research, Assumptions, Operations and Aims of Scientific Research. Research Process, Significance and Criteria of Good Research , Research Methods versus Methodology, Different Steps in Writing Report, Technique of Interpretation, Precaution in interpretation, Significance of Report Writing, Layout of the Research Report	5
2	Research Designs: Observational Studies: Descriptive, explanatory, and exploratory, Experimental Studies: Pre-test design, post-test design, Follow-up or longitudinal design, Cohort Studies, Case Control Studies, Cross sectional studies, Intervention studies, Panel Studies.	5
3	Sampling Designs: Census and Sample Survey, Implications of a Sample Design, Steps in Sampling Design Criteria of Selecting a Sampling Procedure, Characteristics of a Good Sample Design, Different Types of Sample Designs (Probability sampling and non probability sampling), How to Select a Random Sample?, Systematic sampling, Stratified sampling, Cluster sampling, Area sampling, Multi-stage sampling, Sampling with probability proportional to size, Sequential sampling.	5
4	Measurement in research: Measurement Scales, Sources of Error in Measurement, Tests of Sound Measurement, Technique of Developing Measurement Tools, Scaling Meaning of Scaling, Scale Classification Bases, Important Scaling Techniques, Scale Construction Techniques, Possible sources of error in measurement, Tests of sound Measurement	5
5	Methods of Data Collection: Types of data, Collection of Primary Data, Observation Method, Interview Method, Collection of Primary Data	5
6	Sampling Fundamentals : Need and importance for Sampling, Central Limit Theorem, Sampling Theory, Concept of Standard Error, Estimation, Estimating the Population Mean Estimating Population Proportion, Sample Size and its Determination, Determination of Sample Size through the Approach Based on Precision Rate and Confidence Level.	5
B	**Biostatistics**	
7	Data Presentation: Types of numerical data: Nominal, Ordinal, Ranked, Discrete and continuous. Tables: Frequency distributions, Relative frequency, Graph: Bar charts, Histograms, Frequency polygons, one way scatter plots, Box plots, two way scatter	3

	plots, line graphs	
8	Measures of Central Tendency and Dispersion: Mean, Median, Mode Range, Inter quartile range, variance and Standard Deviation, Coefficient of variation, grouped mean and grouped standard deviation (including merits and demerits).	3
9	Testing of Hypotheses: Definition, Basic Concepts, Procedure for Hypothesis Testing, Measuring the Power of a Hypothesis Test, Normal distribution, data transformationImportant Parametric Tests, Hypothesis Testing of Means, Hypothesis Testing for Differences between Means, Hypothesis Testing for Comparing Two Related Samples, Hypothesis Testing of Proportions, Hypothesis Testing for Differencebetween Proportions, Hypothesis Testing for Comparing a Variance to Some Hypothesized Population Variance, Testing the Equality of Variances of Two Normal Populations.	6
10	Chi-square Test: Chi-square as a Non-parametric Test, Conditions for the Application Chi-square test, Steps Involved in Applying Chi-square Test, Alternative Formula, Yates' Correction, and Coefficient by Contingency.	2
11	Measures of Relationship: Need and meaning, Correlation and Simple Regression Analysis	2
12	Analysis of Variance and Covariance: Analysis of Variance (ANOVA):Concept and technique of ANOVA, One-way ANOVA, Two-way ANOVA, ANOVA in Latin-Square Design Analysis of Co-variance (ANOCOVA), ANOCOVA Technique.	4
13	Nonparametric or Distribution-free Tests: Important Nonparametric or Distribution-free Test Sign test, Wilcoxon signed-Rank Test, Wilcoxon Rank Sum Test: Mann-Whitney U test Kruskal Walli's test, Friedman's test, and Spearman Correlation test.	3
14	Vital Health Statistics: Measurement of Population: rate, crude rate, specific rate, Measurement of fertility: specific fertility rate, Total fertility rate, Reproduction rate, Gross Reproduction Rate, Net Reproduction Rate, Measures related to mortality: Crude Death Rate (CDR), Age-specific death Rate, Infant and child mortality rate, Measures related to morbidity.	4
15	Computer Application Use of Computer in data analysis and research, Use of Software and Statistical package. Introduction to SPSS. Importing data from excel, access, tab and comma separated files. Entering data, labeling a variable, coding and recoding a categorical and continuous variable. Converting data from string to numeric variables, sorting & filtering, merging, appending data sets. Frequencies, descriptive statistics, cross tabulations. Diagrammatic presentation include histogram, bar chart, pie chart, scatter diagram, box plot, line chart. Parametric test of hypothesis-one sample, Independent and paired sample t test, one way ANOVA& post HOC test. Testing for normality,Chi-square test with measures of association. Pearson correlation. Non parametric test.	3
Total		**60 hrs**

CC 001 P –Research Methodology & Biostatistics

Sr. No.	Topics	No. of Hrs
A	**Research Methodology**	
1	Sampling Designs	4
2	Measurement in research	5
3	Methods of Data Collection	3
4	Sampling Fundamentals	3
B	**Biostatistics**	
5	Data Presentation	4
6	Measures of Central Tendency and Dispersion	4
7	Testing of Hypotheses	12
8	Chi-square Test	2
9	Measures of Relationship	3
10	Analysis of Variance and Covariance	4
11	Nonparametric or Distribution-free Tests	4
12	Vital Health Statistics: Measurement of Population	6
13	Computer Application Using Statistical Software	6
Total		**60 hrs**

REVISED SCHEME OF UNIVERISTY EXAMINATION FOR PG PROGRAM (w.e.f. AY 2022-23)
MASTER of PUBLIC HEALTH (MPH)
&
MASTER of HOSPITAL ADMINISTRATION (MHA)

SEMESTER I & II

General structure / patterns for setting up question papers for Theory / Practical courses, their evaluation weightage for PG Programs (MPH & MHA) are given in following tables

Marks Scheme for the University Examination

Final Theory Mark will be 100 Marks (80 Marks University Theory Exam + 20 Marks Internal Assessment)

Theory Paper Pattern: Marks: 80 Time: 3 Hrs.

Question Paper	Question No.	Question Type	Marks Distribution	Marks Per Section
Section A	1	LAQ (1 out of 2)	1 X 10 Marks = 10	40
	2	SAQ (5 out of 6)	5 X 06 Marks = 30	
Section B	3	LAQ (1 out of 2)	1 X 10 Marks = 10	40
	4	SAQ (5 out of 6)	5 X 06 Marks = 30	
			TOTAL	**80 Marks**

Note: If the paper is combination of two sub-subjects, the each section is to be dedicated for separate sub-subject for 50% weightage each.

Practical Examination, if applicable, will be as per last approved pattern

Internal Assessment Pattern - Theory

Marks – 20

Internal Theory Examination	30 Marks / 2 = 15 Marks
Seminar / Assignment	10 Marks / 2 = 05 Marks
Total	**20 Marks**

Resolution No. 10.4 of Academic Council (AC-42/2022):

i) "Resolved to accept "50% eligibility in internal assessment" pattern for all the CBCS programs (UG & PG) running under the constituent units of MGMIHS.(MGM School of Biomedical Sciences, MGM School of Physiotherapy, MGM Medical College (M.Sc. Medical 3 year courses).

This will be applicable to all existing batches (for remaining regular examinations) and forthcoming batches from June 2022 onwards"