Master of Arts/Science in Population Studies

Syllabus

Approved by the Academic Council on 08 May 2025

(स्थापना/ Established in 1956)
बेहतर भविष्य के लिए क्षमता निर्माण
Capacity Building for a Better Future

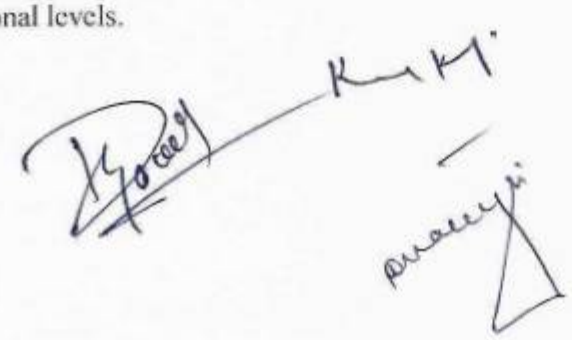
INTERNATIONAL INSTITUTE FOR POPULATION SCIENCES

(Deemed to be University)

Deonar, Mumbai 400 088 **http://iipsindia.ac.in**

Programme Outcomes:

- To develop experts in demography and population studies with analytical skills to address evolving population and health challenges.
- To enhance the relevance of population studies in social sciences, public health, and policy-making.
- To equip students with advanced research methodologies for evidence-based policy formulation and demographic analysis.
- To promote an interdisciplinary approach to understanding population dynamics, migration, and socioeconomic development.
- To prepare students for careers in research, academia, and policy institutions at national and international levels.



Index to the Courses

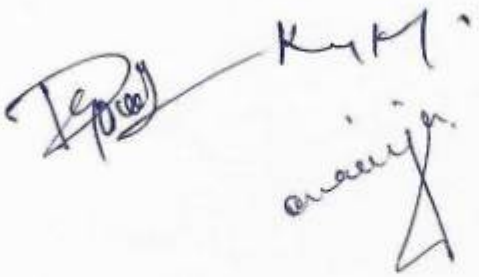
Course No	Course Name	Course Type	Credits	Hours	L	T	P
SEMESTER I							
IKS 401	Indian Knowledge System-1	IKS	2	30	2	0	0
MSP F401	Social Science Concepts	F	3	45	2	1	0
MSP C401	Basic Statistical Methods for Population Studies	C	3	45	2	1	0
MSP C402	Demography and History of Population	C	2	30	1	1	0
MSP C403	Age-Sex structure, Quality of Data and Population Dynamics	C	2	45	1	0	1
MSP C404	Nuptiality	C	2	30	1	1	0
MSP C405	Fertility	C	3	45	2	1	0
MSP C406	Mortality, Morbidity and Public Health	C	3	45	2	1	0
Semester Credits			**20**	**315**			
SEMESTER II							
MSP C407	Spatial Distribution, Migration and Urbanization	C	3	45	2	1	0
MSP C501	Introduction to Demographic and Statistical Software	C	2	45	1	0	1
MSP C502	Research Methodology-I	C	2	30	1	1	0
MSP C503	Gender Equity and Reproductive Health	C	3	45	2	1	0
MSP C504	Population, Development and Environment	C	3	45	2	1	0
MSP C505	Population Projections	C	2	30	1	1	0
MSP E501	Biostatistics and Epidemiology	E	3	45	2	1	0
MSP E502	Health System and Policies						
MSP E503	Urbanization, Space and Planning						
MSP E511	Family Demography	E	2	30	1	1	0
MSP E512	Historical Demography						
MSP V1	Viva-Voce-I	V1	2				
VAC 401	Value Added Course	VAC	NC	30			
MSP I	Internship	I	NC				
Semester Credits			**22**	**345**			
Year 1 Credits			**42**	**660**			
SEMESTER III							
IKS 501	Indian Knowledge System-2	IKS	2	30	2	0	0

MSP C506	Research Methodology II	C	2	30	1	1	0
MSP C507	Population Policies and Programme Evaluation	C	3	45	2	1	0
MSP C508	Application of Statistical Packages in Large Scale data	C	2	45	1	0	1
MSP C509	Demographic Estimation Techniques and Models	C	2	30	1	1	0
MSP C510	Spatial Demography and Application of GIS	C	3	45	2	1	0
MSP C511	Population Ageing and Health Transition	C	3	45	2	1	0
MSP E521	Occupational Health	E	3	45	2	1	0
MSP E522	Health Economics and Financing	E					
MSP E523	Concepts and Measures of Global Health	E					
MSP E524	Monitoring and Evaluation in Population and Health	E					
MSP E531	Gender, Health and Development	E	3	45	2	1	0
MSP E532	Political Demography	E					
MSP E533	Population, Environment and Sustainable Development	E					
MSP E534	Operations Research in Reproductive Health	E					
Semester Credits			**23**	**360**			
SEMESTER IV							
MSP R501	Research Field Work	R	6	90			
MSP R511	Review paper	R	3	45			
MSP R521	Project on Data Presentation	R	3	45			
MSP R531	Dissertation	R	8	120			
MSP V2	Viva-Voce-II	V2	2				
Semester Credits			**22**	**300**			
Year 2 credits			**45**	**660**			
TOTAL CREDITS (including 4 credits of viva-voce)			**87**	**1320**			

Notes:

- IKS-Indian Knowledge System course, F-Foundation course, C- Core course, E-Elective course, R- Research, VAC-Value Added Course, V-Viva voce, D- Dissertation, L-Lecture, T-Tutorial and P-Practical.
- NC: Non-Credited courses are not counted for calculating the final grade
- Core course: Must for all the students and cannot be changed.

- Elective course: One elective course should be opted from a pair.
- Semester II: One elective should be opted from each group i.e. E501/ E502/ E503; E511/ E512
- Semester III: One elective should be opted from each group; i.e. E521/ E522/ E23/ E24; E531/ E532/ E533/ E534



SEMESTER – I

Course Code: IKS 401

Course Title: INDIAN KNOWLEDGE SYSTEM-1

Credit: 02
(Lecture: 2)

Hours: 30

COURSE OUTCOMES:

- To focus on the scientific and eternal Indian Knowledge System
- To know the diverse path of spirituality in India and its application in the management of modern life
- To know the contributions of the Indian Knowledge System to the world
- To understand population-related topics within the framework of the Indian Knowledge System

COURSE CONTENT:

Link from SWAYAM to be shared with the students by the coordinator.

Course Code: MSP F401

Course Title: SOCIAL SCIENCE CONCEPTS

Credit: 03 **Hours: 45**
(Lecture: 2, Tutorial: 1)

COURSE OUTCOMES:

- To gain familiarity with basic social science concepts that has bearing on understanding population dynamics.
- Understand the varied aspects of social reality, such as caste, tribe, gender, kinship, marriage, social mobility and religion in terms of its relevance in population studies.
- Viewing population in space and time and read population geography in consideration of man-environment relationship, geographical factors and regional perspective.
- Recognition of interplay between economic development and population changes in an evolving world order.
- To understand the psychological concepts like perception, behaviour, emotion, personality, coping mechanism, and their bearing on Population Studies

COURSE CONTENT:

Sociology

Sociology: sociology as a social science- its nature, subject matter and scope, relation of sociology with other social sciences, sociological perspectives, basic concepts in sociology

The Family:

- Sociological Significance of the Family
- Types and functions of Family
- Nuclear and joint families

Marriage: Different forms of marriage, changing patterns of marriage/mate selection in India

Kinship —features of kinship system in India, regional variations

Social stratification: Social Class and Caste: Principles of Class and Caste

Socialization: agencies of socialization

Culture: meaning and characteristics of culture.

Society and Culture in India

- Aspects of society and culture in India, and its role and importance in Population Studies.
- Social Institutions and their role in influencing demographic situation of India - Family, Marriage, Kinship and Religion and Caste System
  i. Concept and definition of Caste System,
  ii. Changing Caste System in India

Social Mobility: vertical and horizontal, intra- and inter-generational mobility

Social Change: Definition and Concept of Social Change, Process of Social and Cultural Changes in India and their role in influencing demographic behaviours:

- Sanskritization
- Westernization
- Modernization

Geography

Importance of Geographical factors: Physical factors (relief, rainfall, temperature, soil and vegetation) Economic and Social factors (Mineral resources and industrialization, transport, language, religion and caste/tribe); the influence of geographical factors on population.

Geographical approaches: the concept of region- formal and functional regions; the concept of growth pole and regional development; core and periphery; distance and decay function; Mapsscale, choropleth, isopleths and distribution maps.

Physical divisions of India: administrative organization of India. Historic-Cultural regions; Agro-climatic regions; NSS regions.

Theoretical Perspectives in Geography: Place of geography in Social sciences; man and nature relationship- determinism and possibilism; Positivism (quantification) and Phenomenology; and

Radical and Postmodern Geography: Concept of Social Space; Social Structure and Spatial Structure; Role of time and space in social sciences.

Economics

Introduction: Defining Economics and welfare Economics, Micro and Macro Economics, Economic and non-economic good, Basic Economic Activities, Factors of Production, Economic Systems.

Basic Concepts in Micro Economics: Concept of Marginal and Total Utility, Law of Diminishing Marginal Utility, Theory of Demand: Indifference curves Theory and Properties, Equilibrium of consumer, Income, Substitution and Price effect. Elasticity of Demand: Price, Income and cross elasticity, Basic concepts in theory of production, cost and market structure.

Basic Concepts in Macro Economics: Basic Concepts in National Income: Concept of GDP, NDP, GNP, NNP, M, PCI, PPP, Theory of consumption and saving: Consumption function, Keynes' Psychological law of consumption, concept of APC and MPC, APS and MPS, Factors affecting consumption and savings, Basic concept of Investment.

Psychology

Social Psychological Concepts: The Value of psychology and perspectives in psychology; scientific study of social influences on behavior and the interaction between individuals and groups; social pressure, leadership

Basics of Psychology: Why Psychology, branches of psychology, methods of research, Psychological well-being across major stages of the life span, Role of psychology in population studies.

Sensation, Attention and Perception: Sensation: concepts of threshold, Factors influencing attention including set and characteristics of stimulus; 'Definition and concept of perception, biological factors in perception; Perceptual organization-influence of past experiences, perceptual defense factors influencing space and depth perception, size estimation and perceptual readiness; Extra sensory perception; Culture and perception, Subliminal perception.

Motivation and Emotion: Psychological and physiological basis of motivation and emotion; Effects of motivation and emotion on behaviour; Extrinsic and intrinsic motivation; Factors influencing intrinsic motivation; the related issues.

Personality: Definition and concept of personality; Theories of personality (psychoanalytical, socio-cultural, interpersonal, developmental, humanistic, behaviouristic, trait and type approaches); big 5 factor theory;

Language and Communication: Human language - Properties, structure and linguistic hierarchy, Language acquisition- predisposition, critical periodhypothesis; Process and typesof communication - effective communication training.

Psychological well-being and Mental Disorders: Concept of health-ill health; Positive health, well-being; Causal factors in mental disorders (Anxiety disorders, mood disorders, schizophrenia and delusional disorders; personality disorders, substance abuse disorders); Factors influencing positive health, well-being, life style and quality of life; Happiness disposition.

READING LIST:

Ahuja, H. L. (n.d.). *Advanced economic theory: Microeconomic analysis*. S. Chand & Company.

Abler, R., Adams, J., & Gould, P. (1971). *Spatial organization: The geographer's view of the world*. Prentice Hall.

Burkeman, L. (2012). *The antidote: Happiness for people who can't stand positive thinking*.

Dasgupta, A. K. (n.d.). *Epochs of economic theory*. Oxford University Press.

Datt, R., & Sundaram, K. P. M. (2000). *Indian economy* (Part II). S. Chand & Company Ltd.

Davis, K. (1975). *Human society*. MacMillan & Co.

Duhigg, C. M. (2012). *The power of habit*.

Friedman, J. F. (1966). *Regional development policy: A case study of Venezuela*. MIT Press.

Freud, S. (1900). *The interpretation of dreams*.

Haralambos, M. (1980). *Sociology: Themes and perspectives*. Oxford University Press.

Horney, K. (1937). *The neurotic personality of our time*.

Johnston, R. J. (2004). *Geography and geographers*. Oxford University Press.

Johnson, H. M. (1966). *Sociology: A systematic introduction*. Allied Publishers.

Kalat, J. W. (2013). *Introduction to psychology* (10th ed.).

Kapadia, K. M. (1966). *Marriage and family in India*. Oxford University Press.

Koutsoiannis, A. (1979). *Modern microeconomics*. Macmillan Press Ltd.

Kuppuswamy, B. (1972). *Social change in India*. Konark Publications Pvt. Ltd.

Lipsey, R. G., & Chrystal, K. A. (2004). *Economics*. Oxford University Press.

MacIver, R. M., & Page, C. H. (1949). *Society: An introductory analysis*. Holt, Rinehart & Winston.

Mandelbaum, D. G. (1970). *Society in India: Continuity and change* (Vol. 1). University of California Press.
Mandelbaum, D. G. (1970). *Change and continuity* (Vol. 2). University of California Press.

Magill, F. N. (Ed.). (1995). *International encyclopedia of sociology*. Fitzroy Dearborn Publishers.

McGee, R. (1980). *Sociology: An introduction*. Holt, Rinehart & Winston.

Monkhouse, F. J. (1956). *Maps and diagrams: Their compilation and construction*. University of Michigan.

Muzumdar, H. (1966). *The grammar of sociology: Man in society*. Asia Publishing House.

Peet, R. (1998). *Modern geographic thought*. Blackwell Publishers.

Samuelson, P. A., & Nordhaus, W. D. (n.d.). *Economics*. Tata McGraw-Hill.

Sigmund, F. (1900). *The interpretation of dreams*.

Singh, R. L. (1971). *India: A regional geography*. National Geographical Society of India.

Srinivas, M. N. (1966). *Social change in modern India*. University of California Press.

Sen, A. (2018). *Collective choice and social welfare: An expanded edition*. Harvard University Press.

Course Code: MSP C401

Course Title: BASIC STATISTICAL METHODS FOR POPULATION STUDIES

Credit: 03 **Hours: 45**
(Lecture: 2, Tutorial: 1)

COURSE OBJECTIVES:

- Refresh on basic statistical methods and its application to population data.
- Recognize the relevance of distribution in bivariate and multivariate tabulations.
- Application of statistical distribution in diagnosing demographic outcome and indicators.
- Develop an understanding of generalization based on principles of statistical analysis.

COURSE CONTENT:

Introduction to statistics

Descriptive and Inductive statistics. Concept of variables, Nominal, Ordinal and Interval and ratio scale variables; rate, proportion, ratio, probability; growth rates: arithmetic, geometric, exponential rates.

Presentation of data

Tabular presentation, frequency distribution, univariate and bivariate frequency, Graphical presentation of nominal, ordinal data, continuous and discrete data.

Transformation of data

Logarithm, square root, box-transformation. Properties of logarithm and square root functions etc.

Measures of Location/ Position

Mean, Median, Mode; Quartiles, Deciles, Percentiles.

Measures of Dispersion

Range, Variance, Standard Deviation, Coefficient of Variation; Skewness and Kurtosis.

Probability and events

Probability, priors, conditional probability; Events/Outcomes: exhaustive, mutually exclusive and equally likely events/outcomes; Additive and multiplicative laws of probability, Bayes' theorem.

Discrete probability distributions

Count data, Bernoulli, Binomial, hypergeometric and Poisson probability distribution and their properties.

Continuous probability distribution

Normal and log normal distribution and its properties, applications of their distribution.

Concept of association, correlation and regression

Pearson's correlation coefficient, and its properties; Spearman's ranks correlation coefficient, linear regression, BLUE, and residual analyses. Contingency table and odds ratio.

Concepts in Inductive statistics

Population, Parameter, and Statistic. Sampling distribution of mean and proportion. Statistical hypothesis, critical region, P-value, level of significance, confidence interval and two types of errors.

Test of significance

Introducing the t-distribution, principles of comparison, independent sample t-test and paired t-test, Chi-square test for association of attributes and for goodness of fit, Analysis of Variance.

Multiple/Multivariate Regression

Dependent/ independent variables, dummy variables, standardized regression coefficients, Partial and multiple correlation, Logistic regression.

READING LIST:

Bhat, N. R., & Singh, M. R. (1993). *Applied mathematics*. Tata McGraw-Hill Publishing Company Ltd.

Chakravorti, S. R., & Giri, N. (1997). *Basic statistics*. South Asian Publishers.

Clarke, G. M., & Cooke, D. (1994). *A basic course in statistics*. Arnold.

Dillon, W. R., & Goldstein, M. (1984). *Multivariate analysis*. John Wiley & Sons.

Dixon, W. J., & Massey, F. J. (1983). *Introduction to statistical analysis* (4th ed.). McGraw-Hill.

Douglas, G., & Altman, D. (2006). *Practical statistics for medical research*. Chapman and Hall.

Fisher, L. D., & Van Belle, G. (1993). *Biostatistics: A methodology of the health sciences*. Wiley Interscience.

Goon, A. M., Gupta, M. K., & Dasgupta, B. (1985). *Fundamentals of statistics* (Vol. 1). The World Press Private Ltd.

Jain, S. K. (1979). *Basic mathematics for demographers*. The Australian National University.

Marcello, P., & Gourneau, K. (2000). *Principles of biostatistics* (2nd ed.). Duxbury Thomson Learning.

Prakasam, C. P., Rama Rao, G., & Upadhyay, R. B. (1987). *Basic mathematics in population studies*. Gemini Publishers.

Sundaram, K. R., Dwivedi, S. N., & Sreenivas, V. (n.d.). *Medical statistics: Principles and methods*. BI Publications Private Limited.

Course Code: MSP C402

Course Title: DEMOGRAPHY AND HISTORY OF POPULATION

Credit: 02 **Hours: 30**
(Lecture: 1, Tutorial: 1)

COURSE OUTCOMES:

- Acquaint the students with the scope and relevance of the discipline of population studies.
- Become aware of the global, regional and national population trends.
- To understand the nature of diversity in the size, distribution, composition, and basic characteristics of population across Indian states.
- To familiarize on various sources of demographic data in India, and their limitations.
- To appreciate the historical perspectives on population change.

COURSE CONTENT:

Introduction to Demography

Definition and Scope: Demography as a scientific discipline; Development of demography as a discipline. Multi-disciplinary nature of Demography, Linkage with other social science disciplines including statistics, mathematics, economics etc. Some basic demographic concepts. Balancing Equation and components of population change, Concept of doubling time. Malthusian concept of population growth and resources.

Sources of Demographic Data

Population census: Uses and limitations; Indian Censuses. Census taking under British India and later, details of different domain on which Indian census collect data, publication of census data/ reports. Vital registration system., Historical data — Parish Records, National Sample Survey, Sample Registration System, Demographic Health Surveys (DHS), Longitudinal ageing Survey in India, Other sample surveys. Strengths and weaknesses of various data sets.

Population History

Historical trends in population situation in the world: Present population situation and past and future trends in the world, in developed and developing countries.

Demographic characteristics of first modern people. Socio-economic and demographic features of Indus Valley Civilisation, population change from medieval to Mughal times

History of population in India: Population estimates in ancient time, population history during British rule, famine, plague, influenza and its impact on population. Trends and growth of India's population during pre-independence and post-independence period, major sources of data about the population in the past; major explanations of population change in the past; Contribution of fertility, mortality and migration to population change in the past.

READING LIST:

Bogue, D. (1969). *Principles of demography*. John Wiley & Sons.

Bhende, A., & Kanitkar, T. (1996). *Principles of population studies* (7th ed.). Himalaya Publishing House.

Census of India. (n.d.). *Census of India*. Retrieved from http://www.censusindia.gov.in

Dyson, T. (2018). *A population history of India: From the first modern people to the present day*. Oxford University Press. https://doi.org/10.1093/oso/9780198829058.001.0001

Jacob S. Siegel, & David A. Swanson. (2004). *The methods and materials of demography* (2nd ed.). Elsevier Science. https://books.google.co.in/books/about/The_Methods_and_Materials_of_Demography.html?id=-uPrAAAAMAAJ&redir_esc=y

John Weeks. (2005). *Population: An introduction to concepts and issues* (9th ed.). Wordsworth Learning.

Thompson, W. S. (1930). *Population problems*. McGraw-Hill.

United Nations. (1958). *Multilingual demographic dictionary*. John Wiley & Sons Ltd.

United Nations. (1998). *Handbook on civil registration and vital statistics systems: Management, operation, and maintenance*. United Nations.

United Nations. DESA. (2022). *World population prospects 2022*. Retrieved from https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/wpp2022_summary_of_results.pdf

Course Code: MSP C403

Course Title: AGE-SEX STRUCTURE, DATA SOURCES AND POPULATION DYNAMICS

Credit: 02
(Lecture: 1, Practical: 1)

Hours: 45

COURSE OUTCOMES:

- To familiarize the students with age-sex structure of the population
- To develop capacity in measuring and analyzing the age-sex structure of a population and its determinants and consequences.
- To develop an understanding of demographic transition and demographic dividend.

COURSE CONTENT:

Concepts and Measures of age and sex structure

Defining age and sex, sex ratio, sex ratio at birth, classification of age group and its importance, Measures of age structure; median age, percent distribution, dependency ratio, potential support ratio. Age and sex pyramid of developed and developing countries, variations in age distribution, sex ratio and sex ratio at birth. Concept of age standardization, demographic transition theory and demographic dividend.

Dynamics of Age-Sex Structure of the World and India

Present levels and past trends in the sex and age structure of the population of the world, developed and developing countries and India. Importance of age-sex structure in population dynamics and factors affecting sex ratio of the population. Sex ratio of India's population and role of different factors in changing sex ratio. Factors affecting age structure of the population: dynamics of age structure along with demographic transition; ageing of the population and relative role of low fertility and low mortality. Implication of migration on age sex structure.

Evaluation and Adjustment of Demographic Data

Appraisal of quality of age-sex data: Types and source of errors, Methods of data evaluation and error detection: direct (Post-enumeration surveys) and indirect methods, Appraisal of birth and death statistics by means of balancing equation, Dual system of records.

Techniques of evaluation of age and sex data: Measures of errors in age data (Graphical representations), Whipple's index, Myer's index, Age ratio, Sex ratio and UN Joint score, Evaluation of age data for young and old ages, Techniques of errors adjustment in age data and prorating, Quality checks incorporated in survey procedures to minimize errors, Possible errors and implications, Component of non-sampling errors, Mechanisms and protocols to minimize and correct errors, Quality Assessment of Large-Scale Demographic Surveys.

READING LIST:

Bogue, D. (1969). *Principles of demography*. John Wiley & Sons.

Bhende, A., & Kanitkar, T. (1996). *Principles of population studies* (7th ed.). Himalaya Publishing House.

Census of India. (n.d.). *Census of India*. Retrieved from http://www.censusindia.gov.in

Jacob S. Siegel, & David A. Swanson. (2004). *The methods and materials of demography* (2nd ed.). Elsevier Science. https://books.google.co.in/books/about/The_Methods_and_Materials_of_Demography.html?id=uPrAAAAMAAJ&redir_esc=y

James, K. S., & Irudaya Rajan, S. (2004). Respondents and quality of survey data. *Economic and Political Weekly*, 39(7), 680–687.

Mukherjee, S. B. (1976). *The age distribution of the Indian population: A reconstruction for the state and territories, 1881-1961*. East-West Centre, University Press of Hawaii.

Preston, S. H., Heuveline, P., & Guillot, M. (2001). *Demography: Measuring and modeling population processes*. Blackwell Publishers.

Rajani, S. I., & James, K. S. (2008). Third national family health survey in India: Issues, problems, and prospects. *Economic and Political Weekly*, 33(48), 63–74.

Thompson, W. S. (1930). *Population problems*. McGraw-Hill.

United Nations. (1973). *The determinants and consequences of population trends* (Vol. I). United Nations.

United Nations. (1998). *Handbook on civil registration and vital statistics systems: Management, operation, and maintenance*. United Nations.

United Nations. DESA. (2022). *World population prospects 2022*. Retrieved from https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/wpp2022_summary_of_results.pdf

Weeks, J. (2005). *Population: An introduction to concepts and issues* (9th ed.). Wordsworth Learning.

Course Code: MSP C404

Course Title: NUPTIALITY

Credit: 02
(Lecture: 1, Tutorial: 1)

Hours: 30

COURSE OUTCOMES:

- Familiarize students' basic concepts on nuptiality
- Inculcate an understanding of various theories of family formation.
- Identify the different sources of data for nuptiality
- Perform nuptiality analysis

COURSE CONTENT:

Nuptiality

Introduction: Basic Concepts, Sources of Data and their limitations. Measures of Nuptiality from Registration data.

Analysis of Marital Status Data from Census: Singulate Mean Age at Marriage (SMAM): Synthetic Cohort and Decadal Synthetic Cohort Method.

Indices of Nuptiality: (Coale's Indices)

Marriage Pattern in India and Selected Countries and related factors

Marriage squeeze: Concepts and Implications, Concepts of Hypergamy and Hypogamy Gross and Net Nuptiality Tables.

Non-marriage: Multistate approach in Nuptiality analysis, Standard Age Pattern of Marriage-Coale's Model.

Divorce and Widowhood: Definition and basic measures: Marriage Dissolution Tables and Remarriage Concept, Mean Age at Widowhood/Divorce from Census Returns. Definition and Measures of Remarriages of Widowed and Divorces.

READING LIST:

Arriaga, E. E., Bogue, D. J., & Anderson, D. L. (Eds.). (1993). *Readings in population research methodology* (Vol. 3: Fertility research). United Nations Population Fund.

Bhende, A. A., & Kanitkar, T. (2003). *Principles of population studies* (16th revised ed.). Himalaya Publishing House.

Bogue, D. J., & Anderson, D. L. (Eds.). (1993). *Readings in population research methodology*. Chicago: United Nations Population Fund.

Coale, A. J., & Trussell, T. J. (1978). Technical note: Finding the two parameters that specify a model schedule of marital fertility. *Population Index*, 44(2), 203–213. https://doi.org/10.2307/2736719

Newell, C. (1988). *Methods and models in demography*. Frances Pinter.

Palmore, J. A., & Gardner, R. W. (1983). *Measuring mortality, fertility, and natural increase: A self-teaching guide to elementary measures*. East-West Population Institute, East-West Center.

Pathak, K. B., & Ram, F. (1998). *Techniques of demographic analysis* (pp. 108–153). Himalaya Publishing House.

Pollard, A. H., Yusuf, F., & Pollard, G. N. (1990). *Demographic techniques* (3rd ed.). Pergamon Press.

Rowland, D. T. (2006). *Demographic methods and concepts*. Oxford University Press.

Siegel, J. S., & Swanson, D. A. (Eds.). (2004). *The methods and materials of demography* (2nd ed.). Elsevier Academic Press.

Course Code: MSP C405

Course Title: FERTILITY

Credit: 03
(Lecture: 2, Tutorial: 1)

Hours: 45

COURSE OUTCOMES:

- Familiarize students on basic concepts on fertility
- Recognize socio-cultural and economic factors influencing fertility behaviours.
- Inculcate an understanding of various theories of reproduction and family formation.
- Identify the different sources of data for fertility measurements
- Perform fertility analysis

COURSE CONTENT:

Fertility

Terms and Concepts: Importance of the fertility study in population dynamics; Basic terms and concepts used in the study of fertility, desired family size, fertility regulation.

Framework for Fertility Analysis: Determinants of natural fertility; Davis intermediate variables framework of fertility; Socioeconomic determinants of proximate variables; Lee and Bulatao framework of fertility determinants.

Fertility Transition in Developed Countries: Historical fertility declines in European and Non-European Industrialized Countries and underlying factors; Below-replacement level fertility in developed countries and its implications.

Fertility Transition in Developing Countries: Pattern of fertility transition in developing countries; causes of high fertility in Africa and Asia. Fertility Transition in India: Historical trend and regional patterns in development, culture and fertility transition. Fertility Surveys — Findings and Emerging research issues.

Hypotheses and Theories of Fertility: Theory of Social Capillarity, Theory of Change Response, Theory of Diffusion and Cultural Lag, Liebenstein Theory, Becker's Theory, Easterlin's Framework of Fertility, Intergenerational Wealth Flow Theory, U. N. Threshold Hypothesis, Reproductive motivations and value of children theories. Second demographic transition.

Fertility Measures and Models

Introduction of Basic Concepts: Sources of Data for Fertility Analysis, Concept of Period and Cohort Approaches, Direct Estimation of Fertility, Period Measures of Fertility, Basic Fertility Measures, Order-Specific Fertility Rates, Marital Status Specific Fertility Rates, Standardized Birth Rates and Coale's Fertility Indices, Cohort Measures of Fertility, Children Ever Born, Completed Fertility, Parity Progression Ratios, Reproduction Measures, Concept of Maternity Function, Basic Idea of Tempo and Quantum Effects.

Fertility Models: Age patterns of Fertility: Coale and Trussell Fertility Model: Estimating M and m Bongaarts and Potters Aggregate Fertility Model and its applications

READING LIST:

Bhende, A. A., & Kanitkar, T. (2003). *Principles of population studies* (16th rev. ed.). Himalaya Publishing House.

Bongaarts, J., & Potter, R. (1983). *Fertility, biology, and behavior: An analysis of the proximate determinants*. Academic Press.

Coale, A. J., & Trussell, T. J. (1978). Technical note: Finding the two parameters that specify a model schedule of marital fertility. *Population Index*, 44(2), 203–213. https://doi.org/10.2307/2736719

Coontz, S. H. (1968). *Population theories and the economic interpretation*. Routledge.

Mandelbaum, D. G. (1974). *Human fertility in India: Social components and policy perspectives*. University of California Press.

Newell, C. (1988). *Methods and models in demography*. Frances Pinter.

Palmore, J. A., & Gardner, R. W. (1983). *Measuring mortality, fertility, and natural increase: A self-teaching guide to elementary measures*. East-West Population Institute, East-West Center.

Pathak, K. B., & Ram, F. (1998). *Techniques of demographic analysis* (pp. 108–153). Himalaya Publishing House.

Preston, S. H., Heuveline, P., & Guillot, M. (2001). *Demography: Measuring and modeling population processes*. Blackwell Publishers.

Rowland, D. T. (2006). *Demographic methods and concepts*. Oxford University Press.

Siegel, J. S., & Swanson, D. A. (Eds.). (2004). *The methods and materials of demography* (2nd ed.). Elsevier Academic Press.

United Nations. (1973). *Determinants and consequences of population trends* (Vol. I). UN.

United Nations. (1998). *Handbook on civil registration and vital statistics systems: Management, operation, and maintenance*. United Nations.

Weeks, J. (2005). *Population: An introduction to concepts and issues* (9th ed.). Wordsworth Learning.

Course Code: MSP C406
Course Title: MORTALITY, MORBIDITY AND PUBLIC HEALTH

Credit: 03
(Lecture: 2, Tutorial: 1)

Hours: 45

COURSE OUTCOMES:

- Become familiar with the basic definitions and concepts used, importance and the scope of mortality study and its bearing on fertility, and population health.
- Become aware of varied sources of health data (morbidity, mortality, disability), their merits/demerits, uses and significance as indicators; and their basic measures.
- Explain synthetic formulation of survival experience (e.g., life table).
- To convey the transitional and differential dynamics of early age life experiences.
- To understand the linkages among epidemiology, mortality transition, and public health.

COURSE CONTENT:

Mortality

Basic Concepts and Measures of Mortality: Definition of deaths and fetal deaths according to WHO; Need and Importance of the study of Mortality; various sources of mortality data and its quality with special reference to the developing countries. Global Mortality and Emerging Issues

Introduction and basic measures: Some basic measures: - crude death rate (CDR) and Age-Specific Death Rates (ASDRs)- their relative merits and demerits, Techniques of standardization and decomposition of Rates/Ratio

Need and importance of standardization: direct and indirect technique of standardization of rates and ratios in the light of mortality rates; Decomposition. Infant mortality and its sub-division, Need and importance of the study of infant mortality in demographic analysis; Conventional measures of infant mortality (IMR) and its sub-divisions- Neo-natal, Post- Neonatal mortality and Peri-natal Mortality Ratio/Rate. Approaches for estimating infant and child mortality rates from birth history collected in large-scale surveys; and Lexis diagram.

Measures of maternal mortality: Maternal Mortality Rate, Ratios, Life time risk; Issues related to estimation of maternal mortality measures.

Life Tables Introduction: Basic concept of a life table; types and forms of life table; Brief history of life tables; Anatomy of life table; uses of life table in demographic analysis, Construction of Life tables based on Age- specific death Rates (ASDRs), Underlying assumptions of life table construction using ASDRs of a community during a specified period; Methods of life table Construction-Conventional approach, and those proposed by Greville and Chiang.

Mortality and health transitions: Levels and trends in mortality by regions, with special reference to India; age and sex specific mortality with a focus on excess female mortality; differentials by residence and socio- economic factors (occupation, income, education, etc.); historic mortality transitions as experienced by developed countries (Europe); overview of epidemiological transition; changing disease and death pattern in developing countries; factors responsible for high mortality in the past; main causes of mortality decline in developing countries; current global mortality scenario; and concepts and overview of health transition.

Child survival framework: Importance of infant mortality in population and health; causes of infant mortality (endogenous and exogenous factors); levels and trends (global and south Asia/ India); and Mosley and Chen' framework for child survival.

Causes of death: Importance of causes of death statistics; definition and sources of causes of death statistics; a brief history of the International statistical classification of diseases, injuries and causes of death (ICD); an overview of ICD — X and XI (1990, 2019); global leading causes of death (with a focus on Asia and India); cause of death statistics in India (RG: Rural and MCCD); distribution of deaths by main causes by age, development, life expectancy (UN).

Morbidity and Public Health

Introduction to Morbidity: Need and importance of the morbidity study; sources of morbidity data; concepts and definitions of health and morbidity, and burden of disease; conditions as proposed by WHO and other social scientists.

Measures of Morbidity: Need for morbidity indices; various measures of morbidity: incidence and prevalence rates; interrelationships between measures of morbidity; other measures related to working day loss etc.

Public Health and Epidemiology: Basic concepts of community health; principles of Epidemiology- basic concepts and definitions; types of Epidemiology: descriptive and analytical; epidemiology of communicable and non-communicable diseases; nutrition and health, environment and health; occupation and health.

READING LIST:

Caldwell, J., Findley, S., Caldwell, P., & Santow, G. (1990). *What we know about health transition: The cultural, social, and behavioural determinants of health* (Vol. 1 & 2). Health Transition Centre, ANU.

Mosley, W. H., & Chen, L. C. (1984). Analytical framework for the study of child survival in developing countries. *Population and Development Review, 10*(Supplementary Copy). https://doi.org/10.2307/1972713

Omran, A. R. (1971). The epidemiologic transition: A theory of the epidemiology of population change. *Milbank Memorial Fund Quarterly, 49*(4), 509–538.

Park, J. E., & Park, K. (1989). *Textbook of preventive and social medicine* (12th ed., Chapters 2 & 3). M/S Banarsidas Bhanot Publishers.

Preston, S. H., Heuveline, P., & Guillot, M. (2001). *Demography: Measuring and modeling population processes* (Chapters 2, 3, & 4). Blackwell Publishers.

Ram, F., & Pathak, K. B. (1998). *Techniques of demographic analysis* (2nd ed., Chapters 2 & 3). Himalaya Publishing House.

Shryock, H. S., Siegel, J., & Associates. (1980). *The methods and materials of demography* (Vol. 2, pp. 389–393, Chapter 14). U.S. Department of Commerce.

WHO. (1992). *International statistical classification of diseases and related health problems* (10th rev., Vol. 1). Geneva: World Health Organization.

SEMESTER-II

Course Code: MSP C407

Course Title: SPATIAL DISTRIBUTION, MIGRATION AND URBANIZATION

Credit: 03
(Lecture: 2, Tutorial: 1)

Hours: 45

COURSE OUTCOMES:

- To make the students understand the basic concepts, definitions, sources of data etc. on migration and urbanization.
- To develop a critical understanding on the various theories/models concerning migration and urbanization.
- To equip students on the measurement and estimation of level, trend and pattern of migration and urbanization.
- To understand the trend and pattern of spatial distribution and its linkage with migration and urbanization.
- To develop a critical understanding on the emerging migration and urban issues, government policies and programmes in the context of development.

COURSE CONTENT:

Spatial Distribution

Population Distribution: Patterns and factors affecting spatial distribution of population at global and national scale, Measures of concentration of population: Density, percentage distribution and dissimilarity index

Migration

A. Definition, Concepts and Theories (10 hours)

Concept of mobility and migration, types of migration, definition of migrants as per Census and its limitations, sources and quality of data: Census, NSSO, Migration surveys

Migration theories and models: Ravenstein's Laws of Migration; Everett Lee's Theory of Migration; Mobility Field Theory; Todaro's Model of Rural-Urban Migration; New Economics of Labour Migration; Transnationalism Theory of Migration

B. Internal Migration (3 hours)

Patterns and characteristics in developing countries with a special focus on India.

Causes and consequences of internal migration: demographic, economic, social and political consequences at the individual, household and community level Policies related to internal migration.

C. International migration (3 hours)

Patterns and types of international migration: Historical and recent trends, Indian Diaspora and people of Indian origin. Causes and consequences of international migration: demographic, economic, social and political consequences at the individual, household and community level Policies of international migration

D. Measures of Migration (8 hours)

Direct estimation of lifetime and inter-censal migration rates from census data; Indirect measures of net internal migration: Vital Statistics Method, National Growth Rate Method and Census and Life Table Survival Ratio; Methods of estimating return migration and; Methods of Estimating International Migration

Urbanization

A. Definition and Concepts (6 hours):

Concepts and Definition: urban, urbanization and urbanism; Definitional and conceptual problems and data sources; Classification of cities and towns: size and function; rural-urban interaction: urban-rural fringe, urban region and urban field; Urban evolution: Current urbanization process in developed and developing countries with special focus on India;

B. Theories (5 hours)

Stages of urbanization; Kingsley Davis model; The City-Region Relationship Theories; Models of urban planning.

C. Measures (7 hours)

Degree of urbanization; Tempo of urbanization; Urban population growth and its components; Rank-Size rule and Primacy Index, Lorenz curve and Gini's concentration ratio.

D. Policies, Programmes and Challenges (3 hours)

Urban Problems and challenges; Urban policies and programmes in India; Case study of Navi Mumbai Master plan.

READING LIST:

Arriaga, E. (1975). *Selected measures of urbanization*. In S. Goldstein & D. Sly (Eds.), *Measures of urbanization and projections of urban population*. IUSSP.

Bhagat, R. B., & Hassan, M. I. (2025). *Urbanisation and urban policies in India: Trends, patterns and emerging perspectives*.

Cohen, R. (1996). *Theories of migration*. The International Library of Studies on Migration. Edward Elgar.

Davis, K. (1972). *World urbanization, 1950-70, Vol. II: Analysis of trends, relationships, and development*. Population Monograph Series 4 and 9. University of California Press.

Haas, H. D., Castles, S., & Miller, M. J. (2020). *The age of migration: International population movements in the modern world* (6th ed.). The Guilford Press.

International Organization for Migration. (2021). *World migration report 2022*. IOM.

Jones, G., & Visaria, P. (Eds.). (1997). *Urbanization in large developing countries: China, Indonesia, Brazil, and India*. Clarendon Press.

Oberai, A. S. (1987). *Migration, urbanization, and development*. International Labour Office.

Shryock, H. S., Siegel, J. S., & Associates. (1980). *The methods and materials of demography, Vol. I*. U.S. Bureau of the Census.

Todaro, M. P. (1976). *Internal migration in developing countries*. International Labour Office.

United Nations. (1974). *Methods of measuring internal migration, Manual VI*. UN.

United Nations. (1979). *Trends and characteristics of international migration since 1950*. Demographic Studies No. 64. UN.

United Nations. (1983). *Determinants and consequences of population trends, Vol. I, Chapter V*. UN.

United Nations. (2019). *World urbanization prospects: The 2018 revision*. UN.

Weeks, J. R. (2015). *Population: An introduction to concepts and issues*. Cengage Learning.

Course Code: MSP C501

Course Title: INTRODUCTION TO DEMOGRAPHIC AND STATISTITCAL SOFTWARE

Credit: 02 **Hours: 45**
(Lecture: 1, Practical: 1)

COURSE OUTCOMES:

- To have hands on experience on statistical packages like SPSS, STATA to facilitate handling of large-scale data sets.
- To familiarize with the data management such as recoding, sorting, filtering, file merging and splitting using SPSS and STATA
- To understand and learn the uses of univariate, bivariate and multivariate analysis using software packages

COURSE CONTENT:

Introduction to SPSS-facilities

Creating database structure, data entry, specifying scales, validation of data entry, importing and exporting data.

Data Manipulation: recoding creating new variable, sorting, filtering and selection of specific data, generating simple frequencies, use of syntax editor. Correlation and regression

Analysis: interpretation and regression diagnostic test.

Introduction to STATA

Generating, variables, commands and do file editor.

Survey analysis: estimation of mean, proportion, design.

Multivariate analysis: concepts and interpretation of results of multiple regression, logistic regression, ANOVA, with and without interaction.

Large scale data handling: (using NFHS, DLHS, NSSO) Merging, splitting, data and formatting.

READING LIST:

Cromley, E. K., & McLafferty, S. I. (2002). *GIS and public health*. Guilford Press.

SPSS Inc. (n.d.). *SPSS 14.0 brief guide*. SPSS Inc.

SPSS Inc. (n.d.). *SPSS advanced models 14.0*. SPSS Inc.

SPSS Inc. (n.d.). *SPSS regression models 14.0*. SPSS Inc.

Stata Press. (n.d.). *Stata user's guide: Release 10* (2nd ed.). Stata Press.

Stata Press. (n.d.). *Stata survey data reference manual: Release 8* (2nd ed.). Stata Press.

Course Code: MSP C502

Course Title: RESEARCH METHODOLOGY-I

Credit: 02
(Lecture: 1, Tutorial: 1)

Hours: 30

COURSE OUTCOMES:

- To understand the research design and scientific approaches to conduct of research in varied settings.
- To familiarize the quantitative methods of data collection.
- To understand various sampling procedures and determining sample size.

COURSE CONTENT:

Scientific Methods of Research

Definition of Scientific Research: Assumptions, Operations and Aims of Scientific Research.

Philosophy of Research

Research Processes: Conceptual, Empirical and Analytical.

Phases of Research: Essential Criteria of Scientific Research Method.

Research Design

Observational Studies: Descriptive, explanatory, and exploratory, monitoring and evaluative studies.

Experimental Studies: Pre experimental design, True experimental Design, Pre-test & post-test designs, Follow-up or longitudinal design, Panel Studies.

Threat to internal validity: Reliability and Internal-External validity. Action research studies.

Measurement

Reliability and validity of measurement: Face, content, construct, convergent, concurrent, and predictive validity; Inter-coder reliability, stability, non-random and random errors, scaling and composite indices.

Attitudinal Scales: Point scales, ranking scales, rating scales, limitations of attitudinal scales,

Types of Scales: Nominal and Ordinal Scale, Guttmann, Likert, Semantic and Thurstone scales.

Methods of Data Collection

Quantitative Methods: Checklist schedules, questionnaire (mail method, interviews through telephone, internet and computers), interview schedule (face-to-face interviews or personal interviews), Cross cultural variability and vignettes.

Questionnaire/interview schedule design and construction: Principles of constructing a questionnaire/ interview schedule, Types of questions, framing of questions (simple, delicate, personal matter), sequencing of sections and questions and Interview techniques.

Sampling

Complete enumeration versus sampling: Concept of sampling unit, sampling frame and sampling design.

Probability sampling methods: Simple random sampling, stratified sampling, systematic sampling, cluster sampling.

Non-probability sampling methods: Multistage sampling in large-scale surveys, self-weighting designs, Stratification in multistage sampling. Sampling and non-sampling errors. Calculation of weights, Introduction to sample size determination.

Data processing and analysis

Editing, coding, data entry, validation, processing & analysis.

Writing research proposal and report

Purpose and content of a proposal/report.

READING LIST:

Bernard, H. R. (1995). *Research methods in anthropology: Qualitative and quantitative approaches*. Altamira Press.

Goode, W. J., & Hatt, P. K. (1952). *Methods in social research*. McGraw-Hill.

Kish, L. (1995). *Survey sampling*. John Wiley & Sons, Inc.

Kothari, C. R. (2020). *Research methodology: Methods and techniques*. Generic. [ASIN: BOBCPDGN66].

Lohr, S. L. (1999). *Sampling: Design and analysis*. Duxbury Press.

Lwanga, S. K., & Lemeshow, S. (1991). *Sample size determination in health studies: A practical manual*. World Health Organization.

Mukherji, P. N. (1999). *Methodologies in social science*. Sage Publications.

Pullum, W. (2006). *An assessment of age and data reporting in the DHS surveys, 1985–2003* (DHS Methodological Report No. 5). Marco International Inc.

Royce, A. Singleton, & Bruce C. Straits. (1999). *Approaches to social research*. Oxford University Press.

Young, P. V. (1994). *Scientific social surveys and research* (4th ed.). Prentice-Hall.

Course Code: MSP C503

Course Title: GENDER EQUITY AND REPRODUCTIVE HEALTH

Credit: 03
(Lecture: 2, Tutorial: 1)

Hours: 45

COURSE OUTCOMES:

- To impart knowledge to students on gender issues related to population, development and health.
- To build skills for students to analyze and understand evidence relating to the context of gender and gender-based inequalities and linkages between gender, population, development and health.
- Reproductive Health section aims to introduce the concepts and methods used in reproductive health research and to equip students with the principles, methods and research skills necessary to conduct policy-relevant research. It provides a non- clinical foundation in the main aspects of reproductive health: family planning, obstetric health.

COURSE CONTENT:

Basic terms and concepts

The importance of the study of gender issues in population studies, the emergence of gender issues as an important area of concern, and the differences between sex and gender. Gender inequalities over the life course, gender mainstreaming, gender-sensitive planning and gender balance. Gender stratification in traditional and modern societies, gender theories, GID, GAD, WID, WED, Socialist, Marxist and feminist perspectives, Current issues related to gender in India.

Gender Inequalities

Marriage customs and patterns, dowry system, segregation and seclusion of women - Purdah system. Implications for sex ratio trends and patterns in India: Son Preference, Gender inequalities in health: gender differentials in nutrition and health, mortality differentials, gender inequalities in health care utilization; Gender inequalities in employment, education,

women's work, access to resources- practice relating to property inheritance, political representation, and female headship; gender-based violence and health implications. Gender and mass media:

Autonomy, Empowerment and Status of Women

Autonomy, Empowerment and Status of Women: Concepts, definition and measurement; Frameworks of empowerment, various indicators and their merits and demerits; status of women and population dynamics: Inter-linkages.

Policies and Programmes for Addressing Gender in India

National programmes, policies and laws for the empowerment of women.

Introduction to reproductive health and SRHR

Definition and rationale of RH approach, Evolution of ideas about reproductive health, Components of RH and life cycle approach of RH, Recommendations from ICPD, SRHR, Rights based approach to gender equity and reproductive health, Reproductive rights, Agency, choice, gender relations in SRHR

Physiology of human reproduction: Basics

Male and female reproductive system: Conception, Pregnancy, Customs and taboos related to menstruation and puberty in different societies

Family Planning, contraceptive and other related morbidity

Family planning- basics: use, Pros and cons, Determinants and variations over space and time; Contraceptive morbidity related to different methods.

Anaemia, Breast, Cervical, Ovarian, Prostate Cancer; behavioural risk factors,

Adolescent, Maternal and Pregnancy, Menopausal related issues

Adolescent health issues sexual and reproductive health, and choice Aspects of adolescent sexual and reproductive behaviours

Maternal health/pregnancy-related indicators, global and focus on India, Maternal morbidity, safe motherhood programmes, emergency obstetric care, Cultural practices during pregnancy, childbearing and its impact on the health of women, Effects of maternal death on the family, Strategies to reduce maternal morbidity and mortality

Abortion and related issues, Infertility and infections

Spontaneous, induced abortion, legal and illegal abortions, safe and unsafe, abortions and consequences of unsafe abortions, Laws regarding abortion.

Methodological issues in the measurement of infertility, Sexual dysfunction, behavioural risk factors, and consequences, assisted reproductive technologies and its use and misuse; component of infertility in government programmes, different infections related to RH

Male Reproductive Health Issues

Men's reproductive health services, Men's role in women's health, Strategies to reaching out to men.

READING LIST:

Basu, A. M. (1992). *Culture, the status of women, and demographic behaviour: illustrated with the case of India* (pp. xvii+-265pp). https://doi.org/10.1017/s0021932000022008

Berer, M. (2000). Making abortions safe: a matter of good public health policy and practice. *Bulletin of the World Health Organization*, *78*, 580-592.

GUIDE, A. P. (2009). Researching Violence Against Women.

Holmes, M. (2007). What is gender? Sociological approaches.

Jejeebhoy, S. J. (1995). *Women's education, autonomy, and reproductive behaviour: Experience from developing countries*. Oxford University Press.

Jejeebhoy, S. J., Kulkarni, P. M., Santhya, K. G., & Mehrotra, F. (2014). *Population and reproductive health in India: An assessment of the current situation and future needs*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198096238.001.0001

Lindsey, L. L. (1990). *Gender roles: A sociological perspective*. Prentice-Hall. https://doi.org/10.4324/9781315664095

Lips, H. M. (2018). *Gender: the basics*. Routledge.

Pachauri, S., & Sokhi, S. S. (Eds.). (1999). *Implementing a Reproductive Health Agenda in India: The Beginning* (pp. 507-529). New Delhi: Population Council.

Razavi, S. (2012). World development report 2012: Gender equality and development—A commentary. *Development and Change*, *43*(1), 423-437.

Shiva, V. (1988). *Staying alive: Women, ecology, and development*. Zed Books

Tarricone, I & Riecher-Rössler, A. (Eds.) (2019). *Health and Gender: Resilience and Vulnerability Factors for Women's Health in the Contemporary Society*. Springer. https://doi.org/10.1007/978-3-030-15038-9

Tong, R. (2018). *Feminist thought: A more comprehensive introduction*. Routledge.

Visvanathan, N., Duggan, L., Wiegersma, N., & Nisonoff, L. (Eds.). (2011). *The women, gender and development reader*. Fernwood Publishing.

Wingood, G. M., & DiClemente, R. J. (Eds.). (2002). *Handbook of women's sexual and reproductive health*. Springer Science & Business Media.

Course Code: MSP C504

Course Title: POPULATION, DEVELOPMENT AND ENVIRONMENT

Credit: 03 **Hours: 45**
(Lecture: 2, Tutorial: 1)

COURSE OUTCOMES:

- To acquaint students on key concepts, indicators and composite indices of development
- To familiarize students on various theories of population and development
- To introduce pessimistic, optimistic and neutralistic views on population
- To explain quantitative and qualitative aspects of human resources
- To introduce the concepts of sustainable development, climate change and global warming

COURSE CONTENT:

Concepts and Measures of Development
Need to study population in the context of development; Concepts of economic growth and economic development — definition and indicators; Limitations of per capita income as an indicator of development; Emphasis on equality, Lorenz curve and Gini coefficient.

Economic determinants of development, non-economic determinants of development, and role of institutional factors in development.

Approaches towards development: Growth oriented approach and basic minimum need approach; Human centred development — welfare approach, investment in human capital, Physical Quality of Life Index (PQLI), Human Development Index (HDI), Gender Development Index (GDI); Concepts and measures of money metric and multidimensional poverty, Human Poverty Index (HPI) and Multidimensional Poverty Index (MPI).
Concepts of social development, social capital and social change.

Theories and Strategies of Development
Theories of development: Big push theory, Rostow's stages of growth, Arthur Lewis's two-sector model Liebenstein's critical minimum effort theory, Harod-Domar model, and Solow's growth model.

Strategies of development: Millennium Development Goals (MDGs), achievements with special reference to India; Concept of sustainable development, Sustainable Development Goals (SDGs); Development strategies through the different five-year plans in India; Recent development strategy (NITI Aayog) in India.

Population and Development linkages

Views regarding relationship between population and development: (i) Classical views: Malthus and Marx, concept of optimum population; (ii) population growth as obstacle to development, Coale and Hoover study, tragedy of commons, limits to growth study, Enke's investment model; (iii) population growth as conducive to development — views of Colin Clark, Ester Boserup and Julian Simon; and (iv) views of revisionists and need to study linkages between population change and development.

Demographic transition theory, age structure transition, demographic dividends and population ageing; effects of fertility and mortality declines, health improvement sand migration on economic growth. Divergent views regarding the relationship between population and development.

Population and Resources

Natural resources: classification of natural resources, renewable and non-renewable resources, resources scarcity and resource depletion.

Capital resources: effect of demographic factors on savings and investments, technology and development; importance of technology to improve the productivity of physical assets.

Human resources - quantitative aspects: concepts labour force, economically active population, unemployment, types of unemployment, disguised, seasonal frictional and chronic. Factors affecting demand and supply of labour, effect of population growth and development on structure of employment.

Human resources-qualitative aspects: factors influencing productivity of human beings need for investment in human capital, implications of population growth on food, sanitation, housing, employment, education and health and social security to improve the quality of human resources. Educational development, urbanization and exposure to mass media and their social consequences.

Population and Environment

Ecosystem: Basic concepts, structure and functioning, energy and material flow, changes and challenges of ecosystem; simplification, eutrophication, pollution.

Philosophical dimensions of the new environmentalism: postmodernism, eco Marxism, deep ecology, social ecology and ecofeminism.

Sustainable development and environment: Role of environment in development — evolution, inclusion and progress; Brundt land Commission — Our Common Future; "5 Ps" that shape the SDGs: People, Planet, Prosperity, Peace, and Partnerships; UNGC Ten Principles; Linkages of SDGs with environment. Living planet index, Iluman foot print, IPAT model; environmental Kuznetz curve;

Environmental challenges: Resource depletion and environment; pollution; poverty and environment; food, nutrition and environment; ecofeminism; solid waste; climate change and development; health and environmental challenges; occupational health.

UN conventions on environment and development: Major world commissions from 1972 to Rio+20 and so on; UNFCCC and challenges in making policies on environment; Environmental policies and programmes in India.

READING LIST:

Birdsall, N., Kelley, A., & Sinding, S. (2001). *Population matters: Demographic change, economic growth and poverty in the developing world*. Oxford University Press. [Chapters 2, 4, and 5].

Chary, S. N., & Vyasulu, V. (Eds.). (2000). *Environmental management: An Indian perspective*. Macmillan India.

Coale, A. J., & Hoover, E. M. (1958). *Population growth and economic development in low-income countries*. Princeton University Press.

David, B., Canning, D., & Sevilla, J. (2003). *The demographic dividend*. Rand Corporation. [Chapter 2].

Habib, I. (2010). *Man and environment: The ecological history of India (A peoples history of India 36)*. Tulika Books.

Kapila, R., & Kapila, U. (2001). *India's economy in the twenty-first century*. Academic Foundation. [Chapters 1 to 5, 15, 16, & 21].

Leibenstein, H. (1963). *Economic backwardness and economic growth*. John Wiley. [Chapter 8].

Lewis, W. A. (1958). Economic development with unlimited supplies of labour. In A. N. Agarwala & P. Singh (Eds.), *The economics of underdevelopment*. Oxford University Press.

Lippmann, M., Cohen, B. S., & Schlesinger, R. B. (2003). *Environmental health science: Recognition, evaluation, and control of chemical and physical health hazards*. Oxford University Press.

Ray, D. (1998). *Development economics*. Oxford University Press. [Chapters 3 & 4].

Solow, R. M. (1956). A contribution to the theory of economic growth. *Quarterly Journal of Economics, 70*, 65-94.

Todaro, M. P. (1981). *Economic development in the third world*. Longman. [Chapter].

UN Environment. (2019). *Global environment outlook — GEO-6: Healthy planet, healthy people*. Cambridge University Press.

UNDP. (2022). *Human development report 2021-2022: Uncertain times, unsettled lives: Shaping our future in a transforming world*. UNDP.

World Commission on Environment and Development. (1987). *Our common future*. Oxford University Press.

Course Code: MSP C505

Course Title: POPULATION PROJECTIONS

Credit: 02
(Lecture: 1, Tutorial: 1)

Hours: 30

COURSE OUTCOMES:

- To train the students in mathematical and component methods of population projection
- To familiarize the students with Use of SPECTRUM and its applications

COURSE CONTENT:

Population Estimates and Projections

Concepts of population projections: population estimates, forecasts, and projections; uses of population projections.

Methods of interpolation and extrapolation: linear, exponential, polynomial, logistics, and Gompertz curves. Intercensal and post-censal estimates. Regression method of projection for behavioural event. ARIMA.

Cohort component method: basic methodology; projection of mortality, fertility, and migration components; population projections of United Nations and Office of the Registrar General of India. Use of SPECTRUM and its applications.

Methods of rural-urban and sub-national population projections: ratio method, apportionment (Water) method, urban-rural growth difference method, and concept of raking.

Methods of related socio-economic projections: labour force, school-enrolment, and households.

Projection of Future Health Needs: Like ambulatory services, sanitary napkins, old age nest/home, health personnel, nursing staff (hospital and home-based), counselors etc. SPECTRUM software.

READING LIST:

Badry, E. L., & M.A. (1961). Failure of enumerators to make entries of zero: Errors in recording childless cases in population censuses. *Journal of American Statistical Association, 56*.

Banda, J. P. (2003). Non-sampling errors in surveys. United Nations Secretariat, ESA/STAT/AC.93/7. Statistics Division. https://www.un.org/esa/statistics.

Census of India. (2011). *Report on post enumeration survey, 2011*. Registrar General & Census Commissioner.

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United Nations. (1955). *Manuals on methods of estimating populations: Manual II — Methods of appraisal of quality of basic data for population estimates*. Department of Economics and Social Affairs.

United Nations. (1974). *Methods for projections of urban and rural population: Manual VIII*. Population Studies, No. 55. Department of Economic and Social Affairs.

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United Nations. (1991). *Training manual on demographic techniques*. Census of India and United Nations Population Fund. Chapter 4, 10.

Course Code: MSP E501

Course Title: BIOSTATISTICS AND EPIDEMIOLOGY

Credit: 03
(Lecture: 2, Tutorial: 1) **Hours: 45**

COURSE OUTCOMES:

- To introduce the basic concepts of different streams of epidemiology, disease risks, and interventions as public health tools in population studies.
- To introduce the study designs and methodology in cross-sectional, case-control, cohort, and experimental data to analyze epidemiological patterns.
- To understand the use of summary measures of disease burden over epidemiological data in population science.
- To understand comparability of estimates obtained from various parametric and nonparametric models.
- To appreciate the relevance of epidemiology in public policy making.

COURSE CONTENT:

Basic concepts in Biostatistics

Biostatistics Measuring the occurrence of disease: Measures of morbidity - prevalence and incidence rate, association between prevalence and incidence, uses of prevalence and incidence, problems with incidence and prevalence measurements; Clinical agreement: kappa statistics, Mantel-Haenszel test; intra-class correlation; Surveillance.

Assessing the validity and reliability of diagnostic and screening test: Validity of screening test — sensitivity, specificity, positive predictive value and negative predictive value; Reliability; Relationship between validity and reliability; ROC curve and its applications; Overall accuracy.

Issues in epidemiology: Association; causation; causal inference; Errors and bias; Confounding; Controlling confounding; Measurement of interactions; Generalizability.

Estimating risk: Estimating association — absolute risk, relative risk, odds ratio; Estimating potential for prevention — attributable risk; comparison of relative risk and attributable risk; Odds ratios for retrospective studies; Odds ratios approximating the prospective RR; Exact inference for odds ratio analysis of matched case-control data.

Statistical process control: special and common causes of variation, Shewhart, CUSUM and EWMA charts

Basic Concepts in Epidemiology

Introduction: Definition and objectives of epidemiology; Epidemiology and clinical practice; The epidemiologic approach; Infectious disease epidemiology, occupational epidemiology, disaster epidemiology.

The dynamics of disease transmission: Modes of transmission; epidemic, endemic and pandemic; Disease outbreak; Determinants of disease outbreak; Herd immunity; incubation period; outbreak investigation; epidemiological modeling. Design and analysis of epidemiological studies, test of significance.

Identifying the roles of genetic and environmental factors in disease causation: Association with known genetic diseases; Age at onset; Family studies; Interaction of genetic and environmental factors.

Epidemiology and public policy: Epidemiology and prevention; Population versus high-risk approaches to prevention; epidemiology and clinical medicine; Risk assessment; Meta-Analysis. Epidemiological Study Designs: Ecological, Cross-Sectional, Case-Control, Cohort Studies, Randomized Intervention Studies.

Experimental epidemiology: Randomized trials; Clinical Trials- Basic concepts; Definitions; Historical perspectives, Phase I, II, III and IV trials, Protocol development, Use of control arms, Concepts of randomization and blinding, ethical issues

Measurement of Health & Disease Burden

Measuring the occurrence of disease: Measures of morbidity - prevalence and incidence rate, association between prevalence and incidence, uses of prevalence and incidence, problems with incidence and prevalence measurements; Surveillance; Quality of life including DALY, HALE, etc., Measures of mortality.

Assessing the validity and reliability of diagnostic and screening test: Validity of screening test -sensitivity, specificity, positive predictive value and negative predictive value; Reliability; Relationship between validity and reliability; ROC curve and its applications; Overall accuracy.

Issues in epidemiology: Association; causation; causal inference; Errors and bias; Confounding; Controlling confounding; Measurement of interactions; Generalizability.

Estimating risk: Estimating association — absolute risk, relative risk, odds ratio; Estimating potential for prevention — attributable risk; comparison of relative risk and attributable risk;

Odds ratios for retrospective studies; Odds ratios approximating the prospective RR; Exact inference for odds ratio analysis of matched case-control data.

READING LIST:

Altman, D. G. (2006). *Practical statistics for medical research*. Chapman and Hall.

Bhore, J. (1946). *Report of the health survey and development committee* (Vols. 1-4). Manager of Publications.

Bonita, R., Beaglehole, R., & Kjellstrom, T. (2006). *Basic epidemiology* (2nd ed.). World Health Organization.

Everitt, B. S., & Pickles, A. (2006). *Statistical aspects of the design and analysis of clinical trials* (2nd ed.). Imperial College Press.

Friedman, L. M., Furberg, C. D., & DeMets, D. L. (1982). *Fundamentals of clinical trials*. PSG.

Gelman, A., Carlin, J. B., Stern, H. S., Rubin, D. B., Dunson, D. B., & Vehtari, A. (2013). *Bayesian data analysis* (3rd ed.). Chapman and Hall.

Goldstein, H. (1999). *Multilevel statistical model*. Institute of Education.

Gordis, L. (2014). *Epidemiology* (5th ed.). Elsevier Saunders.

Greonoboom, P. (2014). *Nonparametric estimation under shape constraints* (1st ed.). Cambridge University Press.

Kestenbaum, B. (2009). *Epidemiology and biostatistics*. Springer.

Kutner, M. H., Nachtsheim, C. J., Neter, J., & Li, W. (2005). *Applied linear statistical models* (5th ed.). McGraw-Hill/Irwin.

Lee, E. T. (n.d.). *Statistical methods for survival data analysis* (2nd ed.). John Wiley & Sons.

Lock, R. H., Lock, P. F., Lock Morgan, K., Lock, E. F., & Lock, D. F. (2013). *Statistics: Unlocking the power of data* (1st ed.). Wiley.

MacMahon, B., & Pugh, T. F. (1970). *Epidemiology: Principles and methods*. Little Brown.

Murray, C. J. L., & Chen, L. C. (1994). Understanding morbidity change. In A. Kleinman & N. C. Wane (Eds.), *Health and social change in international perspective* (Harvard Series on Population and International Health, March 1994).

Van der Vaart, A. W. (2000). *Asymptotic statistics*. Cambridge University Press.

Course Code: MSP E502

Course Title: HEALTH SYSTEMS AND POLICIES

Credit: 03 **Hours: 45**
(Lecture: 2, Tutorial: 1)

COURSE OUTCOMES:

- To develop capacity among students to analyze health systems from an international and comparative perspectives.
- To provide a historical orientation to the students on Indian-scenario; national health policy, health care delivery system, national health programmes and health sector reforms.
- To understand the need and relevance of health legislations as an instrument of protection and promotion of public health and inculcate the ability to critically review them.
- To introduce the students to health policy and systems research, and recent developments.

COURSE CONTENT:

Basic Concepts

Concepts of Health; Public health; Community health; Preventive and curate health; Health promotion; Health services; and Primary, secondary and tertiary care.

Health System

Goals, boundaries, functions, and WHO's health system building blocks: service delivery, health workforce, health Information systems, access to essential medicines, financing and leadership/ governance.

Health Services

Basic models and functions of health services, international experiences and goals and elements in universal health care (UHC) approach.

Health care system in India

Public sector, private sector, voluntary sector, human resources for health, access to health care, utilisation and expenditure on health services, and UI-IC initiatives and challenges ahead, SWOT

analysis of Indian health system, a critique on the health delivery system- problems related to structural.

Health policy

Concepts and tools of health policy, health policy stakeholders, health policy triangle framework, rational decision making to approach to health policymaking, introduction to health policy and systems research.

Health policymaking in India

Health planning in post-Independent India, Bhore Committee Report 1946, National health policies, national health policy 2017, and current national health programmes.

Regulation in the health sector

Need for regulations, mechanisms for regulation, key legislations and standards in the health sector in India, and challenges in the implementation of regulations. Health care legislations in India: Legal aspect of health care, MTP Act, biomedical waste Rules, COPRA Act, PNDT Act, Transplantation of human organs Act, etc.

READING LIST:

Abel-Smith, B. (2018). *An introduction to health: Policy, planning and financing*. Routledge.

Banerjee, D. (1982). *Poverty, class and health culture in India* (Vol. 1). Parchi Prakashan.

Bodenheimer, T. S., & Grumbach, K. (n.d.). *Understanding health policy*.

Bhore, J. (1946). *Report of the health survey and development committee* (Vols. 1-4). Manager of Publications.

Fort, M., Mercer, M. A., & Gish, O. (Eds.). (n.d.). *Sickness and wealth: The corporate assault on global health*.

Govt. of India. (2017). *National health policy-2017*. Ministry of Health and Family Welfare, New Delhi.

Indian Council of Social Science Research & Indian Council of Medical Research. (1981). *Health for all by 2000 A.D.* ICSSR, Delhi.

K. Sujatha Rao. (2017). *Do we care: India's health system*. Oxford University Press.

Lassey, M., Lassey, W., & Jinks, M. (1997). *Health care systems around the world: Characteristics, issues and reforms*. Prentice-Hall, Inc.

Madan, T. N. (1969). Who chooses modern medicine and why. *Economic and Political Weekly*, 1475-1484.

Murray, C. J. L., & Frenk, J. (2000). A framework for assessing the performance of health systems. *Bulletin of the World Health Organization*, 78, 717-731.

Peters, D. H., et al. (2002). *Better health system for India's poor: Findings, analysis, and options*. The World Bank, New Delhi.

Reddy, K. S., et al. (2011). Towards achievement of universal health care in India by 2020: A call of action. *The Lancet*. Retrieved from www.thelancet.com.

Course Code: MSP E502

Course Title: URBANIZATION, SPACE AND PLANNING

Credit: 03
(Lecture: 2, Tutorial: 1) **Hours: 45**

COURSE OUTCOMES:

- Developing a comprehensive understanding on concepts of space, place and region.
- Understanding the history of urban planning and its illustration in Indian context.
- Acquainting students with theories of regional development and various strategies of regional planning.
- Developing a critical understanding on urban policies and progammes in India
- Providing students a practical knowledge of Geographical Information Systems and its utility in regional and urban planning.

COURSE CONTENT:

Urbanization and Space

Urbanization and space: Definitions and concepts of urban areas & urbanization. Concepts and forms of formal and informal spaces; Differences between space, place and region; urbanization and space interaction: gravity model, distance decay model, forces of concentration and dispersion, urban agglomeration and spatial economy; Access and right to the city

Evolution of Spaces of Settlements

Settlement: evolution, characteristics and factors; settlement pattern and hierarchy; Urban morphology; Change in urban land use and population density; Rural-urban relationship: dichotomy or continuum; Role of urban centres in rural development.

Urban and Regional Planning

Definitions: concepts, purpose, types and levels; geography/demography and planning relationship. Region: concept and definition, types (formal, functional and planning); Need for regional planning; Types of regional planning; Spatial structure of regions,

Theories of regional development: Stages of development, economic base theory, Industrial location theory, Growth Pole theory; Core-periphery interactions.

Regional planning in India; Planning regions in India; Regional disparity in development; causes and consequences, North-Eastern regional council, Mumbai Metropolitan Regional Development Plan.

Concepts; history and origins of urban planning; pioneers of urban planning; types of urban plans: New towns, neighborhood, garden city, green belts; healthy urban planning, WHO concept of healthy city, livable city, sustainable city.

Urban policy since independence, important urban plans (New Delhi, Navi Mumbai, Chandigarh, Gandhinagar, Bhubaneshwar), Smart Cities Mission; HRIDAY, AMRUT, PURA, RURBAN mission

Challenges in Urban planning: Recent urban policies and programmes; Urban redevelopment; Urban poverty, urban housing and real estate, Slums and slum rehabilitation, Urban pollution, Solid waste management; Management of migrants; Case studies of rehabilitation programs (SRA)
Remote Sensing, GIS and Urban and Regional Planning
Application of Remote Sensing and GIS in urban and regional planning.

READING LIST:

Bhagat, R. B., Roy, A. K., & Sahoo, S. (2020). *Migration and urban transition in India: A development perspective*. Routledge India.

Chand, M., & Puri, V. K. (1983). *Regional planning in India*. Allied Publishers Private Ltd.

Chaudhuri, J. R. (2001). *An introduction to development and regional planning*. Orient Longman.

Friedman, J. (1966). *Regional development policy: A case study of Venezuela*. MIT Press.

Friedman, J. (1964). *Regional development and planning: A reader*. The MIT Press.

Friedman, J., & Alonso, W. (1964). *Regional development and planning: A reader*. The MIT Press.

Friedman, J., & Weaver, C. (1979). *Territory and function: The evolution of regional planning*. Edward Arnold.

Ginsburg, N., Koppel, B., & McGee, T. G. (1991). *The extended metropolis: Settlement transition in Asia*. University of Hawaii Press.

Hall, P. (1992). *Urban and regional planning* (3rd ed.). Routledge.

Harvey, D. (2012). *Rebel cities: From the right to the city to the urban revolution*. Verso.

Husain, M. (1994). *Human geography*. Rawat Publishing.

Kawashima, T., & Korcelli, P. (1982). *Human settlement systems: Spatial patterns and trends*. IIASA.

Knowles, R., & Warling, J. (1983). *Economic and social geography: Made simple*. Heinemann.

Kumar, A., & Bhagat, R. B. (2021). *Migrants, mobility and citizenship in India*. Routledge India.

Leong, G. C., & Morgan, G. C. (1982). *Human and economic geography*. Oxford University Press.

Lefebvre, H. (1991). *The production of space*. Blackwell.

Lo, C. P., & Yeung, A. K. W. (2002). *Concepts and techniques of geographic information systems*. Prentice Hall of India.

Mishra, R. P. (1992). *Regional planning: Concepts, techniques, policies and case studies*. Concept Publishing Co.

MNRDA. (2016). *Mumbai metropolitan regional development plan 2016-2036*. NMRDA.

Nath, V. (1971). Regional development policies. *Economic and Political Weekly, 6*(30-32), 1601-1608.

Nyerges, T. L., & Jankowski, P. (2010). *Regional and urban GIS: A decision support approach*. Rawat Publication.

Sarin, M. (1982). *Urban planning in the third world: The Chandigarh experience*. Manshell.

Singh, R. Y. (1994). *Geography of settlements*. Rawat Publications.

UNEP & others. (2007). *Livable cities: The benefits of environmental planning*. The Cities Alliance. Retrieved from http://www.citiesalliance.org/index.html

Course Code: MSP E511

Course Title: FAMILY DEMOGRAPHY

Credit: 02 **Hours: 30**
(Lecture: 1, Tutorial: 1)

COURSE OUTCOMES:

- To understand the key concepts and theories related to family demography and transitions.
- To analyze the impact of family changes on demographic factors like fertility, health, and wellbeing.
- To evaluate the role of gender, economics, and intergenerational support in family dynamics.
- To apply advanced research methods to study family structures and demographic trends.

COURSE CONTENT:

Introduction to Family Demography

Concepts of Family Demography: Family, Household, Family Size, Family Structure; Attitudes and Expectations in Family Formation; Cohabitation and Live-in Relationships, Type of Families in Global and Indian Perspective. Unconventional families — lone parenting, gay families, living alone etc.

Theories of Family

Theoretical Perspectives on Family Change; Social Exchange Theory, Abraham Maslow's (1954) Theory of Changing Needs, Becker's Theory of Family, Becker's Theory of Marriage, Becker's Theory of Time Allocation, Second Demographic Transition.

Family Transitions in Life Course and Implications of Family Change

Family Life Cycle, Implications of Family Change for Wellbeing of Women, Children and Older Population; Family Change and Inter-generational Support and Policy; Family Instability in an International Perspective. Evaluating Evidence on the Consequences of Family Change.

Family Transitions and Gender Roles

Families in Transiting Societies and Changing Gender Roles; Gender, Work, and Family: Gender, Families, and Time Use; Work-Family Balance and Conflict.

Family Transitions and Demographic Behaviour

Marriage and Family; Family Transitions and its Effect on Fertility, Mortality and Health; Fertility in Complex Families, Family Structure and Child Outcomes; Time Use of Parents and Children; Impact of Fertility on Families in Later Life; Intergenerational Impacts on Health and Demographic Events; Grandparents and Parents Residence: Health and Socio-Economic Wellbeing in Later Life.

Family and Household Economics

New Home Economics, Household and Family Economics, New Economics of Migration, Living Arrangement for Children and Older Population; Economic, Emotional and Social Support for Children and Older Population; Left Behind Children and Older Population.

Data and Methods in Family Demography

Cross-sectional and Longitudinal Data, Village Census and Microdata, NTA, and Marriage-market data. Panel data regressions, Regression Discontinuity models or Segmented Regression models, Multistate models; Microsimulation models; Behavioural models; Projection of marriages, divorces and remarriages; Bridging the Macro-to micro gap: Multi-Level Even-History analyses and Even-History analyses of groups; Meta-Analyses and Age-based simulations.

READING LIST:

Becker, G. S. (1981). *A treatise on the family* (Enlarged ed.). Harvard University Press.

Casterline, J., & Gietel-Basten, S. (2018). Exploring family demography in Asia through the lens of fertility preferences. In *Family demography in Asia* (pp. 1-14). Edward Elgar Publishing.

Chakravorty, S., Goli, S., & James, K. S. (2021). Family demography in India: Emerging patterns and its challenges. *SAGE Open, 11*(2), 21582440211008178.

Ermisch, J. (2003). *An economic analysis of the family*. Princeton University Press.

Farris, D. N., & Bourque, A. J. J. (Eds.). (2020). *International handbook on the demography of marriage and the family*. Springer International Publishing.

Gietel-Basten, S., Casterline, J., & Choe, M. K. (Eds.). (2018). *Family demography in Asia: A comparative analysis of fertility preferences*. Edward Elgar Publishing.

Kapadia, K. M. (1966). *Marriage and family in India* (3rd ed.). Oxford University Press.

Patel, T. (Ed.). (2005). *The family in India: Structure and practice*. Sage.

Shah, A. M. (1998). *The family in India: Critical essays*. Orient Blackswan.

Uberoi, P. (2005). The family in India: Beyond the nuclear versus joint debate. In *Writing the women's movement: A reader* (pp. 361-396). Zubaan.

Course Code: MSP E512

Course Title: HISTORICAL DEMOGRAPHY

Credit: 02
(Lecture: 1, Tutorial: 1)

Hours: 30

COURSE OUTCOMES:

- To appreciate and recognize an evolutionary account of population changes with traces of historical trends in population
- Familiarizing the students, the data sources and methods in analysis of historical demography
- To gain an understanding of transformational trends in settlement and livelihood patterns of human population
- A detailed understanding of India's population history in particular reference to social and cultural reforms.

COURSE CONTENT:

Introduction to historical demography

Introduction to historical demography: Meaning, Scope, and Importance; Difference between History of Demography, Demographic History and Historical Demography; Limitations of Research in Historical Demography. Development of historical demography (Europe and Asia).

Data Sources, Methods and Approaches

Data Sources: Paris registers, Population registers, Census, Vital registration data, Bills of mortality, Fiscal documents, Military records, Inventories of properties, Genealogies, Marriage practices, Archaeological remains, Administrative geography, Colonization of new land, Cemetery data, Traveller's tales.

Approaches: Family reconstitution; Cross checking the information from different sources. Back Projection, and Generalised Inverse Projection, Other Methodological Developments.

Evolution of human and peopling of the earth

Evolutionary Process and Emergence of human (Darwinism, Mendel, Lamarckism); Historical trend and pattern of migration and distribution of population; Historical evolution of towns and peopling of the world, Industrial and agricultural revolution and peopling of the earth.

India's demographic history

Historical sources of population data, Population in India from pre-historic to modern time; Peopling in India and racial classification; Peopling in India and linguistic classification; Indian great famines and its implication on mortality; family transition and status of women from historical perspective; Transition from traditional family planning methods to modern methods and health practices in India — a historical perspective

READING LIST:

Akerman, S. (1977). History and demography: An evaluation of the family reconstitution technique. In A. E. Andersson & I. Holmberg (Eds.), *Demographic, economic, and social interaction* (pp. 71-86). Ballinger Publishing Company.

Davis, K. (1951). *The population of India and Pakistan*. Princeton University Press.

Dyson, T. (Ed.). (1989). *India's historical demography: Studies in famine, disease, and society*. Curzon.

Dyson, T. (2018). *A population history of India: From the first modern people to the present day*. Oxford University Press. https://doi.org/10.1093/oso/9780198829058.001.0001

Ernst, W., Pati, B., & Sekher, T. V. (2017). *Health and medicine in the Indian princely states: 1850-1950*. Routledge. https://www.routledge.com/Health-and-Medicine-in-the-Indian-Princely-States-1850-1950/Ernst-Pati-Sekher/p/b00W9780415679350

Farris, D. N., & Bourque, A. J. J. (Eds.). (2020). *International handbook on the demography of marriage and the family*. Springer International Publishing.

Glass, D. V., & Eversley, D. E. (1965). *Population in history: Essays in historical demography*. Edward Arnold.

Harris, P. M. G. (2003). *History of human populations, Vol. II: Migration, urbanization, and structural change*. Praeger.

Hollingsworth, T. H. (1969). *Historical demography: The sources of history, studies in the uses of historical evidence*. London.

Kertzer, D. I. (1997). Qualitative and quantitative approaches to historical demography. *Population and Development Review, 23*(4), 839-884.

Krishnan, P. (1985). Historical demography through literature: Preliminary report on Indian historical demography. Paper presented at the IUSSP Meeting, Florence, Italy, June 1985.

Knodel, J. (1970). Two and a half centuries of demographic history in a Bavarian village. *Population Studies, 24*(3), 353-376.

Maharatna, A. (1996). *Demography of famines: An Indian historical perspective*. Delhi.

Razzell, P. E. (1972). The evolution of baptism as a form of birth registration through cross-matching census and parish register data: A study in methodology. *Population Studies, 26*(1), 121-146.

Saito, O. (1996). Historical demography: Achievements and prospects. *Population Studies, 50*, 5-16.

Srivastava, H. C. (1971). Registration of vital events in Goa: A study of the current system in retrospect. *Artha Vijanana, 13*(4), 405-412.

Vincent, P. E. (1947-48). French demography in the eighteenth century. *Population Studies, 1*, 44-71.

Willigan, J. D., & Lynch, K. A. (1982). *Sources and methods of historical demography*. Academic Press.

W. H. Howells, "Estimating population numbers through archaeological and skeletal remains." In R. F. Heizer & S. F. Cook (Eds.), *The application of quantitative methods in archaeology* (pp. 158-159). Viking Fund Publication in Archaeology, No. 28. (1960).

SEMESTER – III

Course Code: IKS 501

Course Title: INDIAN KNOWLEDGE SYSTEM-2

Credit: 02
(Lecture: 2)

Hours: 30

Under process

Course Code: MSP C506

Course Title: RESEARCH METHODOLOGY II

Credit: 02 **Hours: 30**
(Lecture: 1, Tutorial: 1)

COURSE OUTCOMES:

- To understand qualitative research
- To familiarize the qualitative methods of data collection.
- To understand qualitative data analysis using packages like Atlas Ti and Nvivo.
- Develop skills for writing proposal and scientific articles.
- Introducing students to field level settings and primary data collection.

COURSE CONTENT:

Qualitative Research Methods

- Difference between qualitative and quantitative research
- Research designs
- Sampling in qualitative
- In-depth Interview, KI (Key Interviewer)
- Ethnography - Observation (Participatory and Non-participatory)
- FGD (Focus Group Discussion),
- Vignettes method and Mystery client technique
- Fieldwork – interaction with community and respondent
- Data preparation/transcription, developing code, and analysis

Participatory Techniques

- Participatory techniques (social mapping, transact walk, resource mapping, seasonal calendar, van diagram, social networking)
- Free listing and Pile sorting

Ethics and Scientific Writing

- Research ethics; At the level of respondent, community, organization and presentation of results Fieldwork - interaction with community and respondent / Consent form writing
- Purpose/Layout/Content of Research Proposal
- Purpose/Layout/Content of Research Report/dissertation

Orientation on Qualitative Software

- Anthropak, NVivo, Atlas-Ti

READING LIST:

Berg, B. L., & Lune, H. (2011). *Qualitative research methods for the social sciences* (8th ed.). Pearson, Allyn & Bacon.

Booth, W. C., Colomb, G. G., Colomb, J. M., & Williams, J. M. (2003). *The craft of research*. University of Chicago Press.

Bryman, A. (2012). *Social research methods* (4th ed.). Oxford University Press.

Creswell, J. (2012). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage.

Denzin, N., & Lincoln, Y. (2011). *The SAGE handbook of qualitative research* (4th ed.). Sage.

Flick, U. (2014). *An introduction to qualitative research*. SAGE.

Gastel, B., & Day, R. A. (n.d.). *How to write and publish a scientific paper*.

Hennink, M., Hutter, I., & Bailey, A. (2011). *Qualitative research methods*. Sage Publications.

Hollis, M. (1994). *Philosophy of social science: An introduction*. Cambridge University Press.

Lee, T. W. (1999). *Using qualitative methods in organization research*. Sage.

MacIntyre, A. (1967). *A short history of ethics*. London.

Marshall, C., & Rossman, G. B. (2006). *Designing qualitative research* (4th ed.). Sage.

Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Sage.

Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Sage.

Mukherjee, R., & Mukherjee, P. N. (2000). *Methodology in social research: Dilemmas and perspectives*. Sage Publications.

Patton, M. Q. (2002). *Qualitative research and methods evaluation*. Sage.

Resnik, D. B. (2011). What is ethics in research and why is it important? *National Institute of Environmental Health Sciences*, 1-10. Retrieved from https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm

Schenshul, S. L., Schenshul, J. J., & LeCompte, M. D. (1999). *Essential ethnographic methods*. Altamira Press.

Silverman, D. (2013). *Doing qualitative research*. Sage.

Sayer, A. (1984). *Method in social science: A realist approach*. Hutchinson.

Srinivas, M. N., Shah, A. M., & Ramaswamy, E. A. (1979). *The fieldworker and the field: Problems and challenges in sociological investigation*. Oxford University Press.

Turabian, K. L. (n.d.). *A manual for writers of research papers, theses and dissertations*. Retrieved from http://owl.english.purdue.edu

Course Code: MSP C507

Course Title: POPULATION POLICIES AND PROGRAMME EVALUATION

Credit: 03 **Hours: 45**
(Lecture: 2, Tutorial: 1)

COURSE OUTCOMES:

- To have an understanding of population policy in pro-natalist and anti-natalist divide around the world.
- To appreciate the role of United Nations and International population conferences, including ICPD, in evolving changes in designing and advocating population policies and programmes.
- To critically evaluate the population policies and programmes of India since independence.
- To understand the management and quality of care in health services and family planning programmes.
- To learn the tools of evaluating family planning programmes and SWOT approach.

COURSE CONTENT:

Population Policies and Programmes

Definition of Population Policy; principal features of a population policy; policies in the context of population growth, structure and distribution. Policy formulation: Policy indicators, justification of population policy, socio-cultural, political and ethical issues related to population policy and the mechanism of how government decisions influence family decisions.

Role of the United Nations, and other International agencies; World Population Conferences, Declarations and Plan of Action.

Fertility influencing policies: pro-natalist policies, fertility control policies- direct and indirect. Policies and programmes for special groups: women and children.

Health influencing policies: historical perspective for policies and programmes in developing and developed countries.

India's health and family planning programmes: History of birth control movement, National Population Policies, National Health Policies, and National Health Mission.

Population and Programme Management

Strategic management approach, Targeting the people in need (Community Need Assessment); Client segmentation; and Unmet need approach.

Providing services; commercial distribution, community based distribution (CBD) systems and social marketing.

Quality of Care: Definition, Importance and Framework of quality of care in family planning.

Evaluation of Programme

Evaluation of programmes: objective, types, framework and methodological issues and data requirement. Role of family planning service statistics and surveys as sources of data in evaluation.

Management Information System (MIS); Role off MIS in evaluation of the programmes. Operation Research Techniques (ORT) in evaluation.

Economic evaluation of the programmes: Cost-benefit analysis, Cost-effective analysis, SWOT analysis.

Fertility impact of Family planning programme: Bongaarts' model for estimating fertility impact.

READING LIST:

Asia Development Bank. (2006). *Impact evaluation: Methodological and operational issues*. Economic Analysis and Operations Support Division. ADB.

Chrissie, P., & Leger, S. T. (1993). *Assessing health need using life cycle framework*. Open University Press.

Government of India. (2000). *National population policy- 2000*. Ministry of Health and Family Welfare.

Government of India. (2017). *National health policy- 2017*. Ministry of Health and Family Welfare.

Jain, A. (Ed.). (n.d.). *Do population policies matter? Fertility and politics in Egypt, India, Kenya and Mexico*. Population Council.

James, K. S., & Sekher, T. V. (Eds.). (2023). *India population report*. Cambridge University Press. https://www.cambridge.org/core/books/india-population-

Peabody, J. W., Rahman, H. O., Gertlor, P. J., & Haan, J. (1999). *Policy and health implication for development in Asia*. Cambridge University Press.

Peters, D. H., Yazbeck Abdo, S., Sharma, R. R., & Ramana, G. N. V. (2002). *Better health care systems in India*. World Bank.

Srinivasan, K. (2017). *Population concerns in India: Shifting trends, policies, and programs*. Sage Publications.

United Nations. (1995). *Report of the International Conference on Population and Development, Cairo, 5-13 Sept, 1994*.

United Nations. (1998). *National population policies*. Department of Economics and Social Affairs.

Visaria, L., & Ved, R. R. (2016). *India's family planning program: Policies, practices, and challenges*. Routledge.

Course Code: MSP C508

Course Title: APPLICATION OF STATISTICAL PACKAGES IN LARGE SCALE DATA

Credit: 02 **Hours: 45**
(Lecture: 2, Practical: 1)

COURSE OUTCOMES:

- To familiarize students with national and international large scale survey data sets and their exploration.
- To gain practical expertise in use of statistical software.
- To make the students appreciate the veracities of evaluation of survey data sets and its derived outcomes in keeping with statistical principles and properties.

COURSE CONTENT:

Scope of large scale surveys and big data
Concept of big data, need for big data for planning and monitoring of public health programmes, introduction to large scale demographic and health surveys (DHS): NFHS, DLHS, WHO-SAGE, LASI-objectives, designs, instruments, sample size.

Large scale survey data management and quality assurance
Cleaning of big data, Range and consistency checks, missing data, long and wide format conversion, merging files (practical sessions) Revisit of sub-samples, field check tables, non-responsepattern, and quality lot assurance, roles of supervisors, editors, field and nodal agencies. Third party audit.

Use of STATA for sampling and estimates
Sampling and estimation by simple random sampling, stratified, cluster, systematic and multistage sampling, PPS sampling, Use of STATA for sampling
Introduction to STATA for survey data analysis- Summarization of big DHS data, Conversion of ASCII and SPSS data into STATA format (practical sessions).

Introduction to R

Use of R for sampling, Reading ASCII file, data summarization: frequency and graphical representation, survey data summarization using R.

Application of statistical package in survey data

Installation of libraries: sampling, survey, sampling book, pps. Use of svydesign, svytotal, svymean. Use of R for estimates.

READING LIST:

Damico, A. (n.d.). *Step-by-step instructions to analyze major public-use survey data sets with the R language.*

Ladusingh, L., & Qeadan, F. (n.d.). *Sampling methods using STATA.*

Lumley, T. (n.d.). *Complex surveys: A guide to analysis using R.*

Course Code: MSP C509

Course Title: DEMOGRAPHIC ESTIMATION TECHNIQUES AND MODELS

Credit: 02 **Hours: 30**
(Lecture: 1, Tutorial: 1)

COURSE OUTCOMES:

- To develop the skills to use different demographic packages of projection of population, households, urban-rural, education, and employment for programs and policy making.
- To familiarize students with the indirect techniques of estimating demographic components under the limited circumstance of data availability.
- To familiarize students with demographic models to understand the population issues and evaluate the observed demographic rates and ratios.

COURSE CONTENT:

Demographic Models

Concepts of Demographic Models: Stationary, Stable and Generalized Population; Momentum of Population Growth; Concept of Multiregional Model; and Micro Model such as Birth Interval, Waiting Time (Birth Distribution etc., Estimation of fecundability?)

Indirect methods for estimating fertility: Needs for Indirect methods; Concept of Reverse Survival Method, Robust Method and method based on Generalized Population Model; Rele's Method; Concept of P/F ratio method and its modification [Hypothetical Cohort methods] Completeness of Death Registration by Lopez applications of MORTPAK in estimating age specific fertility rate (ASFR) and total fertility rate (TFR).

Indirect Method of Estimating Mortality: Indirect Methods of Estimating Infant and Child Mortality

a) Basic concepts, fundamental assumptions and underlying principles to the technique proposed by Brass based on retrospective data on children ever-born and surviving

mothers classified by current age of mother; applications of MORTPAK in estimating infant and child mortality.

b) Modifications proposed by Sullivan and subsequently by Trussell over Brass method; and

c) the UN revised and extended version of Trussell's method.

Methods of Estimating Adult (including Maternal Mortality) and Old Age Mortality

i. Methods of estimating adult mortality using successive census age-distributions;

ii. Methods of estimating life expectancies at older ages; and

iii. Estimation of maternal mortality through sisterhood method.

Indirect Methods for Estimating Death Registration Completeness for Countries Having Limited and Defective Vital Registration Data

An overview of some selected methods of estimating completeness of death registration, starting from Brass growth balance method and its subsequent development.

READING LIST:

Bhat, P. N. M. (2002). General growth balance method: A reformulation for population open to migration. *Population Studies, 56*(1), 23-34.

Field, J. L. (1990). Past projections: How successful? In *Population Projections: Trends, Methods and Uses* (pp. 23-29). Office of Population Censuses and Surveys.

Government of India. (2019). *Population projections for India and states, 2011-2036*. NCP, MoHFW.

Moultrie, T., Dorrington, R., Hill, A., Hill, K., Timæus, I., & Zaba, B. (2013). *Tools for demographic estimation*. International Union for the Scientific Study of Population (IUSSP).

Navaneetham, K., & Groenewold, G. (1998). *The projection of populations: Data appraisal, basic methods and applications*. Population and Sustainable Development Teaching Texts. Centre for Development Studies.

Preston, S. H., Heuveline, P., & Guillot, M. (2003). *Demography: Measuring and modeling population processes*. Blackwell Publishers.

Preston, S. H., & Lahiri, S. (1991). A short-cut method for estimating death registration completeness in destabilized populations. *Mathematical Population Studies*.

Rele, J. R. (1987). Fertility levels and trends in India, 1951-81. *Population and Development Review, 13*(2), 249-270.

Shaw, C. (2007). Fifty years of United Kingdom national population projections: How accurate have they been? *Population Trends, 128*, 8-23. Retrieved from [www.ons.gov.uk](https://www.ons.gov.uk/ons/re l/population-trends-rd/population-trends/no--128--summer2007/fifty-years-of-united-kingdom-national-population-projections--how-accurate-have-they-been-.pdf).

Srinivasan, K. (1998). *Basic demographic techniques and applications*. Sage Publications.

United Nations. (1955). *Manuals on methods of estimating populations: Manual III — Methods of population projections by age and sex*. Department of Economics and Social Affairs.

United Nations. (1983). *Indirect techniques for demographic estimations, Manual X. Population Studies No.81*. Department of International Economic and Social Affairs (ST/ESA/SER.A/81).

United Nations. (1995). *Report of the International Conference on Population and Development*, Cairo, 5-13 September 1994.

Office of the Registrar General of India, Government of India. (2020). *Population projections for India and states, 2011-2036*. Report of the Technical Group on Population Projection. National Commission on Population and Ministry of Health & Family Welfare, Government of India.

Course Code: MSP C510

Course Title: SPATIAL DEMOGRAPHY AND APPLICATION OF GIS

Credit: 03
(Lecture: 2, Tutorial: 1) **Hours: 45**

COURSE OUTCOMES:

- Understanding the concept of space and develop spatial dynamics in demographic process.
- Learning visualization tools of demographic data and draw inferences.
- Learning different Geo-Spatial software to facilitate spatial analytical methods in demographic research.
- Learning Geographic Information System (GIS), spatial pattern analysis and spatial statistical techniques to explain a specific spatial pattern.

COURSE CONTENT:

Concepts and Theories
Demography as a spatial science; difference between spatial demography and population geography; Spatial pattern and spatial process; location, distance and area; Distance and decay relationship and spatial hierarchy; space, place and region; Type of spaces- concrete and abstract space; absolute, relative and relational spaces.

Understanding demographic process by geographical scale; nature of disaggregated data- Census and secondary sources; Linking micro and macro demography in a spatial frame.
Application of spatial frameworks to demographic process; Space, culture and fertility; Spatial pattern of mortality and diseases; Distance as factor in access to health care and health planning; Migration and distance- gravity model; space, culture and migration; urban sprawl and suburbanization.

Statistical and Geospatial Data and Software
Spatial Concepts and Cartography: Spatial parameters; Site and location; Scale; Plane and spherical coordinate, Map Projection-UTM,

Types of maps: cadastral, toposheet, thematic, digital; Representation of spatial and non-spatial data;

Introduction to geospatial software: GIS: discrete data: point, and polygon data, Raster and vector data, layouts preparation. Geocoding and basics of digitization in ArcGIS Introduction

to Geoda: ESDA in (Exploratory Spatial Data Analysis); Local Indicators of Spatial Association (LISA)

Statistical Concepts: Bar diagram, Frequency polygon, Frequency curve; Test of significance, confidence intervals, Univariate and Multivariate Statistics: Correlation and Regression, Matrix algebra; Auto-correlation; kriging, Moran's I index

Introduction to Statistical software: SPSS, STATA, R

GIS and Spatial Analysis of demographic data
Representation of statistical data and automated cartography (Lab based exercises):

a) Population distribution map of India using dot and sphere/circle, cubes, combined; Cartograms
b) Density map by Choropleth and population density gradient by Isopleth;
c) Fertility, mortality and natural growth of population by Polygraph.
d) Measurement of population concentration by cumulative curve.
e) Migration flow by Carogram

Concept and application Models:

a) Spatial Lag and Error Regression Modeling;
b) Multilevel modeling (hierarchical linear modeling);
c) Geographically Weighted Regression;
d) Spatial Pattern Analysis;
e) Urban and city level projection

READING LIST:

Anselin, L. (2005). *Exploring spatial data with GeoDa: A workbook*. Center for Spatially Integrated Social Science. Available at http://geodacenter.asu.edu/.

Bailey, T., & Gatrell, A. C. (1995). *Interactive spatial data analysis*. Longman.

Bonham, C. G. F. (1995). *Information systems for geoscientists—Modeling with GIS*. Pergamon.

Chang, K. (2008). *Introduction to geographic information systems*. McGraw Hill Education.

Chen, X., Orum, A. M., & Paulsen, K. E. (2013). *Introduction to cities: How place and space shape human experience*. Wiley-Blackwell.

de Castro, M. C. (2007). Spatial demography: An opportunity to improve policy making at diverse decision levels. *Population Research and Policy Review, 26*, 477-509.

Dorling, D., & Fairborn, D. (1997). *Mapping: Ways of representing the world*. Longman.

Griffith, D. A., & Amehein. (1997). *Multivariate statistical analysis for geographers*. Prentice Hall.

Kurland, K. S., & Gorr, W. L. (2007). *GIS tutorial for health*. ESRI Press.

Lo, C. P., & Yeung, A. K. W. (2002). *Concepts and techniques of geographic information systems*. Prentice Hall of India.

Paul, V. (2007). Demography as a spatial social science. *Population Research and Policy Review, 26*, 457-476. (plus introduction to the special issue of PRPR on spatial demography, pp. 455-456).

Reibel, M. (2007). Geographic information systems and spatial data processing in demography: A review. *Population Research and Policy Review, 26*, 601-608.

Robinson, A. H. H., Sale, R., Morrison, J., & Muehrcke, P. C. (1984). *Elements of cartography*. John Wiley and Sons.

Shaw, G., & Wheeler, D. (1994). *Statistical techniques in geographical analysis*. Prentice Hall.

Soja, E. W. (1996). *Third space: Journeys to Los Angeles and other real-and imagined places*. Wiley-Blackwell.

Course Code: MSP C511

Course Title: POPULATION AGEING AND HEALTH TRANSITION

Credit: 03 **Hours: 45**
(Lecture: 2, Tutorial: 1)

COURSE OUTCOMES:

- To impart knowledge of concepts and theoretical framework relating to demography of ageing, and its societal interface.
- To understand the health transition, its linkage with ageing transitions.C03: To develop skills to analyze trends, determinants and consequences of population ageing.
- To familiarize with aging data sets and its exploration.
- To acquaint the students with ageing policies and programmes and its bearing on the welfare of the elderly.

COURSE CONTENT:

Demography of Ageing
Concepts and measures of population ageing; components of population ageing; Interrelationship between population ageing, fertility, mortality and migration; population ageing and momentum of population growth, age structure transition and ageing, and declining population. Population ageing trends, patterns and determinants in India; state variations; future scenario of population ageing in India and states.

Life Course Perspectives and Social Dynamics of Ageing
Life course perspective of population ageing; Age and Ageing, Ageism; Social Status and Roles of Elderly, Family Structure, Intergenerational relations, Kinship and family support, Social Security; Social network- Frameworks (Berkman and others) and measurement.

Living Arrangements of Elderly, Old Age Homes, Social Networks, and Contribution of elderly: "Feminization" of Ageing, Dependency, Gender Dimensions and Discrimination, Widows, Elder abuse, Social and legal Vulnerability.

Ageing and Health
Ageing and Functional Health: Non-communicable diseases, Ageing and disabilities; trends and prevalence. Well-being and life satisfaction.

Ageing and mental health problems; cognition, memory loss, dementia and depression; Alzheimer's and Parkinson.

Ageing and health risk factors: nutrition, diet and food practices; health risk behaviour- tobacco, alcohol; physical activities;

Ageing Policies and Programmes

Social and Economic Support Policies and Programmes for the Elderly- Retirement, Pensions and Social Care Policies in developed and developing countries. Social security and welfare policies and programmes for elderly in India. National Programmes for Health Care of Elderly (NPHCE); National Policy for Senior Citizens.

Worldwide Longitudinal Ageing Studies: LASI, SAGE, SHARE, HRS, CHARLS, JSTAR, etc.

READING LIST:

Asian Development Bank Institute. (2019). *Ageing societies: Policies and perspectives*. ADB.

Berman, L. (2000). Social support, social networks, social cohesion and health. *Social Work in Health Care*.

Bloom, D., Sekher, T. V., & Lee, J. (2021). Longitudinal aging study in India (LASI): New data resources for addressing aging in India. *Nature Ageing, 1*. https://rdcu.be/cC16M

Chakraborti, R. D. (2004). *The greying of India: Population ageing in the context of Asia*. SAGE Publications.

Goli, S., Reddy, B., James, K. S., & Srinivasan, V. (2019). Economic independence and social security among India's elderly. *Economic and Political Weekly, 54*(39), 32-41.

Govt. of India. (1999). *National policy for older persons*. Ministry of Social Justice and Empowerment.

James, K. S., & Goli, S. (2017). Demographic changes in India: Is the country prepared for the challenge? *The Brown Journal of World Affairs, 23*, 169.

National Institute of Ageing. (2007). *Why population ageing matters? A global perspective*. US National Institute of Health.

Pool, I., Wong, L. R., & Vilquin, E. (Eds.). (2006). *Age-structural transitions: Challenges for development*. CIRCRED.

Sandra Gruescu. (2006). *Population ageing and economic growth*. Physica-Verlag.

UNFPA. (2001). *Population ageing and development: Social, health and gender issues*. United Nations.

UNFPA. (2011). *Report on the status of elderly in select states of India*. UNFPA.

United Nations, Department of Economic and Social Affairs, Population Division. (2019). *World population ageing 2019: Highlights*. UN.

United Nations. (2001). *Living arrangements of older persons: Critical issues and policy responses*. Population Division, Department of Economic and Social Affairs.

World Health Organization. (2015). *WHO report on ageing and health*. WHO.

Course Code: MSP E521

Course Title: OCCUPATIONAL HEALTH

Credit: 03
(Lecture: 2, Tutorial: 1) **Hours: 45**

COURSE OUTCOMES:

- To familiarize students with occupational health risks/ hazards and their demographic implications.
- To train the students in basic concepts, theories, measurements and data sources of occupational health risks/hazards.
- To acquaint students with various types of contemporary hazardous occupations throughout the world.
- To develop in-depth understanding of intersectionality of occupation, health and demography in low and middle-income countries.
- To-develop critical thinking among students of social welfare policies and laws/ legislations/ acts for workers in India.

COURSE CONTENT:

Introduction of Occupational Health and Demography
Definition, basic concepts, the scope of occupational health and importance in demography; Difference between occupational health risks and hazards; Historical development of occupational health, the intersectionality of occupational health, socioeconomic characteristics, and demography; Pre and Post industrialization theories on occupational health risks and hazards; Decent work; Women's health and safety.

Morbidity and Mortality
Health Well-being of Workers; Occupation—related Morbidity, Health Disorders, Different types of Disabilities, and Mortality; Mental Health.

Types and Measurements of Occupational Health Risks
Occupational disciplines and related risks - Mechanical, Chemical, Biological, Physical, Psychological, Medical, Ergonomic, and Work organization hazards/risks (Hazards or stressors that cause stress (short- term effects) and strain (long-term effects)); Measurements of occupational health safety, risks and hazards; Health impact assessment, Mental health assessment scale, Musculoskeletal disorder scale, American Thoracic Society and the Division of Lung Diseases (ATS-DLD-78), Occupational Stress Index (OSI), Job Strain Model, etc.

Data Sources of Occupational Health

International and National Data Sources of Occupational Health - Population Census, Services Statistics, Large and Small-Scale Sample Surveys etc. Data limitations in the area of occupational health.

Legislation, Social and Welfare Policies

Sustainable Development Goals - (Decent work), International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work; International Labour Standards on Occupational Safety and Health, Wages and Working time; ILO - Occupational Safety and Health Convention, Health and Safety Acts; The Occupational Safety, Health and Working Conditions Code, 2020 etc. Child Labour and Health.

Occupational Health in India

History of Occupational Health in India (types of occupations, work environment and working conditions); Health behavioral risks and hazards; Evolution of labour unions; and Contemporary occupational health challenges of workers in India. Social and Welfare legal provisions and acts in India; Hazardous Waste Management Rules — 2000, Constitutional Rights, Wage Regulations (Minimum Wage Act), Factory Act — 1948, Workmen Compensation Act — 1960, Employee Provident Act — 1952, Labour Welfare Measures, Retirement Benefits/National Pension Scheme — 2004, Social Welfare Schemes and Programmes.

READING LIST:

Alli, B. O. (2008). *Fundamental principles of occupational health and safety* (2nd ed.). International Labour Office.

Dyck, D. E. G. (2020). *Occupational health & safety: Theory, strategy & industry practice* (4th ed.). ISBN/ISSN: 9780433502074.

Government of India. (2015). *Occupational health & safety, environmental issues and decent work-Module-8*. Ministry of Rural Development.

Government of India. (n.d.). *National policy on safety, health and environment at work place*. Ministry of Labour and Employment. https://labour.gov.in/policies/safety-health-and-environment-work-place

Government of India. (2012). *Report of the working group on occupational safety and health for the Twelfth Five Year Plan (2012 to 2017)*. Ministry of Labour and Employment.

Hyde, M., Singh Chungkham, & Holendro. (2017). *Work and health in India*. Policy Press. ISBN: 9781447335436.

International Labour Conference. (2003). *Global strategy on occupational safety and health*. International Labour Organization. ISBN 92-2-116287-7.

McAdams, M. T., Kerwin, J. J., Olivo, V., & Goksel, H. A. (2011). *National assessment of the occupational safety and health workforce, 200-2000-08017, Task Order 18* (pp. 1-246).

Tamin, J. (2020). *Occupational health ethics: From theory to practice*. Springer Cham. https://doi.org/10.1007/978-3-030-47283-2

World Health Organization & International Labour Office. (2018). *Occupational safety and health in public health emergencies: A manual for protecting health workers and responders*. Geneva: WHO & ILO. Licence: CC BY-NC-SA 3.0 IGO.

World Health Organization (WHO) - Regional Office for the Eastern Mediterranean. (2001). *Occupational health: A manual for primary health care workers*. WHOEM/OCH/85/E/L.

World Health Organization. (1994). *Global strategy on occupational health for all: The way to health at work*. WHO/OCH/95.1. Geneva.

Course Code: MSP E522

Course Title: HEALTH ECONOMICS AND FINANCING

Credit: 03 **Hours: 45**
(Lecture: 2, Tutorial: 1)

COURSE OUTCOMES:

- To introduce various concepts on economic gradient of health and demand for and supply of health care.
- To explain various measures on socio-economic inequality in health. To familiarize the means and measures of health financing.
- To understand the determinants of health insurance and its coverage.
- To introduce the methods and measures on economic evaluation of health care.

COURSE CONTENT:

Introduction to Health Economics

Defining health economics, why health economics is important, basic concepts in microeconomics, health across world and over time, scope of health economics, map of health economics, basic questions confronted by health economist, concept of efficiency and equity in health, Production Possibility Frontier (PPF), economic gradient of health, causation of income and health, Preston Curve, economic models and analysis, expenditure function, Theories of X and Y, positive and normative economics.

The Demand for Health and Health care

What is Health and Good Heath, Utility Analysis, Health as a form of human capital, What is Medical Care, The production of Good Health, Empirical evidences in the production of health, Health as human capital, Grossman Model, The Demand for Health Care, Demand function for health, Economic and non-economic factors of health care, Fuzzy Demand Curve, Price and income elasticity of demand for health care, Important consideration in estimating health care demand elasticity, provider's behavior, Empirical findings, externalities and market failure.

Health Financing

Health financing in low, middle and high income countries, demographic transition, epidemiological transition and health expenditure, disparity in disease burden and per-capita health spending, sources of health care in India, out-of-pocket expenditure on health care, catastrophic health expenditure, approaches in measuring catastrophic expenditure, impoverishment, health care payment and poverty, national and regional patterns of catastrophic health spending, determinants of catastrophic health spending, Drivers of health care expenditure, health financing in India, Equity in health care finances, Willingness to pay for health care, User charges as determinant of health financing.

Measuring Health Inequalities

Measurement of health inequality: A Prelude

Why measure health inequality; Health equity and inequality: Concept and definitions; Understanding of the concepts such as need, access and utilisation; cardinal and ordinal health variables.

Black Report and Beyond: Historical Background of Black Report, Explanation for social class differences, major empirical theme since Black report.

Measures of health inequality: Measures of health inequality: Index based approach; Axiomatic approach to measurement; Individual-mean and inter-individual comparison; WHO Index, Coefficient of Variation, Generalised Entropy Index, Lorenz Curve and Gini Coefficient.

Measuring socioeconomic rank related health inequality: Slope index of inequality; Relative index of inequality; Concentration curve and concentration index: various ways of computing; Standardization; Inequality aversion; Normalised and Generalised concentration index; Corrected concentration index.

Measuring inequality in healthcare utilization: Horizontal inequality; Vertical inequality; Regression based approach; Measurement of horizontal inequalities; Group inequality, common measures, Gini type index.

Medical Care, Production and Cost

The Short-Run Production Function of the Medical Firm, Total Product, Marginal Product and Average Product Curve, Law of diminishing marginal productivity, the importance of costing in Health Economics, Short-run cost theory of medical firm, short run cost curves, Cost analysis, Implicit and explicit cost, factor affecting short-run cost curves, cost minimization, constraints in measuring health cost.

Health Insurance

Health care system, a model of health care system, defining health insurance, need for health insurance, type of health insurance, demand for private health services, factors affecting the quantity demanded of health insurances, moral hazards, deductibles, co-insurance, managed care, adverse selection, loading fees, employed based insurance, reimbursement, selection effect, intermediary agent, regulation of health insurance, Need for Government intervention, Trends of health insurance, Coverage of health insurance in India.

Economic Evaluation

What is economic evaluation? Cost analyses; direct cost, Indirect cost, tangible cost, capital cost, fixed cost, variable cost, Opportunity cost, average cost, marginal cost, Incremental cost, steps in cost analyses: Identification, measurement and valuation, Various types of economic evaluation used in health care: Cost effectiveness analysis (CEA) Cost-Benefit Analysis (CBA), Divergence between social and private costs and benefits in health care, Limitations of economic evaluation, Consumer Impact Assessment.

READING LIST:

Culyer, A. J., & Newhouse, J. P. (Eds.). (2000). *The state and scope of health economics*. In *Handbook of health economics* (Vol. 1A). Elsevier.

Drummond, M. F., Sculpher, M. J., Torrance, G. W., O'Brien, B., & Stoddart, G. L. (Eds.). (2005). *Methods for economic evaluation of health care programmes* (3rd ed.). Oxford University Press.

Fan, V. Y., & Savedoff, W. D. (2014). Health financing transition: A conceptual framework and empirical evidence. *Social Science & Medicine, 105*, 112-121. https://doi.org/10.1016/j.socscimed.2014.01.029

Grossman, M. (1982). On the concept of health capital and demand for health. *Journal of Political Economy, 80*(2), 223-255. https://doi.org/10.1086/261074

Macintyre, S. (1997). The Black Report and beyond: What are the issues? *Social Science & Medicine, 44*(6), 751-759. https://doi.org/10.1016/S0277-9536(96)00196-5

Mohanty, S. K., & Dwivedi, L. K. (2021). Addressing data and methodological limitations in estimating catastrophic health spending and impoverishment in India, 2004–18. *International Journal for Equity in Health, 20*(1), 1-18. https://doi.org/10.1186/s12939-021-01439-6

O'Donnell, O., Doorslaer, E. v., Wagstaff, A., & Lindelow, M. (2008). *Analyzing health equity using household survey data: A guide to techniques and their implementation*. World Bank.

Ringel, J. S., et al. (2005). The elasticity of demand for health care: A review of the literature and its application to the military health system. *RAND Corporation*.

Snterre, R. E., & Neun, S. P. (2008). *Health economics: Theories, insights and industry studies* (3rd ed.). Thompson South-Western.

Wagstaff, A., Paci, P., & van Doorslaer, E. (1991). On the measurement of inequalities in health. *Social Science & Medicine, 33*(5), 545-557. https://doi.org/10.1016/0277-9536(91)90212-U

Wagstaff, A., & van Doorslaer, E. (2000). Chapter 34: Equity in health care finance and delivery. In A. J. Culyer & J. P. Newhouse (Eds.), *Handbook of health economics* (Vol. 1, pp. 1803-1862). Elsevier.

Xu, K. (2005). Distribution of health payments and catastrophic expenditures: Methodology. *World Health Organization*.

Course Code: MSP E523

Course Title: CONCEPTS AND MEASURES OF GLOBAL HEALTH

Credit: 03
(Lecture: 2, Tutorial: 1)

Hours: 45

COURSE OUTCOMES:

- To familiarize the students with the emerging concepts, measures, and significance of global health in contemporary world.
- To understand the global mortality transition in terms of it varied features like cause of death, population age structure and differential quality of life.
- To understand the impact of poverty, inequality on disease prevalence, health infrastructure, deprivation for the mortality divide and its repercussions.
- To introduce and understand impacts of environmental factors and recommend public health measures need to be taken to mitigate health effect of climate change.
- To recommend appropriate public health intervention in keeping with disease burden and evaluate health system performance in international perspective.

COURSE CONTENT:

Concept and introduction

Concept of global health: importance to study global health, global variation in demographic, health and epidemiological transitions; linkages between globalization and health; linkages between global and local health; current challenges, emerging trends and priorities in global health; major patterns of distribution of disease in the world; sources of data on disease and disability.

Global burden of disease:

Concept of burden of disease; hypotheses related to burden of diseases - compression of morbidity, expansion of morbidity and dynamic equilibrium; measures of burden of disease at the population level - health expectancy and health gap; methods for estimating

DFLE, HALE and DALY; how does the burden of disease and mortality vary by geography, age and gender? GBD 1990, 2010 and 2019 changes and continuities.

Infectious Diseases, Non-Communicable Diseases (NCDs) and Nutrition

Persistence of infectious diseases in developed and low- and middle-income countries; new and reemerging infectious diseases across globe; difficulty in prevention, treatment, and rehabilitation from infectious diseases. Current and growing challenge of NCDs in developed and low- and middle-income countries; NCD's epidemiology in developed and low- and middle-income countries. Double burden of malnutrition and diseases in low- and middle-income countries; food security of undernutrition; short-term and long-term impact of under nutrition; nutrition transition.

Determinants of Health

Factors responsible for variation in the global burden of disease - culture, race, ethnicity, education, socio-political establishment, economic development and economic inequality. Role of water, sanitation, indoor and outdoor air pollution, food security, migration, disaster (man-made, natural), conflicts and epidemics in explaining global health disparities.

Health care delivery systems

Introduction to health systems; components of health system; financial models of health care; service delivery models; governments role in delivering health care; measurement of health system performance in developed and developing countries; role of WHO, World Bank, etc. in setting global and national health priorities.

READING LIST:

Council on Foreign Relations. (2014). *The emerging global health crisis: Non-communicable diseases in low- and middle-income countries* (Independent Task Force No. 72). https://www.cfr.org/sites/default/files/report__pdf/TFR72 NCI)s.pdf

Fauci, A. S., & Morens, D. M. (2012). The perpetual challenge of infectious diseases. *New England Journal of Medicine, 366*(5), 454–461. https://doi.org/10.1056/NEJMra1108296

Fried, L. P., Bentley, M. E., Buekens, P., Burke, D. S., Frenk, J. J., Klag, M. J., et al. (2010). Global health is public health. *Lancet, 375*, 535–537. https://doi.org/10.1016/S0140-6736(09)61973-5

Hoffmann, S. J. (2010). The evolution, etiology, and eventualities of the global health security regime. *Health Policy and Planning, 25*(6), 510–522. https://doi.org/10.1093/heapol/czq030

Hsiao, W. C. (2003). What is a health system? Why should we care? *Harvard School of Public Health Working Paper*. https://www.hsph.harvard.edu

Huynen, M., Martins, P., & Hilderink, H. B. M. (2005). The health impacts of globalization: A conceptual framework. *Globalization and Health, 1*, 14. https://doi.org/10.1186/1744-8603-1-14

Mills, A., Rasheed, F., & Tollman, S. (2006). Strengthening health systems. In *Disease control priorities in developing countries* (2nd ed., pp. 87–102). Oxford University Press.

Mozaffarian, D. (2017). Global scourge of cardiovascular disease: Time for health care systems reform and precision population health. *Journal of the American College of Cardiology, 70*(6), 26–28. https://doi.org/10.1016/j.jacc.2017.04.070

Murray, C. J. L., Frenk, J. (2000). A framework for assessing the performance of health systems. *Bulletin of the World Health Organization, 78*(6), 717–731. https://doi.org/10.1590/S0042-96862000000600002

Murray, C. J. L., Saloman, L. A., Mathers, C. D., & Lopez, A. D. (2002). *Summary measures of population health: Concepts, ethics, measurement, and applications*. The World Health Organization.

Murray, C. J. L., Saloman, J. A., & Mathers, C. (2000). A critical examination of summary measures of population health. *Bulletin of the World Health Organization, 78*(8), 981–994.

Skolnik, R. (2008). *Essentials of global health* (2nd ed.). Jones and Bartlett.

World Health Organization. (2010). *Key components of a well-functioning health system.* http://www.who.int/healthsystems/publications/hss_key/en/

World Health Organization. (2017). *Double burden of malnutrition.* http://www.who.int/nutrition/double-burden-malnutrition/en/

Course Code: MSP E524

Course Title: MONITORING AND EVALUATION IN POPULATION AND HEALTH

Credit: 03 **Hours: 45**
(Lecture: 2, Tutorial: 1)

COURSE OUTCOMES:

- Familiarize the students with concepts and methods of monitoring and evaluation research.
- To acquaint with various designs employed in monitoring and evaluation.
- Develop skills on statistical approaches for implementation programmes.
- Orient students on health management information system.

COURSE CONTENT:

Introduction to Monitoring and Evaluation

Basic concepts, Difference between Monitoring and Evaluation; Linkage between Planning, Monitoring and Evaluation; Importance of Monitoring and Evaluation.

Monitoring and Evaluation Framework

Resources for monitoring and evaluation, Engagement of stakeholders in monitoring and evaluation; Meaning of Indicators, Ideal requirement, process of developing indicator, illustration of indicators developed from large scale surveys, measurement, need & levels of indicator; Challenges in developing indicators from Large-Scale Surveys; Types of Indicators — Input, Process, Output, Outcome, Impact; Learning and accountability of Monitoring and evaluation data.

Monitoring of Policy Implementation

Components of policy and programme, budget, staff, process of evaluation, developing tangible indicators for policy monitoring in terms of Input, Process, Output, Outcome, Impact; Result based inference.

Evaluation in Theory

Principles, norms and standards for evaluation; Criterion for evaluation; Theory of Change; Evaluating for results; Roles and responsibilities in evaluation; Scaling Impact.

Evaluation Design

Determination of sample size under different approaches and design including measurement of change due to certain interventions; Quasi Experiment design, Case control design, Evaluation Terms of Reference, Formative and Summative Evaluations, Managing Evaluations; Evaluation at different points: Baseline, Mid-point, Concurrent and End line evaluation; Randomization, Statistical design of Randomization; Randomized control trials, time dependant cluster design, interrupted time series analysis.

Assuring the Quality of Evaluation Design and Methodology

Overview; Defining the context; The evaluation purpose; Focusing the evaluation; Evaluation methodology; Mandatory requirements for programme; SWOT analysis of NHM, ICDS and National Livelihood Mission; Social audit — meaning, objectives, advantage, case study of social audit.

Statistical Approaches of Evaluation of Intervention Programme

Statistical inferences used in different intervention design — z, t, F and paired 't' tests, two stage LSM, instrument variable method; Propensity score matching; Difference in Difference Method: Theory and application, advantage and disadvantage, regression implementation, Decomposition analysis.

Management Information System and Use of Technology

MIS — Monitoring information system; Role of programmers; HMIS system; Global Positioning System, Use of Machine learning and Artificial Intelligence, Use of spatial data

READING LIST:

Casley, D. J., & Kumar, K. (1988). *The collection, analysis, and use of monitoring and evaluation data*. A World Bank Publication, The John Hopkins University Press.

Family Health International (FHI). (2004). *Introduction to monitoring and evaluation: Monitoring HIV/AIDS programs: A facilitator's training guide*. Family Health International.

Gol, M., & UNDP. (2012). *Guiding framework for monitoring and impact evaluation of capacity building & training of Panchayati Raj Institutions in States/UTs*. Government of India and United Nations Development Programme.

International Federation of Red Cross and Red Crescent Societies (IFRC) & Red Cross Society (RCS). (2002). *Handbook for monitoring and evaluation*. International Federation of Red Cross and Red Crescent Societies.

McLean, R., & Gargani, J. (2019). *Scaling impact innovations for the public good*. Routledge.

National Institute of Rural Development & Panchayati Raj (NIRD&PR), Ministry of Rural Development (MoRD), & Tata Institute of Social Sciences (TISS). (2016). *Social audit: A manual for trainers*. National Institute of Rural Development & Panchayati Raj, Ministry of Rural Development, and Tata Institute of Social Sciences.

OECD. (2021). *Applying evaluation criteria thoughtfully*. OECD Publishing. https://doi.org/10.1787/543e84ed-en

Rossi, P. H., Lipsey, M. W., & Freeman, H. E. (2004). *Evaluation: A systematic approach* (7th ed.). Sage Publications.

Sullivan, T. M., Strachan, M., & Timmons, B. K. (2007). *Guide to monitoring and evaluating health information products and services*. Johns Hopkins Bloomberg School of Public Health, Center for Communication Programs; Constella Futures; Management Sciences for Health.

United Nations Development Group. *The theory of change, UNDAF companion guideline*. United Nations Development Group.

Course Code: MSP E531

Course Title: GENDER, HEALTH AND DEVELOPMENT

Credit: 03
(Lecture: 2, Tutorial: 1) **Hours: 45**

COURSE OUTCOMES:

- To sensitize students on gendered perspectives in reading health and development outcome.
- To gain understanding of theoretical and conceptual issues involving gender in examining development at large.
- To acquaint students with varied gendered frameworks and relevant analytical tools towards gendered inspection.
- To offer skills of adopting a gendered outlook in introspecting health and development.

COURSE CONTENT:

Gender Theories

Principal theories of patriarchy: traditionalist theories of patriarchy, new economic theories of patriarchy; Historical perspectives of feminism: first, second, third and fourth wave of feminism

Gender and Health

Gender and health connections: Gender differences in health, healthcare behaviours (including health-seeking), access to and uptake of health services, treatment responses and health outcomes;

Intersectionality of gender and health: Gender as a health determinant; gender roles and power dynamics and its interaction with other power hierarchies of privilege/disadvantage resulting in inequality and differential health outcomes (age, sex, education, religion, caste, race, ethnicity, class, language, geographical location, disability status, migration status, gender identity and sexual orientation);

Gender and morbidity and mortality: differentials in morbidity and mortality burden in the developing world and India, sex ratio of births, reproductive health of women and men in

developing world, differentials in use of male and female methods of contraception; alcoholism, tobacco and drug consumption, accident, violence, risk taking;

Gender and Development

Gender dimension of social development gender differentials in household headship and role in decision making;

Gender differences in freedom of movements;

Women's role in community life: involvement in politics-as voter, political worker and leader, women in Panchayati Raj Institutions and self-help groups;

Gender and environment: climate change and its differential impact on men and women.

Gender development/equality measures: Gender Development Index (GDI), Gender Inequality Index (GII), Women, Business and Law Index, Global Gender Gap Index (GGGI); Social Institutions and Gender Index (SIGI); etc.

Gender mainstreaming in health and development programs

Gender mainstreaming: gender responsive policy making and planning of health and development programs; gender analysis of health and development programs, gender analysis tools, gender budgeting and auditing

READING LIST:

Baser, E. (1989). *Woman's role in economic development*. Earthscan.

Bhasin, K. (1993). *What is patriarchy?* Kali for Women Publishers.

Bhasin, K. (2000). *Understanding gender*. Kali for Women Publishers.

Bird, C. E., & Rege, P. (2008). *Gender and health: The effects of constrained choices and social policies*. Cambridge University Press.

Boserup, E. (1989). *Woman's role in economic development*. Earthscan.

Chodhuri, M. (Ed.). (2004). *Feminism in India: Issues in contemporary Indian feminism*. Zed Books.

Connell, R. (2012). Gender and health in theory: Conceptualizing the issue in local and world perspective. *Social Science & Medicine, 74*(11), 1675-1683.

Davis, K., Evans, M., & Judith, L. (Eds.). (2006). *Handbook of gender and women's studies*. Sage.

Engels, F., & Untermann, E. (2021). The origin of the family, private property and the state. In *Politics and Kinship* (pp. 217-223). Routledge.

Hankivsky, O. (2012). Women's health, men's health, and gender and health: Implications of intersectionality. *Social Science & Medicine, 74*(11), 1712-1720.

Hawkes, S., & Buse, K. (2013). Gender and global health: Evidence, policy and inconvenient truths. *The Lancet, 381*(9879), 1783-1787. https://doi.org/10.1016/S0140-6736(13)60253-6

John, M. E. (Ed.). (2008). *Women's studies in India: A reader*. Penguin Group.

Kabeer, N. (1994). *Reversed realities: Gender hierarchies in development thought*. Verso.

Lerner, G. (1986). *The creation of patriarchy*. University of Oxford Press.

Matud, M. P. (2017). Gender and health. In A. Alvinius (Ed.), *Gender differences in different contexts*. https://doi.org/10.5772/65410

Nagla, M. (2013). *Gender and health*. Rawat Publications.

Nichols, F. H. (2000). History of the women's health movement in the 20th century. *Journal of Obstetric, Gynaecologic & Neonatal Nursing, 29*(1), 56-64.

Rege, S. (2003). *Sociology of gender*. Sage.

Reeves, H., & Baden, S. (2000). *Gender and development: Concepts and definitions* (Report No. 55). University of Sussex: Institute of Development Studies.

Springer, K. W., Hankivsky, O., & Bates, L. M. (2012). Gender and health: Relational, intersectional, and biosocial approaches. *Social Science and Medicine, 74*(11), 1661-1666. https://doi.org/10.1016/j.socscimed.2012.03.001

Tarricone, I., & Riecher-Rössler, A. (Eds.). (2019). *Health and gender: Resilience and vulnerability factors for women's health in the contemporary society*. Springer. https://doi.org/10.1007/978-3-030-15038-9

Walby, S. (2013). *Patriarchy at work: Patriarchal and capitalist relations in employment, 1800-1984*. John Wiley & Sons.

Wilson, K. (2015). Towards a radical re-appropriation: Gender, development, and neoliberal feminism. *Development and Change, 46*(4), 803-832. https://doi.org/10.1111/dech.12176

World Bank. (2012). *World development report 2012: Gender equality and development*. World Bank.

Course Code: MSP E532

Course Title: POLITICAL DEMOGRAPHY

Credit: 03
(Lecture: 2, Tutorial: 1) **Hours: 45**

COURSE OUTCOMES:

- To provide basic and advanced concepts and methods of analysing political theory of population change and its consequences with an inter-disciplinary perspective.
- To familiarize the students with changing political demography of India and its implications on policy interventions.

COURSE CONTENT:

Population and Political Theory

Political Theory, Development and Population; Weiner's hypotheses; Shaping Future Children: Parental Rights and Societal Interest, Immigrants, Nations and Citizenship.

Population and Politics

Politics, Demography and History; Population and World Politics; Population and Power; Cultural identity, nationalism and population; Demography of political representation.

Population Change and National and International Security

On Future Generations' Future Rights; Generations at War or Sustainable Social Policy in Ageing Societies, The Ethics of Refugee Policy.

Political Demography of India

A framework for the Study of Indian Political Demography; Politics of population growth in the context of Gender, Caste and Religion; Demographics of political representation; Voter Population of India and Its Socio-Demographic Characteristics; Political economy of population and health policy in India.

The Political Economy of Health

Virchow's philosophy; Political determinants of health; Governance and health; Political economy of global health financing; Austerity and health.

Conflicts, Demography and Health Conflict Demography, Conflict and Health.

Future of Political Demography and its Impact on Policy

Politics of Population and Health Policies and methodological choices.

READING LIST:

Abernethy, V. D., & Hardin, G. (2018). *Population politics*. Routledge.

Bhagat, R. B. (2006). Census and caste enumeration: British legacy and contemporary practice in India. *Genus*, 119-134.

Bhagat, R. B. (2022). *Population and the political imagination: Census, register and citizenship in India*. Taylor & Francis.

Clinton, R. L., & Clinton, R. L. (1973). Population, politics and political science. *Population and Politics*. Lexington Books.

Clinton, R. L., Flash, W. S., & Godwin, R. K. (Eds.). (1972). *Political science in population studies*. Lexington Books.

Clinton, R. L., Godwin, R. K., & Godwin, R. J. (1972). *Research in the politics of population*. Lexington Books.

Demeny, P., & Mc Nicoll, G. (2006). The political demography of the world system, 2000-2050. *Population and Development Review, 32*(2), 254-287.

James, K. S., & Balachandran, A. (2021). Demographic politics in Asia's super-size democracies: India, Bangladesh and Pakistan. In *Global Political Demography* (pp. 141-166). Palgrave Macmillan.

James, K. S., & Goli, S. (2016). Demographic changes in India: Is the country prepared for the challenge? *Brown Journal of World Affairs, 23*, 169.

Kligman, G. (1995). Political demography: The banning of abortion in *Conceiving the New World Order: The Global Politics of Reproduction* (pp. 234-255).

Rao, K. S. (2016). *Do we care?: India's health system*. Oxford University Press.

Srinivasan, K. (2017). *Population concerns in India: Shifting trends, policies, and programs*. SAGE Publishing India.

Teitelbaum, M. S. (2005). Political demography. In *Handbook of population* (pp. 719-730). Springer, Boston, MA.

Teitelbaum, M. S. (2015). Political demography: Powerful trends under-attended by demographic science. *Population Studies, 69*(sup1), S87-S95.

Course Code: MSP E533

Course Title: POPULATION, ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

Credit: 03 **Hours: 45**
(Lecture: 2, Tutorial: 1)

COURSE OUTCOMES:

- Understand sustainable development and its challenges.
- Learn quantitative and qualitative methods in environmental health analysis.
- Comprehend the role of the environment in development modelling.

COURSE CONTENT:

Sustainable development:

Concepts, Sustainable development; Trends of global warming and climate change; Drivers of global warming and climate change; Impact of climate change and biological responses; Meaning and measurements of vulnerability, resilience and adaptive capacity; Calamities and measurements; challenges for environmental governance.

Environmental challenges in India

Pollution and health, data sources, estimate; Urban environmental challenges; Tourism and environmental challenges; Indian standards; Role of state in pollution control and resources management; Indian environment policies and programme.

Disaster: meaning, factors and significance; Types of disasters: natural and man-made; Causes and effects of disasters; Profiling of disaster in India; Community health during disaster (drinking water, food and nutrition, hygiene and sanitation), urban pollution (with case studies).

Practical session on-Training on environment and health

Population potential mapping; Satellite image interpretation; geospatial modeling to measure environmental impact on health; Analyzing environment using large scale data; Local area pollution analysis; Energy literacy training.

Field visit: Qualitative methods to measure environmental impact; Community training on environment through IEC.

READING LIST:

Bongaarts, J. (1992). Population growth and global warming. *Population and Development Review, 18*, 299-319.

Brundtland, G. H. (1987). *Our common future: The World Commission on Environment and Development*. Oxford University Press.

Hardin, G. (1968). The tragedy of the commons. *Science, 162*(3859), 1243-1248. Reprinted in R. R. Campbell & J. L. Wade (Eds.), *Society and environment: The coming collision* (pp. 1243-1248). Allyn and Bacon.

Hanley, N., Shogren, J. F., & White, B. (2007). *Environmental economics: In theory and practice*. Palgrave Macmillan.

Lillesand, T., Kiefer, R. W., & Chipman, J. (2015). *Remote sensing and image interpretation* (7th ed.). Wiley.

Lutz, W., Prskawetz, A., & Sanderson, W. C. (Eds.). (2002). *Population and environment: Methods of analysis*. Supplement to *Population and Development Review*. Population Council.

Simon, J. L. (1996). *Population matters: People, resources, environment, and immigration*. Transaction Publishers.

The Economics of Climate Change: The Stern Review. (2014). Cambridge University Press.

UN Climate Reports. (n.d.). Retrieved from https://www.un.org/en/climatechange/reports

Psychology and Climate Change. (2018). *Human perceptions, impacts, and responses*.

Course Code: MSP E534

Course Title: OPERATIONS RESEARCH IN REPRODUCTIVE HEALTH

Credit: 03
(Lecture: 2, Tutorial: 1)

Hours: 45

COURSE OUTCOMES:

- To familiarize the concept of operation and intervention research in reproductive health and related fields.
- To differentiate the operation research from other social science research.
- To train students to identify research problems, design and methodology in operation research.
- To familiarize the process of developing suitable indicators in keeping with the research design.
- To develop a capacity to prepare proposal for operation research and its implementation.

COURSE CONTENT:

Basic Concepts and Definition of OR

(a) What is Operations Research

(b) Focus, Objective and Characteristics of Operations Research

(c) Types and Examples of Operations Research

(d) Methods of Operations Research

(e) Implementation Research and Its Linkages with OR

Role of Researchers and Managers

Components of OR proposal

Identification of Problem and Solution

(a) Identification and Definition

(b) Justification

(c) Alternative Solution

(d) Indicators- Outputs, Outcomes and Impacts

Causality (Randomize Experimental Design)

a) Pretest-Posttest Control Group Design
b) Posttest —only Control Group Design
c) Multiple Treatment Design

Design

a) Experimental Design: Pretest-posttest control group design; Posttest-only control group design; Multiple treatment designs
b) Quasi Experimental Deign: Non-equivalent control group; Time series design; Separate sample pretest-posttest design;
c) Non-Experimental Design: Posttest-only design; Pretest-posttest design; Static-group comparison

Inferential Research Statistics Accordingly Operations Research design

a) (X2, t, F)-tests
b) Deciding Sample Size in case of Different Experimental Design
c) Linking Different Design and Statistical Test

Study Design Exercises

Ethics in Operations Research

a) *International Perspectives:* Research Ethics; Recognize Ethical Issues in Operation Research Need of Ethical Standards in Operational Research; History and Foundation of Research Ethics; Principles; Codes and Regulations: International Landscape; Ethics Review Committee: Members, Roles
Submission a Proposal for Ethical Clearance
b) *ICMR Guidelines:* Background; ICMR Code; Statement of General Principles; General Ethical Issues
Responsible Conduct of Research (PCR); Ethical Review Procedures; Informed Consent, Process; Vulnerability
c) Case Studies: Utilization and Dissemination, and Process Documentation Critiques to OR proposal

READING LIST:

Blumenfeld, S. (1985). *Operations research methods: A general approach in primary health care*. Primary Health Care Operations Research, Center for Human Services.

Fisher, A. A., Forcit, J. R., Laing, J. E., Stoeckel, J. E., & Townsend, J. (2002). *Designing HIV/AIDS intervention studies: An operations research handbook*. Population Council.

Forcit, J. R., & Frejka, T. (1998). *Family planning operations research: A book of readings*. The Population Council.

Gallo, G. (2004). Operations research and ethics: Responsibility, sharing and cooperation. *European Journal of Operational Research, 153*(2), 468-476. https://doi.org/10.1016/j.ejor.2003.06.001

Mathur, R., & Swaminathan, S. (2018). National ethical guidelines for biomedical & health research involving human participants, 2017: A commentary. *The Indian Journal of Medical Research, 148*(3), 279-281. https://doi.org/10.4103/ijmr.IJMR_865_18

Oliver, P. (2010). *The student's guide to research ethics*. McGraw-Hill Education.

Ormerod, R. J., & Ulrich, W. (2013). Operational research and ethics: A literature review. *European Journal of Operational Research, 228*(2), 291-307. https://doi.org/10.1016/j.ejor.2013.02.030

Sanmukhani, J., & Tripathi, C. B. (2011). Ethics in clinical research: The Indian perspective. *Indian Journal of Pharmaceutical Sciences, 73*(2), 125-128. https://doi.org/10.4103/0250-474X.92313

SEMESTER- IV

Code: MSP R501

Title: RESEARCH FIELD WORK

Credit: 06 **Hours: 90**

Guideline for Research Fieldwork

The paper is of 6 credits amounting to 90 hours. The division of the hours may be as follows:

Distribution of time:

15 hours- Choosing a suitable topic, preparation and finalization of the study tools (qualitative guidelines and quantitative schedules/questionnaires) in consultation with the concerned teachers, Code of Conduct and ethical permission
5 hours- Preparation of data entry package (CS pro and other open access tools) and entry of quantitative data
35 hours- Field visit and collection of required data from community
5 hours- Preparation of qualitative transcripts
10 hours- Teaching Research Training/ oreintation of qualitative data analysis software- Atlas.ti, Anthropac and NVivo
10 hours- Preparation and presentation of the study findings
10 hours- Finalization and submission of the study/ research report (Individual as well as Group report)

Field work Instruments:

The students are suggested to conduct **IDI**, **KII** besides **observation** and **social mapping** to gather qualitative data.
For gathering quantitative data, students may use **Interview schedule** or **Questionnaire.**

Software for Qualitative Research:

ANTHROPAC, Atlast Ti and Group Work

Software for Data Collection in large scale surveys

Computer assisted personal interview (CAPI), process of data transfers, introduction to features of Census and Survey Processing System (CSPro), steps for development of data entry software in CSPro; Web-designed questionnaires.

READING LIST:

CSPro Software. (n.d.). *CSPro software*. U.S. Census Bureau. Retrieved from www.census.gov/data/software/cspro.Download.htm

DHS Program. (n.d.). *DHS manuals*. Retrieved from https://dhsprogram.com/what-we-do/survey-operations/manuals.cfm

Longitudinal Ageing Study in India (LASI). (n.d.). *LASI manual for interviewer*.

National Family Health Survey (NFHS). (n.d.). *NFHS manual for interviewer*.

National Family Health Survey (NFHS). (n.d.). *Manual for CAPI used in NFHS*.

United Nations. (2005). *Household sample surveys in developing and transition countries*. United Nations Statistics Division. Retrieved from www.unstats.un.org/unsd/hhsurveys/

Code: MSP R511

Title: REVIEW PAPER

Credit: 3 **Hours: 45**

Systematic Review and Application of Meta-Analysis

COURSE OUTCOMES:

- Learn and describe the process and the uses of systematic reviews and meta-analyses.
- Learn skills required for performing basic systematic reviews and meta-analyses.
- Perform and submit research report by conducting an exercise of Systematic Review and Meta-Analysis on any given/select topic.

COURSE CONTENT:

Theory and application of Systematic Review and Meta-Analysis

This part is classroom teaching and discussion to be carried out by assigned teachers.

Introducing the systematic reviews: Need for a systematic review, difference between a narrative and a systematic review. Producers and users of systematic reviews, systematic review for randomized control trials and observational studies, and main challenges in systematic reviews.

Developing a protocol for a systematic review: Determining scope of a review, defining the research question, framing the question (PICO/PECO), deciding the type and scope of the question, defining specific inclusion and exclusion criteria, Introduction to the Cochrane Collaboration, examples of questions and inclusion/exclusion criteria from Cochrane.

Developing an analytic framework for review: Searching strategy, identifying key sources and techniques for searching, using databases for searching articles, building a high-quality search strategy, documenting search conclusions, reference management

Meta-analysis: Why do a meta-analysis? Strengths and weaknesses compared to narrative literature reviews. General steps of a meta-analysis, Hypotheses and problems in research synthesis, Types of data and summary measures, Statistical methods for meta-analysis, effect sizes, standardized mean difference, cumulative meta-analysis, fixed effect model, random effect model and summary effects

Biases in the systematic review and meta-analysis: Selection bias, information bias and analysis bias. Heterogeneity, minimising meta-bias, meta regression, and handling within study dependency.

Reporting guidelines and tools: PRISMA, MOOSE, Screening i.e. Rayaan, EPPI-Reviewer, Covidence, DistillerSR. Qualitative synthesis, Interpreting results and their presentation.

Research Component

Distribution of time

10 hours- Choosing a suitable topic using PICO framework, selection of article searches databases and key words. Conducting article search, setting inclusion and exclusion criteria and preparation of PRISMA.

10 hours- Preparation of database for meta analyses. Conversion of Odds ratios to Hazard ratio or Hazard to Odds ratios. Estimation of standard errors from confidence intervals.

10 hours– Meta Analysis: Fixed or Random effects, Heterogeneity Analyses: Funnel Charts; Risk Bias

10 hours- Writing Paper Using Cochran Template and Method Wizard

5 hours- Finalization and submission of the Article according to select journal including reference management.

READING LIST:

Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. R. (2021). *Introduction to meta-analysis*. John Wiley & Sons.

Card, N. A. (2015). *Applied meta-analysis for social science research*. Guilford Publications.

Egger, M., Smith, G. D., & Altman, D. (Eds.). (2008). *Systematic reviews in health care: Meta-analysis in context*. John Wiley & Sons.

Higgins, J. P., Thomas, J., Chandler, J., Cumpston, M., Li, T., Page, M. J., & Welch, V. A. (Eds.). (2019). *Cochrane handbook for systematic reviews of interventions*. John Wiley & Sons. https://training.cochrane.org/handbook/current

Leandro, G. (2005). *Meta-analysis in medical research: The handbook for the understanding and practice of meta-analysis*. John Wiley & Sons.

Macaskill, P., Gatsonis, C., Deeks, J., Harbord, R., & Takwoingi, Y. (2010). *Cochrane handbook for systematic reviews of diagnostic test accuracy*. Cochrane Collaboration.

Code: MSP R521

Title: PROJECT ON DATA PRESENTATION

Credit: 3 **Hours: 45**

COURSE OUTCOMES:

- Students should be able to demonstrate a comprehensive understanding of data analytics techniques and tools while delivering impactful, data-driven insights to solve real-world problems.
- After completing the project, students will be able to gain the required technical and research skills for their future prospects in the research and Industry.

PROJECT GUIDELINES:

Recommended Areas:

- Demography, Health, and Social Sciences or an interdisciplinary area.

Each student may choose one topic from the given below suggested list-

1. Development of Monitoring & evaluation framework
2. Sampling Scheme implementation
3. Preparation of data collection tools
4. Replica of analysis of any Published article in peer reviewed journal
5. Generating factsheet or table using large-scale survey data.
6. Interactive Dashboard

Master of Arts/Science in Population Studies

Course No	Course Name	Course Type	Credits	Hours	L	T	P	Weightage %	
								Internal Exam	Semester Exam
SEMESTER-I									
IKS 401	Indian Knowledge System-1	IKS	2	30	2	0	0	40	60
MSP F401	Social Science Concepts	F	3	45	2	1	0	40	60
MSP C401	Basic Statistical Methods for Population Studies	C	3	45	2	1	0	40	60
MSP C402	Demography and History of Population	C	2	30	1	1	0	40	60
MSP C403	Age-Sex structure, Quality of Data and Population Dynamics	C	2	45	1	0	1	40	60
MSP C404	Nuptiality	C	2	30	1	1	0	40	60
MSP C405	Fertility	C	3	45	2	1	0	40	60
MSP C406	Mortality, Morbidity and Public Health	C	3	45	2	1	0	40	60
Semester Credits			**20**	**315**					
SEMESTER-II									
MSP C407	Spatial Distribution, Migration and Urbanization	C	3	45	2	1	0	40	60
MSP C501	Introduction to Demographic and Statistical Software	C	2	45	1	0	1	60	40
MSP C502	Research Methodology-I	C	2	30	1	1	0	40	60
MSP C503	Gender Equity and Reproductive Health	C	3	45	2	1	0	40	60
MSP C504	Population, Development and Environment	C	3	45	2	1	0	40	60
MSP C505	Population Projections	C	2	30	1	1	0	40	60
MSP E501	Biostatistics and Epidemiology	E	3	45	2	1	0	40	60
MSP E502	Health System and Policies								
MSP E503	Urbanization, Space and Planning								
MSP E511	Family Demography	E	2	30	1	1	0	40	60
MSP E512	Historical Demography								
MSP V1	Viva-Voce-I	V1	2						

VAC 401	Value Added Course	VAC	NC	30					
MSP I	Internship	I	NC						
Semester Credits			**22**	**315**					
Year 1 Credits			**42**	**660**					
SEMESTER-III									
IKS 501	Indian Knowledge System-2	IKS	2	30	2	0	0	40	60
MSP C506	Research Methodology II	C	2	30	1	1	0	40	60
MSP C507	Population Policies and Programme Evaluation	C	3	45	2	1	0	40	60
MSP C508	Application of Statistical Packages in Large Scale data	C	2	45	1	0	1	60	40
MSP C509	Demographic Estimation Techniques and Models	C	2	30	1	1	0	40	60
MSP C510	Spatial Demography and Application of GIS	C	3	45	2	1	0	60	40
MSP C511	Population Ageing and Health Transition	C	3	45	2	1	0	40	60
MSP E521	Occupational Health	E							
MSP E522	Health Economics and Financing	E							
MSP E523	Concepts and Measures of Global Health	E	3	45	2	1	0	40	60
MSP E524	Monitoring and Evaluation in Population and Health	E							
MSP E531	Gender, Health and Development	E							
MSP E532	Political Demography	E							
MSP E533	Population, Environment and Sustainable Development	E	3	45	2	1	0	40	60
MSP E534	Operations Research in Reproductive Health	E							
Semester Credits			**23**	**360**					
SEMESTER-IV									
MSP R501	Research Field Work	R	6	90					
MSP R511	Review paper	R	3	45					
MSP R521	Project on Data Presentation	R	3	45					
MSP R531	Dissertation	R	8	120					

MSP V2	Viva-Voce-II	V2	2						
Semester Credits			**22**	**300**					
Year 2 credits			**45**	**660**					
TOTAL CREDITS (including 4 credits of viva-voce)			**87**	**1320**					

Notes:

- IKS-Indian Knowledge System course, F-Foundation course, C- Core course, E-Elective course, R- Research, VAC-Value Added Course, V-Viva voce, D- Dissertation, L-Lecture, T-Tutorial and P-Practical.
- NC: Non-Credited courses are not counted for calculating the final grade.
- Core course: Must for all the students and cannot be changed.
- Elective course: One elective course should be opted from a pair.
- Semester II: One elective should be opted from each group i.e. E501/ E502/ E503; E511/ E512
- Semester III: One elective should be opted from each group; i.e. E521/ E522/ E23/ E24; E531/ E532/ E533/ E34

Notes:

Internal Examination

Faculty members are given the flexibility to decide mode of internal examination from the following list: Written Test; Open Book Test; Written Home Assignment; Individual Thematic Presentation; Thematic Group Presentation; Group Discussion; Surprise Test; MCQ Test; Case Study; Situation Analysis (group activity or individual activity); Field Visit; Small Group Project & Internal Viva-Voce; Role Play / Story Telling; Literature Review / Book Review; Model Development/ Simulation Exercises (Group Activity or Individual Activity); In-depth Viva; Quiz; etc.

Evaluation criteria of Research Fieldwork (MSP R501)

As the course is of 6 credits, the evaluation must be done considering several aspects, including,

- Quality of the tools
- Robust methodology to conduct the study
- Presentation and defense
- Individual report
- Group report

The teachers should evaluate the students' performance based on the followings criteria:

Content	Weightage %	Marks obtained
Relevance of the topic	10	
Quality of the tools	20	
Methodology to conduct the study	20	
Presentation and defence	20	
Individual report	20	
Group report	10	
Total Marks	**100**	

Note: Total obtained marks should be converted to final grades as per the Institute's guideline

Evaluation criteria of Review Paper (MSP R511)

The teachers should evaluate the students' performance based on the followings criteria:

Content	Weightage %	Marks obtained
PICO Framework	10	

PRISMA	10	
Meta Analyses	20	
Risk Bias analyses	10	
Method Wizard	20	
Final Write-up	30	
Total Marks	**100**	

Note: Total obtained marks should be converted to final grades as per the Institute's guideline.

Evaluation criteria of Project on Data Analytics/ Project on Data Presentation (MSP R 521)

Project submission and evaluation criterion:

Evaluation: Students will submit their concept note of their project within one week of the commenced of this project.

S. No.	Topic	Submission
1	Development of Monitoring & evaluation framework	Title, objective of the project, Programme/policy Goal, objectives, Outcome, Output, Process, Input level indicators, with means of verification/source
2	Sampling Scheme implementation	A report including title, objective, Sampling scheme sample size estimation, selection methods, illustration of sampling method adopted, may use any software such as excel, R, STATA and submit their original supporting files with the report
3	Preparation of data collection tools	Title, Research objective, Questionnaire, manual for data quality assurance, Computer Assisted Personal Interview (CAPI), other digital tools
4	Review and Replica of analysis of any Published article in peer-reviewed journal	Summary of the review of the article, syntax/program code files with all associated files.
5	Generating factsheet or table from published factsheet/report of any large-scale survey	Title, objective Methodology including Definition of indicators, respondents, syntax/program code files with all associated files.
6	Interactive Dashboard	Title, Objective, research/project questions, data cleaning steps, Storyline, key messages for policy decision
7	AI/ automate tool related to health and social science	Project Title, Objective, User manual, Application

Their presentation of the project will be evaluated by the evaluation committee of three members.

Particular	Percentage
Presentation	30%
Report/ tools/ syntax	70%

Dissertation: Weightage for evaluation of dissertation: Guide 0.25, Presentation & Defense 0.25; and Content 0.50.

Evaluation of Dissertation: The Director & Senior Professor appoints an evaluation committee for dissertation consisting of three members from among the faculty of TIPS. First, the committee members independently assess the 'oral presentation and defense of the student and submit their grade to the Controller of Examinations. Second, the committee members independently evaluate the content of the 'final dissertation' submitted by the student and submit their grades to the Controller of Examinations. To arrive the final dissertation grade, the average of overall all grades of Guide, Presentation & Defense, and Content is considered.

Best Dissertation Award: The Director & Senior Professor appoints a committee consisting of three external experts for recommending the award of the best dissertation. The dissertations of top five ranks (based on the combined score of content, presentation and defense) are placed before the committee. The external members evaluate dissertations and submit their recommendation in a sealed cover to the Controller of Examinations.

Viva voce; Director & Senior Professor constitutes a committee comprising of one external examiner and three/four internal examiners for the viva-voce. The three/four internal examiners shall comprise of one senior professor (Chairperson), one/two faculty members and one programme coordinator. The committee members independently evaluate the performance of the students in the viva-voce and assign their grades. To arrive the final viva-voce grade, the average of the evaluation of the members is considered.

Grades Table

GRADE TABLE FOR EVALUATION OF ANSWER SHEET

The Grades, Grade Point and Descriptions are as given below

Final Grade	Grade Point	Grade Description
O Only	10	Outstanding
A Plus	9	Excellent
A Only	8	Very Good
B Plus	7	Good
B Only	6	Above average
C Only	5	Average
P Only	4	Pass
F3	3	Fail
F2	2	Fail
F1	1	Fail
NA/AB	0	Not Attempted / Absent

GRADE TABLE FOR SEMESTER GRADE CARD

Final Grade	Grade Point	Grade Description
O Only	10	Outstanding
A Plus	9	Excellent
A Only	8	Very Good
B Plus	7	Good
B Only	6	Above average
C Only	5	Average
P Only	4	Pass
F Only	0	Fail
NA/AB	0	Not Attempted / Absent